



CITY OF GARDEN GROVE OFFICE OF THE CITY CLERK

*Safeguard all official records of the City.
Conduct municipal elections and oversee legislative administration.
Provide reliable, accurate, and timely information to the
City Council, staff, and the general public.*

Steven R. Jones
Mayor

John R. O'Neill
Mayor Pro Tem - District 2

George S. Brietigam
Council Member - District 1

Diedre Thu-Ha Nguyen
Council Member - District 3

Patrick Phat Bui
Council Member - District 4

Stephanie Klopfenstein
Council Member - District 5

Kim B. Nguyen
Council Member - District 6

December 14, 2020

Requester: Stephanie Jones
Company: Ardent Environmental

Re: 11377 Markon Drive

Dear Ms. Jones,

Enclosed are the records found concerning the history of the above-mentioned site(s), especially as it pertains to fire code violation history, permits, the use, storage, or disposal of hazardous substances, and the installation or removal of underground flammable or combustible liquid storage tanks.

The City of Garden Grove Fire Department has utilized its best efforts to locate the records requested. The City does not provide records on spills, leaks and clean-up, as that information is provided through the County of Orange Health Department.

Sincerely,

Amanda Pollock
City of Garden Grove
City Clerk's Office



GARDEN GROVE FIRE DEPARTMENT
Life Safety & Hazardous Materials Disclosure Program
 11301 Acacia Parkway, Garden Grove, CA 92842
 Bus 714-741-5600 Fax 714-741-5640

File # 8846
 Fire District 2114
 Inspector FPB Shift N
 Next Insp 1 / 2013

Occupant or DBA	IRON GRIP BARBELL CO.		Business Tel	714 889-7025
Address	11377 MARKON Dr	Suite B	Zip	92841
Business Owner	[REDACTED]		Tel	714 850-6900
Emergency Contact	[REDACTED]		Tel	714 850-6900
Group	Load	Sprinklers F/P/N	P	5 yr. Cert. 5 / 2010 Haz Mat <input checked="" type="checkbox"/>

Fire Permits 621021 INDUSTRIAL OVENS / DRYING, 801031 HAZARDOUS MATERIALS - use, handling or storage, 491011 HOT WORK - welding and cutting / open flame.

An inspection at the above location/occupancy revealed the following violation(s) :

ASSEMBLY OCCUPANCIES

- Post maximum occupancy load sign (CFC 1004.3)
- Remove combustible decorative material (CFC 807.1.2)
- Remove storage under stairway (CFC 315.2.4)

SIGNS

- Provide address visible from the street (CFC 505.1)
- Provide hazardous materials warning signs (CFC 2703.5)

EXITS

- Provide/maintain approved panic hardware (CFC 1008.1.10)
- Remove locks, chains, bolts or bars from exit door (CFC 1008.1.9)
- Remove exit obstruction (CFC 1003.6)
- Provide/maintain illuminated exit sign(s) (CFC 1011.1)

ACCESS

- Provide outside Knox Box (CFC 506.1)
- Remove obstructions to fire apparatus access (CFC 503.4)

FIRE PROTECTION EQUIPMENT AND SYSTEMS

- Provide ___ extinguishers ___2A10BC ___40BC ___K (CFC 906.1)
- Service and tag extinguisher(s) (CFC 901.6)
- Hang extinguisher(s) 3.5'-5' from floor (CFC 906.9)
- Clean filters, ducts, hood above cooking surface (CFC 904.1)
- Service auto-extinguishing system semi-annually (CFC 904.11.6.2)
- 5 yr certification on sprinkler/standpipe system (Title 19, Sect. 904)

MISCELLANEOUS

- Lower storage 18" below sprinklers or 2' from ceiling (CFC 315.2.1)
- Secure compressed gas cylinders (CFC 3003.5.3)
- Post Business License Fire Department permit (CFC 105.3.5)
- NO VIOLATIONS

ADDITIONAL VIOLATIONS AND/OR NOTES

ELECTRICAL SAFETY PRE-CAUTIONS

- Discontinue use of extension cords (CFC 605.5)
- Keep 30" clear for access in front of electrical panel (CFC 605.3)
- Provide/replace electrical Cover Socket Power Strip (CFC 605.1)

HAZ-MAT SAFETY PRE-CAUTIONS

- Provide approved cabinet if more than 10 gal. flammable liquids (CFC 3404.3.4.3)
- Provide approved safety container(s) for flammable liquids (CFC 3404.3.1)

HAZARDOUS MATERIALS DISCLOSURE

(HSC CHAPTER 6.95 Section 25404, 25500 - 25520)

OK
8/30/13
FPB

- Failure to implement and/or electronically submit a HMBP www.esubmit.ocgov.com
- Chemical inventory is incomplete and/or requires updating
- The Emergency Response Plan is inadequate and/or does not adequately address Notification, Mitigation, Evacuation and/or Employee Training
- Site Map is incomplete or insufficient
- Failure to report a change in business or chemical inventory within 30 days of the following:
 - 100% or more increase in the quantity of a disclosed material
 - Addition of a previously undisclosed material
 - Change of business name or owner
- Failure to report a release or threatened release
- Failure to submit annual certification
- NO VIOLATIONS
- MINOR VIOLATION
- CLASS I VIOLATION
- CLASS II VIOLATION

Business representative signature [REDACTED] Date 8/30/13
 Inspector Name/ ID # 520145 3303 Date 8/30/2013
 Cleared 8/30/13 Mailback card due Re-inspection date Final Notice

COMPLETED SEPTEMBER
2008

GARDEN GROVE



FIRE DEPARTMENT

HAZARDOUS MATERIALS DISCLOSURE PROGRAM

REPORTING FORMS PACKET

LONG VERSION

FOR OFFICIAL USE ONLY

FACILITY ID NO. _____

BUSINESS NAME IRON GRIP BARBELL Co.

BUSINESS ADDRESS 11377 MARKON DR.

APPROVED BY _____ DATE _____

NEW BUSINESS YES NO UPDATE _____

PICK ___ 4D ___ BUSLIST ___ CALARP: ___ CUPA: ___ GIS ___

FEE _____



Hazardous Material Disclosure

Business Information / Chemical Inventory / Business Emergency Plan



GARDEN GROVE FIRE DEPARTMENT
 11301 Acacia parkway
 Garden Grove, CA 92840
 Bus. (714) 741-5600 Fax (714) 741-5640
 Hazardous Materials Coordinator
 (714) 741-5636

Address: 11377 MARKON
 Occupant or DBA: IRON GRID BARBELL CO
 Owner/Manager: [REDACTED]

Date: 10/13/08
 File No: _____
 Phone: [REDACTED]

California Health and Safety Code, Section 6.95, you are required to properly complete the Business Emergency Plan (BMP) packet. You are required to return the BEP packet, Hazardous Materials Disclosure Forms, and all material safety data sheets within fifteen (15) days to the Garden Grove Fire Department. HazMat Coord. (714) 741-5636

An inspection at the above location/occupancy revealed the following violation(s):

Violation(s): CA Health and Safety Code Chapter 6.95, Article 1 and Title 19, §2729 et seq., California Code of Regulations (CCR)

- Complete Hazardous Materials Disclosure packet, HSC Chapter 6.95, Title 19 Div 2 Chapter 3, CFC 8001.3.2
- Failure to submit a Business Emergency Plan. [HSC 25505(a)(1)]; CFC 8001.3.2
- Failure to review and/or revise the Business Emergency Plan as required [HSC 25505(b)&(c)]
- Chemical inventory is incomplete and/or requires update. [HSC 25509]
- The Emergency Response Plan is inadequate and/or does not address the following issues and shall be immediately revised and resubmitted: [HSC 25504(b)&(c)]
 - Notification Procedures
 - Mitigation Procedures
 - Evacuation Procedures
 - Employee Training
- Business Owner/Operator page is incomplete or needs to be updated. [HSC 25509]
- Failure to provide name, title, and 24-hour number of emergency contact(s). [HSC 25509(a)(7)]
- Site Map is incomplete or insufficient. [HSC 25509]
- Failure to report a release or threatened release. [HSC 25507]
- Failure to report a change in business or chemical inventory within 30 days of the following event(s): [HSC 25510]
 - 100% or more increase in the quantity of a disclosed material
 - Addition of a previously undisclosed material
 - Change in business address
 - Change in business ownership
 - Change of business name
 - Other (See comments below):

Violation(s): California Fire Code 2001, Articles 79 & 80, Title 19 Part 9, California Code of Regulations (CCR)

- Provide for secondary containment for hazardous materials liquids and solids (CFC 8003.1.3.3)
- Provide spill control for hazardous materials liquids (CFC 8003.1.3.2)
- Provide approved cabinet if more than 10 gallons of flammable liquids (CFC 7902.5)
- Provide placarding and signs (NFPA 704, CFC Article 79 §7901.9, Article 80 §8001.7-8)
- No Violations Found

Additional Violations and/or Notes:

< DRUMS IN REAR of facility Need to BE MARKED & ORGANIZED
- PROVIDE PLACARD ON BUILDINGS AND ALL STORAGE of LIQUIDS -

Responsible Party: [REDACTED] Re-inspection Date: 10/27/08

The above are violations of California law and require immediate correction. Failure to correct violations is subject to civil penalties.

Fire Dept. Inspector: Capt. J. J. [Signature] ID #: 4212

Condition Upon Re-inspection: All Violations Complete Date: 10/28/08



CITY OF GARDEN GROVE FIRE DEPARTMENT

11301 Acacia Parkway, Garden Grove, CA 92842 (714) 741-5600 (714) 741-5636

FORM 1

Hazardous Materials Business Information Form

Page 1 of 185 3

BUSINESS INFORMATION

FACILITY # (Supplied by GGFD)	3 0 0 3 5	BEGINNING DATE	1	ENDING DATE	2
BUSINESS NAME	IRON GRIP BARBELL Co.			BUSINESS PHONE	714.889.7025
BUSINESS SITE ADDRESS	11377 MARKON DR.				
CITY	GARDEN GROVE	STATE	CA	ZIP	92841
DUN & BRADSTREET	10	SIC CODE (4 DIGIT #)	11	FIRE DISTRICT	12
COUNTY	ORANGE				
BUSINESS OPERATOR NAME	[REDACTED]			OPERATOR'S PHONE	714.850.6900

BUSINESS OWNER

OWNER NAME	Scott Frasco	OWNER PHONE	714 850 6900
OWNER MAILING ADDRESS	4012 W. GARRY Avenue		
CITY	Santa Ana	STATE	CA
	CA	ZIP	92704

ENVIRONMENTAL CONTACT

CONTACT NAME	RICK GREEN, AMBERWICK CORP	CONTACT PHONE	949.521.3714
CONTACT MAILING ADDRESS	2304 W. 16th ST.		
CITY	LONG BEACH	STATE	CA
		ZIP	90813

PRIMARY

EMERGENCY CONTACTS

SECONDARY

NAME	[REDACTED]	NAME	[REDACTED]
TITLE	OPERATIONS MGR	TITLE	Operations Manager
BUSINESS PHONE	714-889-7025	BUSINESS PHONE	714 825 0837
24-HR. PHONE	[REDACTED]	24-HR. PHONE	[REDACTED]
PAGER #	-	PAGER #	-

ADDITIONAL LOCALLY COLLECTED INFORMATION

DESCRIBE THE TYPE OF BUSINESS OPERATION:	Urethane Molding	TOTAL # OF EMPLOYEES	12
BILLING ADDRESS (IF DIFFERENT FROM ABOVE)	4012 W. GARRY Avenue Santa Ana, CA 92704		
PROPERTY OWNER NAME	OCSALE	PHONE	714 850 6900

Certification: Based on my inquiry of those individuals responsible for obtaining the information, I certify under penalty of law that I have personally examined and am familiar with the information submitted and believe the information is true, accurate, and complete.

SIGNATURE OF OWNER/OPERATOR OR DESIGNATED REPRESENTATIVE	45	DATE	46
NAME OF SIGNER (print)	47	NAME OF DOCUMENT PREPARER (print)	49
TITLE OF SIGNER	48	TITLE OF DOCUMENT PREPARER	50



Department of Toxic Substances Control



Linda S. Adams
Secretary for
Environmental Protection

Maureen F. Gorsen, Director
1001 "I" Street
P.O. Box 806
Sacramento, California 95812-0806

Arnold Schwarzenegger
Governor

ATTN: [REDACTED]
IRON GRIP BARBELL COMPANY INC
4012 W GARRY AVE
SANTA ANA CA 92704

EPA ID Number Issued: October 14, 2008
Location Address:
11377 MARKON DR
GARDEN GROVE CA 9284114

PERMANENT RECORD - DO NOT DESTROY
YOUR CALIFORNIA EPA IDENTIFICATION NUMBER IS:

CAL000337194

This is to acknowledge that a permanent California Environmental Protection Agency Identification (EPA ID) Number has been assigned to your place of business

An EPA ID Number is assigned to a person or business at a specific site. It is only valid for the location and person or business to which it was assigned. If your business has multiple generation sites, each site must have its own unique number. If you stop handling hazardous waste, move your business, change ownership, change mailing address, or change the type or amount of waste you handle, you must notify the Department of Toxic Substances Control immediately. If your business has moved, your EPA ID Number must be canceled. A new number must be obtained for your new location if you continue to generate hazardous waste.

This EPA ID Number must be used for all manifesting, record keeping, and reporting requirements. Please retain this notice in your files.

Department of Toxic Substances Control
Office of Data Evaluation and Environmental Indicators
Generator Information Services Section
Telephone: (916) 255-1136 or California-Only Toll-free Number: (800) 618-6942

Operator's Initials: EAGULTO

version: April 2008



Printed on Recycled Paper



CITY OF GARDEN GROVE
11301 ACACIA PARKWAY
GARDEN GROVE, CALIFORNIA 92842
(714) 741-5636

CUPA

FACILITY INFORMATION

BUSINESS ACTIVITIES

2 of

Page X of 185

I. FACILITY IDENTIFICATION

FACILITY ID#	3	0	0	3	5															1. EPA ID # (Hazardous Waste Only)	2.
																			CAL 000337194		

BUSINESS NAME (Same as FACILITY NAME or DBA-Doing Business As) 3.

IRON GRIP BARBELL CO.

II. ACTIVITIES DECLARATION

NOTE: If you check YES to any part of this list, please submit the Business Owner/Operator Identification page.

Does your facility...			If Yes, please complete these pages of the UPCF...
A. HAZARDOUS MATERIALS Have on site (for any purpose) hazardous materials at or above 55 gallons for liquids, 500 pounds for solids, or 200 cubic feet for compressed gases (include liquids in ASTs and USTs); or the applicable Federal threshold quantity for an extremely hazardous substance specified in 40 CFR Part 355, Appendix A or B; or handle radiological materials in quantities for which an emergency plan is required pursuant to 10 CFR Parts 30, 40 or 70?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	4. ✓ HAZARDOUS MATERIALS INVENTORY - CHEMICAL DESCRIPTION (Form 3)
B. UNDERGROUND STORAGE TANKS (USTs) 1. Own or operate underground storage tanks? 2. Intent to upgrade existing or install new USTs? 3. Need to report closing a UST?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	5. ✓ UST FACILITY (Formerly SWRCB Form A) ✓ UST TANK (one page per tank) (Formerly Form B) 6. ✓ UST FACILITY ✓ UST TANK (one per tank) ✓ UST INSTALLATION - CERTIFICATE OF COMPLIANCE (one page per tank) (Formerly Form C) 7. ✓ UST TANK (closure portion-one page per tank)
C. ABOVE GROUND PETROLEUM STORAGE TANKS (ASTs) Own or operate ASTs above these thresholds: - any tank capacity is greater than 660 gallons, or - the total aggregate capacity for the entire facility (ASTs, drums and portable containers) greater than 1,320 gallons?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	8. ✓ NO FORM REQUIRED TO CUPAS
D. HAZARDOUS WASTE 1. Generate hazardous waste? 2. Recycle more than 100 kg/month of excluded or exempted recyclable materials (per HSC §25143.2)? 3. Treat hazardous waste on site? 4. Treatment subject to financial assurance requirements (for Permit by Rule and Condition Authorization)? 5. Consolidate hazardous waste generated at a remove site? 6. Need to report the closure/removal of a tank that was classified waste and cleaned onsite?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	9. ✓ EPA ID NUMBER - provide at the top of this page 10. ✓ RECYCLABLE MATERIALS REPORT (one per recycler) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO 11. ✓ ONSITE HAZARDOUS WASTE TREATMENT - FACILITY (Formerly DTSC Forms 1772) ✓ ONSITE HAZARDOUS WASTE TREATMENT - UNIT (one page per unit) (Formerly DTSC Forms 1772A,B,C,D and L) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO 12. ✓ CERTIFICATION OF FINANCIAL ASSURANCE (Formerly DTSC Form 1232) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO 13. ✓ REMOTE WASTE/CONSOLIDATION SITE ANNUAL NOTIFICATION (Formerly DTSC Form 1196) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO 14. ✓ HAZARDOUS WASTE TANK CLOSURE CERTIFICATION (Formerly DTSC Form 1249)
E. LOCAL REQUIREMENTS I-ARP: California Accidental Release Prevention Program SC Chapter 6.95, Article 2, §25531 et seq - Stationary Source with more than a Threshold Quantity of a Regulated Substance in a Process	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	15. ✓ REGULATED SUBSTANCE REPORTING FORM (Orange County CUPA)

GARDEN GROVE FIRE DEPARTMENT HAZARDOUS MATERIALS DISCLOSURE PROGRAM BUSINESS EMERGENCY PLAN

EMERGENCY NOTIFICATIONS:

A handler of hazardous materials is required to immediately report any release or threatened release of hazardous materials to the Garden Grove Fire Department. Failure to do so may result in criminal and/or civil prosecution.

REQUIRED NOTIFICATIONS:

In the event of a release or threatened release of hazardous materials, it is State law to notify each of the following agencies.

AGENCY	PHONE NUMBERS
Garden Grove Fire Department, Police, Paramedics	911
Office of Emergency Services (OES)	(800) 852-7550 or (916) 427-4341
National Response Center	(800) 424-8802
Individual responsible for calling these agencies:	

Provide the following information when you call:

- Name of the person and business
- Business street address
- Location of the incident
- Type of incident (spill, gas release, etc.)
- The name(s) of the chemical substance(s) involved
- The amount of the chemical substance(s) involved
- The extent of injuries, if any
- Possible hazards to human health and/or the environment
- Emergency call-back phone number (_____)

If a chemical spill or release at your facility could create a toxic cloud or a liquid stream that could drift beyond your facility, then, identify nearby facilities that could be in imminent danger.

To the North
 Facility SURE SIGNAL PRODUCTS Phone (714) 895-8477
 Facility _____ Phone () _____

To the South
 Facility JASON TOOL Phone () _____
 Facility _____ Phone () _____

To the East
 Facility I.U.P.A.T. TRAINING CENTER Phone (714) 894-4097
 Facility _____ Phone () _____

To the West
 Facility FINAL ASSY, INC Phone (714) 891-1400
 Facility _____ Phone () _____

GARDEN GROVE FIRE DEPARTMENT
HAZARDOUS MATERIALS DISCLOSURE PROGRAM
BUSINESS EMERGENCY PLAN

OPTIONAL NOTIFICATIONS:

- 1. Hazardous Waste Contractor
Name: AMBERWICK CORP (562) 901.2350
- 2. Insurance Company
Name: ()
- 3. Poison Control Center - 24-Hour 1 (800) 876-4766

EVACUATION PLANS AND PROCEDURES:

Evacuation Alarms - describe the type of alarm signals that will be used to start an evacuation at this facility (vocal, paging system, manual alarm, etc.):

VOCAL

Evacuation Drills

Evacuation drills and records proving you have held such drills are required by California law. The drill record does NOT have to be provided to the Fire Department with this business plan, but shall be maintained for a period of three years and shall be available for review by Fire Department personnel. The record shall include the facilitator's name, title, facility location, date of drill, and the signature of the facilitator. For your convenience, a form for recording list information is included with this packet. Make additional copies as needed.

The following four forms:

- A) Evacuation Drill Record
- B) Emergency Coordinator Task Completion Sheet
- C) Emergency Chemical Disclosure Form
- D) Training Record

These forms are designed to assist you in organizing, planning and maintaining permanent records. They are to be retained at the business, and may be requested by emergency responders upon their arrival or during your annual fire inspection.

GARDEN GROVE FIRE DEPARTMENT
EVACUATION DRILL RECORD

Business Name: IRON GRIP BARBELL CO.

Street Address: 11377 MARKON DR., GARDEN GROVE, CA 92841

Date of Evacuation Drill: 9.29.08

Brief Description of Drill: EVACUATION OF ALL EMPLOYEES
IN FACILITY

Facilitator's Name: [REDACTED]

Facilitator's Title: OPERATIONS MGR.

I hereby certify, under penalty of perjury, that I facilitated the evacuation drill as described above.

Signature of Facilitator: [Signature]

Date Signed: 9.29.08

Date of Evacuation Drill: _____

Brief Description of Drill: _____

Facilitator's Name: _____

Facilitator's Title: _____

I hereby certify, under penalty of perjury, that I facilitated the evacuation drill as described above.

Signature of Facilitator: _____

Date Signed: _____

THIS RECORD TO BE RETAINED AT THE BUSINESS.
MAKE ADDITIONAL COPIES OF THIS FORM AS NEEDED.

**GARDEN GROVE FIRE DEPARTMENT
TRAINING RECORDS
FOR HAZARDOUS MATERIALS AND EMERGENCIES**

In addition to planning and conducting training programs, each employer should maintain training records for no less than three years. For your convenience, a form for recording this information is provided for your use. These reports do not have to be mailed back to the Fire Department with the Business Plan, but should be available to Fire Department personnel upon request. Make as many additional copies of these forms as you need.

Employee Name: _____

Employee Title: MAINTENANCE MGR

Training Provided: EVACUATION PLAN, ELECTRICAL SHUT DOWN
WATER / GAS SHUT DOWN MSDS LOCATION
SPILL PROCEDURE & EMERGENCY CONTACT PROCESS

9.29.08 Date Completed: 9.29.08

Employee Name: _____

Employee Title: OPERATIONS MGR

Training Provided: EVACUATION PLAN, WATER, GAS &
ELECTRICAL SHUT DOWN, MSDS LOCATION, EMERGENCY
EMERGENCY CONTACT PROCESS

_____ Date Completed: 9.29.08

Employee Name: _____

Employee Title: _____

Training Provided: _____

_____ Date Completed: _____

Employee Name: _____

Employee Title: _____

Training Provided: _____

_____ Date Completed: _____

THIS RECORD TO BE RETAINED AT THE BUSINESS.
MAKE ADDITIONAL COPIES OF THIS FORM AS NEEDED.

**GARDEN GROVE FIRE DEPARTMENT
BUSINESS EMERGENCY PLAN
EVACUATION PLANNING**

Describe the evacuation routes, emergency exits, and staging areas for employees in each work area at this facility. (A "staging area" is a specific location where your personnel meet after an evacuation, where you make sure everyone evacuated safely.)

1. Working area: MOLDING AREAS.
 Evacuation route: PROCEED SOUTH OF BUILDING
 Emergency exits: VARIOUS OPEN BAYS
 Staging area: SW CORNER OF PROPERTY

2. Working area: OFFICES.
 Evacuation route: FRONT EXIT
 Emergency exits: FRONT DOOR
 Staging area: NE CORNER OF PROPERTY

3. Working area: _____
 Evacuation route: _____
 Emergency exits: _____
 Staging area: _____

4. Working area: _____
 Evacuation route: _____
 Emergency exits: _____
 Staging area: _____

5. Working area: _____
 Evacuation route: _____
 Emergency exits: _____
 Staging area: _____

MAKE ADDITIONAL COPIES OF THIS FORM AS NEEDED.

GARDEN GROVE FIRE DEPARTMENT BUSINESS EMERGENCY PLAN

EMPLOYEE RESPONSIBILITIES:

Every business is required to develop an emergency plan. Part of this plan shall include the pre-assignment of important emergency duties to specific employees, and training of employees to carry out these emergency duties. Provide this information below for those employees who will carry out the emergency duties:

JOB TITLE: FACILITY MAINTENANCE LEAD

EMERGENCY FUNCTION(S): _____

- a. COORDINATE EVACUATION
- b. COORDINATE EMERGENCY RESPONSE
- c. NOTIFY APPROPRIATE AGENCIES
- d. _____

JOB TITLE: PRODUCTION SUPERVISOR

EMERGENCY FUNCTION(S): _____

- a. COORDINATE EVACUATION
- b. COORDINATE EMERGENCY RESPONSE
- c. NOTIFY APPROPRIATE AGENCIES.
- d. _____

JOB TITLE: _____

EMERGENCY FUNCTION(S): _____

- a. _____
- b. _____
- c. _____
- d. _____

MAKE ADDITIONAL COPIES OF THIS FORM AS NEEDED.

GARDEN GROVE FIRE DEPARTMENT BUSINESS EMERGENCY PLAN

TRAINING:

Every business handling hazardous materials above the minimum limits shall provide training for their employees in the following area:

- A. Method for safe handling of hazardous materials.
- B. Procedures for notification and coordination with emergency agencies, in the event of a spill or threatened spill.
- C. Use of emergency response equipment and supplies under the control of the handler.
- D. Emergency mitigation procedures in response to a release or threatened release hazardous material.
- E. Tasks assigned to employees in the event of a hazardous materials emergency.
- F. Evacuation procedures.

Describe the type of training programs you either are currently using or will use during the next year to provide the required employee training.

TRAINING PROGRAMS ARE GIVEN TO ALL EMPLOYEES REGARDING SAFETY, CORRECT USE OF FIRE EXTINGUISHERS USE OF PARTICLE MASKS, GLOVES, HOW TO READ MSDS SHEETS & LOCATION OF EXITS.

* SPECIFIC EMPLOYEES ARE CERTIFIED TO DRIVE FORK LIFTS AS WELL AS PROPER STORAGE & HANDLING OF CHEMICALS USED IN THE FACILITY

IRON GRIP IS DEDICATED TO TRAINING IN ALL AREAS:

- ✓ HOUSEKEEPING
- ✓ FIRE SAFETY
- ✓ HAZ COM
- ✓ BACK SAFETY
- ✓ GENERAL SAFETY

MAKE ADDITIONAL COPIES OF THIS FORM AS NEEDED.

GARDEN GROVE FIRE DEPARTMENT BUSINESS EMERGENCY PLAN

PREVENTION:

Part of the emergency pre-planning process is to identify potential hazards BEFORE an emergency, then either eliminate the hazard (if feasible) or prepare to handle the hazard should an emergency occur. To help you in this task, the form below is designed to help you identify potential hazards and to plan for minimizing the hazard. Complete this information for each hazardous materials storage location within your facility.

HAZARDOUS MATERIALS STORAGE LOCATION	PREVENTATIVE MEASURE
1. <u>NW CORNER OF BUILDING</u>	<u>CONTAINMENT CURB</u>
2. _____	<u>& COVERING.</u>
3. _____	_____
4. _____	_____
5. _____	_____
6. _____	_____
7. _____	_____
8. _____	_____

Comments relating to the listed storage areas:

HAZARDOUS MATERIALS LABELLED.

MSDS ARE AVAILABLE @ INFO STATIONS.

Prevention measures to be taken at this location:

Estimated date of completion: _____

Actual date of completion: _____

MAKE ADDITIONAL COPIES OF THIS FORM AS NEEDED.

**GARDEN GROVE FIRE DEPARTMENT
BUSINESS EMERGENCY PLAN**

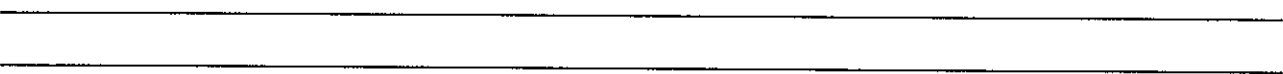
A BUSINESS IS REQUIRED BY LAW TO NOTIFY THE GARDEN GROVE FIRE DEPARTMENT WITHIN 30 DAYS OF ANY OF THE FOLLOWING EVENTS:

1. Change of business address.
2. Change of business ownership.
3. Change of business name.
4. Cessation of business operation (quitting business).
5. Use or handling of a previously undisclosed hazardous material.
6. A 100% increase in the quantity of a previously disclosed hazardous material.

IN ADDITION, IF A BUSINESS HANDLES EXTREMELY (ACUTELY) HAZARDOUS MATERIALS, THE BUSINESS MUST NOTIFY THE GARDEN GROVE FIRE DEPARTMENT WITHIN 30 DAYS OF ANY OF THE FOLLOWING EVENTS:

1. A modification, change, or addition to your facility which either increases your usage of extremely hazardous materials by 10% or greater, or substantially increases the risk in handling extremely hazardous materials at that address.



Your business is required by State law to retain a copy of this entire Business Plan, chemical inventory, material safety data sheets and site maps, for review by Fire Department personnel. State where your Disclosure and Emergency Business Plan will be kept.



Show location on site map also using symbol in the legend.

Note: A fee is charged for a replacement copy from the Garden Grove Fire Department.

I certify, under penalty of perjury, that the enclosed information is true and correct to the best of my knowledge.

Signature: 
 Name: 
 Title: OPERATIONS MGR.
 Date: 9.29.08

COPY

1	ACETONE
2	AQUA AMMONIA
3	BENZOYL CHLORIDE
4	BUTVAR B-90
5	CARPOL GP-6015/ POLY G 85-29
6	ETHACURE 300
7	ISOPROPYL ALCOHOL
8	LIQUID CAUSTIC SODA 50%
9	PHOSPHORIC ACID
10	POP4342 BLACK DISPERSION
11	EF 34 PROPYLENE CARBONATE
12	REACTINT BLACK X95AB
13	RUBINATE 44
14	SAFE STRIP G
15	JCTD33A JEFFCAT TD-33A
16	TOLUENE
17	VACUUM PUMP OIL
18	XC MOLD RELEASE COATING
19	PHENOLIC RESIN
20	BLASOCUT BC40SW
21	0.1 N HYDROCHLORIC ACID
22	HYDRANAL COMPOSIT 5
23	HYDRANAL WATER STANDARD 10.0
24	HYDRANAL WATER IN METHANOL STD. 5.0
25	
26	
27	
28	
29	
30	
31	

COPY



HAZARDOUS MATERIALS INVENTORY FORM

FORM 3

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Page 14 of 185 2

FACILITY ID# 30035 38 BUSINESS NAME IRON GRIP BARBELL CO. 3

I. FACILITY INFORMATION

CHEMICAL LOCATION 11377 MARKON DR. GARDEN GROVE, CA. 92841 4

CONFIDENTIAL LOCATION EPCRA Yes No 5 MAP # 1 6 GRID # C-3 7

II. CHEMICAL INFORMATION

CHEMICAL NAME ACETONE WASTE Yes 8 TRADE SECRET Yes No 11

* If EPCRA see instructions

COMMON NAME ACETONE 9 An EHS Chemical Yes No 12

* If EHS is "Yes", all amounts must be LBS

CAS # 67-64-1 10 FIRE CODE HAZARD CLASSES (supplied by GGFD) class 3 13

TYPE (Check one item only) a. PURE b. MIXTURE c. WASTE 14 RADIOACTIVE Yes No 15 CURIES 16

PHYSICAL STATE (Check one item only) a. SOLID b. LIQUID c. GAS 17 FED HAZARD CATEGORIES a. FIRE b. REACTIVE c. PRESSURE RELEASE 18

d. ACUTE HEALTH e. CHRONIC HEALTH

AVERAGE DAILY AMOUNT 3 19 MAXIMUM DAILY AMOUNT 3 20 ANNUAL WASTE AMOUNT 0 21 STATE WASTE CODE 22

UNITS a. GALLONS b. CUBIC FEET 23 DAYS ON SITE 365 24 LARGEST CONTAINER 55 GL DRUM 25

c. POUNDS d. TONS

* If EHS, amount must be in pounds.

STORAGE CONTAINER (Check all that apply)

a. ABOVEGROUND TANK b. UNDERGROUND TANK d. STEEL DRUM

e. PLASTIC DRUM g. METAL CONTAINER h. CARBOY

i. VAT j. FIBER DRUM l. BAG(S) m. CYLINDER n. GLASS CONTAINER o. PLASTIC CONTAINER p. IN MACH OR EQUIP

q. TANK WAGON r. RAIL CAR s. TOTE BIN t. OTHER

STORAGE PRESSURE a. AMBIENT b. ABOVE AMBIENT c. BELOW AMBIENT 27

STORAGE TEMPERATURE a. AMBIENT b. ABOVE AMBIENT c. BELOW AMBIENT d. CRYOGENIC 28

%WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1	29	<input type="checkbox"/> Yes <input type="checkbox"/> No 30	32
2	29	<input type="checkbox"/> Yes <input type="checkbox"/> No 31	32
3	29	<input type="checkbox"/> Yes <input type="checkbox"/> No 31	32
4	29	<input type="checkbox"/> Yes <input type="checkbox"/> No 31	32
5	29	<input type="checkbox"/> Yes <input type="checkbox"/> No 31	32

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

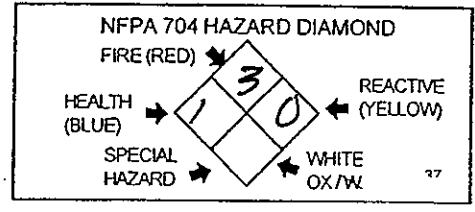
PLACARDING INFORMATION

UNDOT # _____ 33 Refer to shipping papers or MSDS

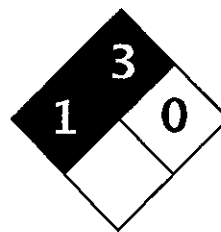
DOT HAZARD CLASS _____ 34 Refer to shipping papers or MSDS

EPCRA YES NO 35

X _____ 36 If EPCRA, Please Sign Here



MAKE AS MANY COPIES OF CHEMICAL INVENTORY FORM AS NEEDED



Health	2
Fire	3
Reactivity	0
Personal Protection	H

Material Safety Data Sheet Acetone MSDS

Section 1: Chemical Product and Company Identification

Product Name: Acetone

Catalog Codes: SLA3502, SLA1645, SLA3151, SLA3808

CAS#: 67-64-1

RTECS: AL3150000

TSCA: TSCA 8(b) inventory: Acetone

CI#: Not applicable.

Synonym: 2-propanone; Dimethyl Ketone;
Dimethylformaldehyde; Pyroacetic Acid

Chemical Name: Acetone

Chemical Formula: C₃-H₆-O

Contact Information:

Sciencelab.com, Inc.
14025 Smith Rd.
Houston, Texas 77396

US Sales: 1-800-901-7247
International Sales: 1-281-441-4400

Order Online: ScienceLab.com

CHEMTREC (24HR Emergency Telephone), call:
1-800-424-9300

International CHEMTREC, call: 1-703-527-3887

For non-emergency assistance, call: 1-281-441-4400

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Acetone	67-64-1	100

Toxicological Data on Ingredients: Acetone: ORAL (LD50): Acute: 5800 mg/kg [Rat]. 3000 mg/kg [Mouse]. 5340 mg/kg [Rabbit]. VAPOR (LC50): Acute: 50100 mg/m 8 hours [Rat]. 44000 mg/m 4 hours [Mouse].

Section 3: Hazards Identification

Potential Acute Health Effects:

Hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation. Slightly hazardous in case of skin contact (permeator).

Potential Chronic Health Effects:

CARCINOGENIC EFFECTS: A4 (Not classifiable for human or animal.) by ACGIH.

MUTAGENIC EFFECTS: Not available.

TERATOGENIC EFFECTS: Not available.

DEVELOPMENTAL TOXICITY: Classified Reproductive system/toxin/female, Reproductive system/toxin/male [SUSPECTED].

The substance is toxic to central nervous system (CNS).

The substance may be toxic to kidneys, the reproductive system, liver, skin.

Repeated or prolonged exposure to the substance can produce target organs damage.

Section 4: First Aid Measures

Eye Contact:

Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Get medical attention.

Skin Contact:

In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

Serious Skin Contact:

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if symptoms appear.

Serious Inhalation:

Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.

Ingestion:

Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: Flammable.

Auto-Ignition Temperature: 465°C (869°F)

Flash Points: CLOSED CUP: -20°C (-4°F). OPEN CUP: -9°C (15.8°F) (Cleveland).

Flammable Limits: LOWER: 2.6% UPPER: 12.8%

Products of Combustion: These products are carbon oxides (CO, CO₂).

Fire Hazards in Presence of Various Substances: Highly flammable in presence of open flames and sparks, of heat.

Explosion Hazards in Presence of Various Substances:

Risks of explosion of the product in presence of mechanical impact: Not available.
Slightly explosive in presence of open flames and sparks, of oxidizing materials, of acids.

Fire Fighting Media and Instructions:

Flammable liquid, soluble or dispersed in water.

SMALL FIRE: Use DRY chemical powder.

LARGE FIRE: Use alcohol foam, water spray or fog.

Special Remarks on Fire Hazards: Vapor may travel considerable distance to source of ignition and flash back.

Special Remarks on Explosion Hazards:

Forms explosive mixtures with hydrogen peroxide, acetic acid, nitric acid, nitric acid + sulfuric acid, chromic anhydride, chromyl chloride, nitrosyl chloride, hexachloromelamine, nitrosyl perchlorate, nitryl perchlorate, permonosulfuric acid, thiodiglycol + hydrogen peroxide, potassium ter-butoxide, sulfur dichloride, 1-methyl-1,3-butadiene, bromoform, carbon, air, chloroform, thitriazylperchlorate.

Section 6: Accidental Release Measures

Small Spill:

Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container.

Large Spill:

Flammable liquid.

Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not touch spilled material. Prevent entry into sewers, basements or confined areas; dike if needed. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7: Handling and Storage

Precautions:

Keep locked up.. Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/ vapor/spray. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, reducing agents, acids, alkalis.

Storage:

Store in a segregated and approved area (flammables area) . Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Keep away from direct sunlight and heat and avoid all possible sources of ignition (spark or flame).

Section 8: Exposure Controls/Personal Protection

Engineering Controls:

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal Protection:

Splash goggles. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits:

TWA: 500 STEL: 750 (ppm) from ACGIH (TLV) [United States]

TWA: 750 STEL: 1000 (ppm) from OSHA (PEL) [United States]

TWA: 500 STEL: 1000 [Australia]

TWA: 1185 STEL: 2375 (mg/m3) [Australia]

TWA: 750 STEL: 1500 (ppm) [United Kingdom (UK)]

TWA: 1810 STEL: 3620 (mg/m3) [United Kingdom (UK)]

TWA: 1800 STEL: 2400 from OSHA (PEL) [United States] Consult local authorities for acceptable exposure limits.

Section 9: Physical and Chemical Properties

Physical state and appearance: Liquid.

Odor: Fruity. Mint-like. Fragrant. Ethereal

Taste: Pungent, Sweetish

Molecular Weight: 58.08 g/mole

Color: Colorless. Clear

pH (1% soln/water): Not available.

Boiling Point: 56.2°C (133.2°F)

Melting Point: -95.35 (-139.6°F)

Critical Temperature: 235°C (455°F)

Specific Gravity: 0.79 (Water = 1)

Vapor Pressure: 24 kPa (@ 20°C)

Vapor Density: 2 (Air = 1)

Volatility: Not available.

Odor Threshold: 62 ppm

Water/Oil Dist. Coeff.: The product is more soluble in water; $\log(\text{oil/water}) = -0.2$

Ionicity (in Water): Not available.

Dispersion Properties: See solubility in water.

Solubility: Easily soluble in cold water, hot water.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Excess heat, ignition sources, exposure to moisture, air, or water, incompatible materials.

Incompatibility with various substances: Reactive with oxidizing agents, reducing agents, acids, alkalis.

Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity: Not available.

Special Remarks on Corrosivity: Not available.

Polymerization: Will not occur.

Section 11: Toxicological Information

Routes of Entry: Absorbed through skin. Dermal contact. Eye contact. Inhalation.

Toxicity to Animals:

WARNING: THE LC50 VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE.

Acute oral toxicity (LD50): 3000 mg/kg [Mouse].

Acute toxicity of the vapor (LC50): 44000 mg/m³ 4 hours [Mouse].

Chronic Effects on Humans:

CARCINOGENIC EFFECTS: A4 (Not classifiable for human or animal.) by ACGIH.

DEVELOPMENTAL TOXICITY: Classified Reproductive system/toxin/female, Reproductive system/toxin/male [SUSPECTED].

Causes damage to the following organs: central nervous system (CNS).

May cause damage to the following organs: kidneys, the reproductive system, liver, skin.

Other Toxic Effects on Humans:

Hazardous in case of skin contact (irritant), of ingestion, of inhalation.

Slightly hazardous in case of skin contact (permeator).

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans:

May affect genetic material (mutagenicity) based on studies with yeast (*S. cerevisiae*), bacteria, and hamster fibroblast cells. May cause reproductive effects (fertility) based upon animal studies.

May contain trace amounts of benzene and formaldehyde which may cancer and birth defects. Human: passes the placental barrier.

Special Remarks on other Toxic Effects on Humans:

Acute Potential Health Effects:

Skin: May cause skin irritation. May be harmful if absorbed through the skin.

Eyes: Causes eye irritation, characterized by a burning sensation, redness, tearing, inflammation, and possible corneal injury.

Inhalation: Inhalation at high concentrations affects the sense organs, brain and causes respiratory tract irritation.

It also may affect the Central Nervous System (behavior) characterized by dizziness, drowsiness, confusion, headache, muscle weakness, and possibly motor incoordination, speech abnormalities, narcotic effects and coma. Inhalation may also affect the gastrointestinal tract (nausea, vomiting).

Ingestion: May cause irritation of the digestive (gastrointestinal) tract (nausea, vomiting). It may also affect the Central Nervous System (behavior), characterized by depression, fatigue, excitement, stupor, coma, headache, altered sleep time, ataxia, tremors as well as the blood, liver, and urinary system (kidney, bladder, ureter) and endocrine system. May also have musculoskeletal effects.

Chronic Potential Health Effects:

Skin: May cause dermatitis.

Eyes: Eye irritation.

Section 12: Ecological Information

Ecotoxicity:

Ecotoxicity in water (LC50): 5540 mg/l 96 hours [Trout]. 8300 mg/l 96 hours [Bluegill]. 7500 mg/l 96 hours [Fathead Minnow]. 0.1 ppm any hours [Water flea].

BOD5 and COD: Not available.

Products of Biodegradation:

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The product itself and its products of degradation are not toxic.

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14: Transport Information

DOT Classification: CLASS 3: Flammable liquid.

Identification: : Acetone UNNA: 1090 PG: II

Special Provisions for Transport: Not available.

Section 15: Other Regulatory Information

Federal and State Regulations:

California prop. 65: This product contains the following ingredients for which the State of California has found to cause reproductive harm (male) which would require a warning under the statute: Benzene
California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: Benzene
California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: Benzene, Formaldehyde
Connecticut hazardous material survey.: Acetone
Illinois toxic substances disclosure to employee act: Acetone
Illinois chemical safety act: Acetone
New York release reporting list: Acetone
Rhode Island RTK hazardous substances: Acetone
Pennsylvania RTK: Acetone
Florida: Acetone
Minnesota: Acetone
Massachusetts RTK: Acetone
Massachusetts spill list: Acetone
New Jersey: Acetone
New Jersey spill list: Acetone
Louisiana spill reporting: Acetone
California List of Hazardous Substances (8 CCR 339): Acetone
TSCA 8(b) inventory: Acetone
TSCA 4(a) final test rules: Acetone
TSCA 8(a) IUR: Acetone

Other Regulations:

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).
EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications:

WHMIS (Canada):

CLASS B-2: Flammable liquid with a flash point lower than 37.8°C (100°F).
CLASS D-2B: Material causing other toxic effects (TOXIC).

DSCL (EEC):

R11- Highly flammable.
R36- Irritating to eyes.
S9- Keep container in a well-ventilated place.
S16- Keep away from sources of ignition - No smoking.
S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 3

Reactivity: 0

Personal Protection: h

National Fire Protection Association (U.S.A.):

Health: 1

Flammability: 3

Reactivity: 0

Specific hazard:

Protective Equipment:

Gloves.

Lab coat.

Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.

Splash goggles.

Section 16: Other Information

References:

- Material safety data sheet issued by: la Commission de la Sant  et de la S curit  du Travail du Qu bec.
 - The Sigma-Aldrich Library of Chemical Safety Data, Edition II.
 - Hawley, G.G.. The Condensed Chemical Dictionary, 11e ed., New York N.Y., Van Nostrand Reinold, 1987.
- LOLI, RTECS, HSDB databases.
Other MSDSs

Other Special Considerations: Not available.

Created: 10/10/2005 08:13 PM

Last Updated: 10/10/2005 08:13 PM

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall ScienceLab.com be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if ScienceLab.com has been advised of the possibility of such damages.

MATERIAL SAFETY DATA SHEET

SECTION I - IDENTIFICATION

PRODUCT: AQUA AMMONIA
MANUFACTURER: SHEPARD BROS., INC.
ADDRESS: 503 S. Cypress Street, La Habra, CA 90631
TELEPHONE: (562) 697-1366

DESCRIPTION: Aqueous Ammonia
CHEMICAL FAMILY: Base
FORMULA: $\text{NH}_4\text{OH}_{(\text{aq})}$
EMERGENCY TELEPHONE NUMBER: (562) 697-1366 or (800) 424-9300
NFPA RATING: Health: 3 Fire: 1 Reactivity: 0
NFPA Hazard Rating: Extreme: 4 High: 3 Moderate: 2 Slight: 1 Insignificant: 0

SECTION II - HAZARDOUS INGREDIENTS/MIXTURES

<u>MATERIAL or COMPONENT</u> <u>TLV/ACGIH</u>	<u>CAS No.</u>	<u>PERCENT</u>
Ammonium hydroxide 25 ppm (NH_3)	1336-21-6	< 35

35 ppm (STEL)

SECTION III - PHYSICAL DATA

BOILING POINT: 97°F
MELTING POINT: - 98°F
VAPOR PRESSURE (mm Hg) (68 °F): 115
VAPOR DENSITY (Air = 1): 0.60
PERCENT VOLATILE BY VOLUME: ND
AUTOIGNITION TEMPERATURE: 1,204 °F
FORM: Liquid
SOLUBILITY IN WATER: Complete
SPECIFIC GRAVITY (WATER=1) 0.89
APPEARANCE: Transparent, colorless
ODOR: Sharp, pungent, ammonia

SECTION IV - FIRE AND EXPLOSION DATA

FLASH POINT (TEST METHOD): ND

EXTINGUISHING MEDIA: Typical fire fighting media, such as water spray, dry chemical, foam, and carbon dioxide.

SPECIAL FIRE FIGHTING PROCEDURES: When this product is involved in a fire, firefighters

should wear protective clothing and self-contained breathing apparatus, in the positive pressure mode to avoid exposure to vapors or products of combustion. Guard against flammable vapors accumulating in confined spaces, such as under machinery.

UNUSUAL FIRE AND EXPLOSION HAZARD: When heated, this material releases large amounts of ammonia gas, a strong irritant to the eyes, respiratory tract, and moist skin. Closed containers exposed to extreme heat may develop pressure. Use a water spray to keep cool. Combustion products of ammonia may form toxic oxides of nitrogen.

SECTION V - HEALTH HAZARD INFORMATION

EFFECTS OF OVEREXPOSURE:

SKIN: Causes irritation and burns to the skin.

EYES: Vapors cause irritation. Splashes cause severe pain, eye damage, and may cause permanent blindness.

INGESTION: Toxic! May cause corrosion to the esophagus and stomach with perforation and peritonitis. Symptoms may include pain in the mouth, chest, and abdomen, with coughing, vomiting and collapse. Ingestion of as little as 3-4 mL (1 teaspoon) may be fatal.

INHALATION: Vapors and mists cause irritation to the respiratory tract. Higher concentrations can cause burns, pulmonary edema and death. Brief exposure to 5,000 ppm can be fatal.

EMERGENCY AND FIRST AID PROCEDURES:

SKIN: Immediately flush the skin with plenty of water for 15 minutes. Remove contaminated clothing and launder before reuse. Seek immediately medical attention.

EYES: Flush the eyes with plenty of water for 15 minutes, alternately lifting the upper and lower eyelids. Get immediate medical attention. Immediate action is critical to minimize the possibility of permanent blindness.

INGESTION: Do NOT induce vomiting. Drink 2 glasses of water. Never give anything by mouth to an unconscious person. Call for immediate medical attention.

INHALATION: Move the victim to fresh air. Give artificial respiration if not breathing. Have a trained medical person administer oxygen, if breathing is difficult. Immediately call a physician.

SECTION VI - REACTIVITY DATA

STABILITY: Stable.

CONDITIONS TO AVOID: High temperatures, flames, sunlight, and incompatibles.

INCOMPATIBILITY: Avoid contact with acids, acrolein, dimethyl sulfate, halogens, silver nitrate, propylene oxide, nitromethane, silver oxide, silver permanganate, oleum, beta-propiolactone, and many common metals.

HAZARDOUS DECOMPOSITION PRODUCTS: High temperatures and fires may release toxic ammonia and oxides of nitrogen.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Keep unnecessary and unprotected away from the area of spills. Wear chemically protective clothing as specified in

Section VIII. Contain spill using an inert diking material. Transfer material into an approved container for possible recovery and reuse or for disposal. Keep product out of sewers, watersheds, and water systems. Residues may be neutralized with dilute acetic, hydrochloric, or sulfuric acids.

WASTE DISPOSAL METHOD: Material that cannot be recovered and reused should be disposed of in accordance with all Federal, State, and Local regulations.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type): Avoid breathing vapors or mists. Use a NIOSH/MSHA approved respirator, with a full-facepiece, in a positive pressure mode, when concentrations are unknown or a full-facepiece respirator with ammonia/methylamine cartridges when concentrations are up to 50 times the exposure limit.

VENTILATION: Provide adequate mechanical or local exhaust ventilation to minimize exposure levels, particularly in areas where the air contacts open process equipment. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.

PROTECTIVE GLOVES: The wearing of neoprene or nitrile gloves is recommended, along with rubber boots, a chemically impervious protective apron or coveralls.

EYE PROTECTION: Wear chemical splash goggles and/or full-face shield where there is potential for eye contact. An eyewash fountain should be located in areas where the product is used.

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: All containers should be stored in a cool, dry, well-ventilated area. Exercise due caution to prevent damage to or leakage from the container. Avoid contact with ignition sources and strong acids. Keep containers closed when not in use.

OTHER PRECAUTIONS: Use good industrial practices in the storage and distribution of this product.

SECTION X – REGULATORY INFORMATION

This product is not considered a carcinogen or cancer suspect under NTP, IARC and OSHA.

SARA Title III Section 313 (Toxic Chemicals): None listed.

SARA Title III Section 302 (Extremely Hazardous Substances): None listed

U.S. DOT PROPER SHIPPING NAME: AMMONIA SOLUTIONS (WITH 10-35% AMMONIA), 8, UN2672, PGIII.

LABEL: CORROSIVE

NA: not applicable

ND: not determined

Information presented herein has been compiled from sources considered to be dependable and is accurate and reliable to the best of our knowledge, but is not guaranteed to be so. Since conditions of use are beyond our control, we make no warranties, express or implied,

except those that are stated in corresponding labels and technical literature.



HAZARDOUS MATERIALS INVENTORY FORM

FORM 3

ADD DELETE REVISED 1 Page _____ of _____ 2

FACILITY ID#	3 0 0 3 5	38	BUSINESS NAME	IRON GRIP BARBELL CO.	3
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I. FACILITY INFORMATION

CHEMICAL LOCATION	11377 MARKON DR. GARDEN GROVE, CA. 92841				4
CONFIDENTIAL LOCATION EPCRA	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5	MAP #	1	6
			GRID #	D-3	7

II. CHEMICAL INFORMATION

CHEMICAL NAME	BENZOYL CHLORIDE	WASTE	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	8	TRADE SECRET	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	11
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COMMON NAME	BENZOYL CHLORIDE	9	An EHS Chemical	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	12
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CAS #	98-88-4	10	FIRE CODE HAZARD CLASSES (supplied by GGFD)		13
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TYPE (Check one item only)	<input checked="" type="checkbox"/> a. PURE <input type="checkbox"/> b. MIXTURE <input type="checkbox"/> c. WASTE	14	RADIOACTIVE	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	15	CURIES	16
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PHYSICAL STATE (Check one item only)	<input type="checkbox"/> a. SOLID <input checked="" type="checkbox"/> b. LIQUID <input type="checkbox"/> c. GAS	17	FED-HAZARD CATEGORIES	<input checked="" type="checkbox"/> a. FIRE <input type="checkbox"/> b. REACTIVE <input type="checkbox"/> c. PRESSURE RELEASE <input type="checkbox"/> d. ACUTE HEALTH <input type="checkbox"/> e. CHRONIC HEALTH	18
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AVERAGE DAILY AMOUNT	14 GRAMS	19	MAXIMUM DAILY AMOUNT	14 GRAMS	20	ANNUAL WASTE AMOUNT	0	21	STATE WASTE CODE	22
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UNITS	<input checked="" type="checkbox"/> a. GALLONS <input type="checkbox"/> b. CUBIC FEET <input type="checkbox"/> c. POUNDS <input type="checkbox"/> d. TONS	23	DAYS ON SITE	365	24	LARGEST CONTAINER	1 LITER	25
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STORAGE CONTAINER (Check all that apply)	<input type="checkbox"/> a. ABOVEGROUND TANK <input type="checkbox"/> b. UNDERGROUND TANK <input type="checkbox"/> c. TANK INSIDE BLDG <input type="checkbox"/> d. STEEL DRUM <input type="checkbox"/> e. PLASTIC DRUM <input type="checkbox"/> f. NONMETALLIC DRUM <input type="checkbox"/> g. METAL CONTAINER <input type="checkbox"/> h. CARBOY <input type="checkbox"/> i. VAT <input type="checkbox"/> j. FIBER DRUM <input type="checkbox"/> k. BAG(S) <input type="checkbox"/> l. BOX(S) <input checked="" type="checkbox"/> m. CYLINDER <input type="checkbox"/> n. GLASS CONTAINER <input type="checkbox"/> o. PLASTIC CONTAINER <input type="checkbox"/> p. IN MACH OR EQUIP <input type="checkbox"/> q. TANK WAGON <input type="checkbox"/> r. RAIL CAR <input type="checkbox"/> s. TOTE BIN <input type="checkbox"/> t. OTHER	26
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STORAGE PRESSURE	<input checked="" type="checkbox"/> a. AMBIENT <input type="checkbox"/> b. ABOVE AMBIENT <input type="checkbox"/> c. BELOW AMBIENT	27
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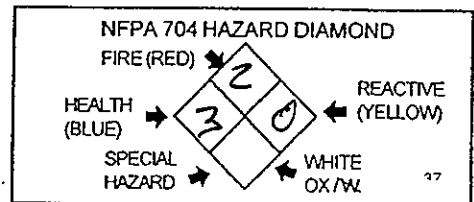
STORAGE TEMPERATURE	<input checked="" type="checkbox"/> a. AMBIENT <input type="checkbox"/> b. ABOVE AMBIENT <input type="checkbox"/> c. BELOW AMBIENT <input type="checkbox"/> d. CRYOGENIC	28
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%WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1	29	<input type="checkbox"/> Yes <input type="checkbox"/> No	30
2	29	<input type="checkbox"/> Yes <input type="checkbox"/> No	30
3	29	<input type="checkbox"/> Yes <input type="checkbox"/> No	30
4	29	<input type="checkbox"/> Yes <input type="checkbox"/> No	30
5	29	<input type="checkbox"/> Yes <input type="checkbox"/> No	30

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

PLACARDING INFORMATION

UNDOT #	_____	33	Refer to shipping papers or MSDS
DOT HAZARD CLASS	_____	34	Refer to shipping papers or MSDS
EPCRA	<input type="checkbox"/> YES <input type="checkbox"/> NO	35	
X	_____	36	If EPCRA, Please Sign Here



MAKE AS MANY COPIES OF CHEMICAL INVENTORY FORM AS NEEDED

Material Safety Data Sheet

Benzoyl chloride

ACC# 95451

Section 1 - Chemical Product and Company Identification

MSDS Name: Benzoyl chloride**Catalog Numbers:** AC105750000, AC105750010, AC105750025, AC402030000, AC402030050, AC402035000, 40203-0025, O1388-500**Synonyms:** Benzene carbonyl chloride; Benzoic acid, chloride; alpha-Chlorobenzaldehyde**Company Identification:**

Fisher Scientific
1 Reagent Lane
Fair Lawn, NJ 07410

For information, call: 201-796-7100**Emergency Number:** 201-796-7100**For CHEMTREC assistance, call:** 800-424-9300**For International CHEMTREC assistance, call:** 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
98-88-4	Benzoyl chloride	>98	202-710-8

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: clear, colorless liquid. Flash Point: 68 deg C.

Danger! Causes eye and skin burns. Causes digestive and respiratory tract burns. Harmful if absorbed through skin or if inhaled. **Combustible liquid and vapor.** Material hydrolyzes in contact with moisture/water releasing toxic and corrosive fumes of hydrogen chloride and aqueous hydrochloric acid.

Target Organs: Lungs, eyes, skin.

Potential Health Effects

Eye: Lachrymator (substance which increases the flow of tears). Causes severe eye irritation and burns.

Skin: Harmful if absorbed through the skin. Causes severe skin irritation and burns. AIHA uses a dermal sensitizer notation for this chemical.

Ingestion: May cause severe and permanent damage to the digestive tract.

Inhalation: Harmful if inhaled. Causes chemical burns to the respiratory tract. May cause pulmonary edema and severe respiratory disturbances. Vapors may cause lung injury. Exposures at 2 ppm for 1 minute have been reported as being intolerable.

Chronic: Animal studies have reported the development of tumors by skin contact. Skin and lung tumors were reported in mice after repeated skin contact with benzoyl chloride. These tumors were not considered statistically significant from the

Section 4 - First Aid Measures

Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid immediately.

Skin: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid immediately. Wash clothing before reuse.

Ingestion: If swallowed, do NOT induce vomiting. Get medical aid immediately. If victim is fully conscious, give a cupful of water. Never give anything by mouth to an unconscious person.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Vapors can travel to a source of ignition and flash back. Combustible liquid and vapor. Use of water will produce irritating and toxic vapors of hydrogen chloride. Hydrochloric acid solutions react with most metals, forming flammable hydrogen gas.

Extinguishing Media: Do NOT get water inside containers. Use dry powder or carbon dioxide.

Flash Point: 68 deg C (154.40 deg F)

Autoignition Temperature: 568 deg C (1,054.40 deg F)

Explosion Limits, Lower: 1.2 vol %

Upper: 4.9 vol %

NFPA Rating: (estimated) Health: 3; Flammability: 2; Instability: 2; Special Hazard: -W-

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Avoid runoff into storm sewers and ditches which lead to waterways. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation. Do not expose spill to water. Approach spill from upwind.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Do not get in eyes, on skin, or on clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Do not ingest or inhale. Do not allow contact with water. Discard contaminated shoes. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Keep from contact with moist air and steam. Keep away from heat and flame. Systems and equipment must be scrupulously dry.

Storage: Keep away from sources of ignition. Store in a tightly closed container. Keep from contact with oxidizing materials. Store in a cool, dry, well-ventilated area away from incompatible

substances. Corrosives area. Do not store near alkaline substances. Store protected from moisture. Separate from alcohols. Sometimes packaged under dry nitrogen.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Use process enclosure, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof ventilation equipment. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Benzoyl chloride	0.5 ppm Ceiling	none listed	none listed

OSHA Vacated PELs: Benzoyl chloride: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: Wear chemical splash goggles.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Appearance: clear, colorless

Odor: pungent odor - penetrating odor

pH: Not available.

Vapor Pressure: 0.7 mm Hg @ 25 deg C

Vapor Density: 4.88(air=1)

Evaporation Rate: Not available.

Viscosity: Not available.

Boiling Point: 197.2 deg C

Freezing/Melting Point: -1 deg C

Decomposition Temperature: Not available.

Solubility: decomposes

Specific Gravity/Density: 1.21

Molecular Formula: C₇H₅ClO

Molecular Weight: 140.57

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures. Liberates heat and hydrochloric acid on contact with water.

Conditions to Avoid: Ignition sources, contact with water, excess heat, confined spaces.

Incompatibilities with Other Materials: Water, strong oxidizing agents, strong bases, alcohols, amines, dimethyl sulfoxide, attacks metals in the presence of moisture.

Hazardous Decomposition Products: Hydrogen chloride, phosgene, carbon monoxide, carbon

dioxide, benzoic acid.

Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

RTECS#:

CAS# 98-88-4: DM6600000

LD50/LC50:

CAS# 98-88-4:

Inhalation, rat: LC50 = 1870 mg/m³/2H;

Oral, rat: LD50 = 1900 mg/kg;

Dermal, rabbit: LD50 = 790 mg/kg.

Carcinogenicity:

CAS# 98-88-4:

- **ACGIH:** Not listed.
- **California:** Not listed.
- **NTP:** Not listed.
- **IARC:** Group 2A carcinogen

Epidemiology: Based on case reports & epidemiological studies, workers engaged in benzoyl chloride production have been at increased risk to contract lung cancer. But, excess cancer cases were likely due to excessive benzotrichloride exposure & poor industrial hygiene

Teratogenicity: No information found

Reproductive Effects: No information found

Mutagenicity: See actual entry in RTECS for complete information.

Neurotoxicity: No information found

Other Studies:

Section 12 - Ecological Information

No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	BENZOYL CHLORIDE	BENZOYL CHLORIDE

Hazard Class:	8	8
UN Number:	UN1736	UN1736
Packing Group:	II	II

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 98-88-4 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

CAS# 98-88-4: 1000 lb final RQ; 454 kg final RQ

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 98-88-4: immediate, fire, reactive.

Section 313

This material contains Benzoyl chloride (CAS# 98-88-4, >98%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depletors.

This material does not contain any Class 2 Ozone depletors.

Clean Water Act:

CAS# 98-88-4 is listed as a Hazardous Substance under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 98-88-4 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

C

Risk Phrases:

R 34 Causes burns.

Safety Phrases:

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

WGK (Water Danger/Protection)

CAS# 98-88-4: 2

Canada - DSL/NDSL

CAS# 98-88-4 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of B3, E, D1B.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

CAS# 98-88-4 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information
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MSDS Creation Date: 5/25/1999

Revision #5 Date: 3/16/2007

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.



HAZARDOUS MATERIALS INVENTORY FORM

FORM 3

ADD

DELETE

REVISED 1

Page _____ of _____ 2

FACILITY ID#	3 0 0 3 5	38	BUSINESS NAME	IRON GRIP BARBELL CO.	3
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I. FACILITY INFORMATION

CHEMICAL LOCATION	11377 MARKON DR. GARDEN GROVE, CA. 92841					4			
CONFIDENTIAL LOCATION EPCRA	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	5	MAP #	1	6	GRID #	D-4	7

II. CHEMICAL INFORMATION

CHEMICAL NAME	BUTV AR B-90		WASTE	<input type="checkbox"/> Yes	8	TRADE SECRET	<input type="checkbox"/> Yes	<input type="checkbox"/> No	11
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COMMON NAME	POLYVINYL BUTYRAL		9	An EHS Chemical	<input type="checkbox"/> Yes	<input type="checkbox"/> No	12
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CAS #	27360-07-2	10	FIRE CODE HAZARD CLASSES (supplied by GGFD)	Class 4	13
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TYPE (Check one item only)	<input type="checkbox"/> a. PURE	<input checked="" type="checkbox"/> b. MIXTURE	<input type="checkbox"/> c. WASTE	14	RADIOACTIVE	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	15	CURIES	16
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PHYSICAL STATE (Check one item only)	<input checked="" type="checkbox"/> a. SOLID	<input type="checkbox"/> b. LIQUID	<input type="checkbox"/> c. GAS	17	FED HAZARD CATEGORIES	<input checked="" type="checkbox"/> a. FIRE	<input type="checkbox"/> b. REACTIVE	<input type="checkbox"/> c. PRESSURE RELEASE	18	<input type="checkbox"/> d. ACUTE HEALTH	<input type="checkbox"/> e. CHRONIC HEALTH
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AVERAGE DAILY AMOUNT	1 1/2	19	MAXIMUM DAILY AMOUNT	1 1/2	20	ANNUAL WASTE AMOUNT	0	21	STATE WASTE CODE	22
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UNITS	<input type="checkbox"/> a. GALLONS	<input type="checkbox"/> b. CUBIC FEET	23	DAYS ON SITE	365	24	LARGEST CONTAINER	200lb DRUM	25
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STORAGE CONTAINER (Check all that apply)	<input type="checkbox"/> a. ABOVEGROUND TANK	<input type="checkbox"/> e. PLASTIC DRUM	<input type="checkbox"/> i. VAT	<input type="checkbox"/> m. CYLINDER	<input type="checkbox"/> q. TANK WAGON	25
	<input type="checkbox"/> b. UNDERGROUND TANK	<input checked="" type="checkbox"/> f. NONMETALLIC DRUM	<input type="checkbox"/> j. FIBER DRUM	<input type="checkbox"/> n. GLASS CONTAINER	<input type="checkbox"/> r. RAIL CAR	
	<input type="checkbox"/> c. TANK INSIDE BLDG	<input type="checkbox"/> g. METAL CONTAINER	<input type="checkbox"/> k. BAG(S)	<input type="checkbox"/> o. PLASTIC CONTAINER	<input type="checkbox"/> s. TOTE BIN	
	<input type="checkbox"/> d. STEEL DRUM	<input type="checkbox"/> h. CARBOY	<input type="checkbox"/> l. BOX(S)	<input type="checkbox"/> p. IN MACH OR EQUIP	<input type="checkbox"/> t. OTHER	

STORAGE PRESSURE	<input checked="" type="checkbox"/> a. AMBIENT	<input type="checkbox"/> b. ABOVE AMBIENT	<input type="checkbox"/> c. BELOW AMBIENT	27
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STORAGE TEMPERATURE	<input checked="" type="checkbox"/> a. AMBIENT	<input type="checkbox"/> b. ABOVE AMBIENT	<input type="checkbox"/> c. BELOW AMBIENT	<input type="checkbox"/> d. CRYOGENIC	28
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%WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1 96	POLYVINYL BUTYRAL	<input type="checkbox"/> Yes <input type="checkbox"/> No	27360-07-2
2 2	1,1-DIETHOXYBUTANE	<input type="checkbox"/> Yes <input type="checkbox"/> No	3658-95-5
3 2	WATER	<input type="checkbox"/> Yes <input type="checkbox"/> No	7732-18-5
4		<input type="checkbox"/> Yes <input type="checkbox"/> No	
5		<input type="checkbox"/> Yes <input type="checkbox"/> No	

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

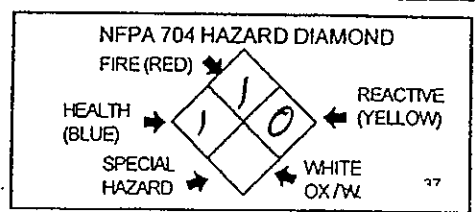
PLACARDING INFORMATION

UNDOT # _____ 33
Refer to shipping papers or MSDS

DOT HAZARD CLASS _____ 34
Refer to shipping papers or MSDS

EPCRA YES NO 35

X _____ 36
If EPCRA, Please Sign Here



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Solutia Inc.

Material Safety Data Sheet

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: BUTVAR® B-90 Polyvinyl butyral

Reference Number: 00000000463

Date: 04/20/2005

Company Information:

United States:

Solutia Inc.
575 Maryville Center Drive, P.O. Box 66760
St. Louis, MO 63166-6760
Emergency telephone: Chemtrec: 1-800-424-9300
Non-Emergency telephone: 1-314-674-6661

Canada:

Solutia Canada Inc.
6800 St. Patrick Street
LaSalle, PQ H8N 2H3
Emergency telephone: CANUTEC: 1-613-996-6666
Non-Emergency telephone: 1-314-674-6661

Mexico:

Solutia MEXICO, S. DE R.L. DE C.V.
Paseo de la Reforma No. 2654 Piso 3-A
Col. Lomas Altas
C.P. 11950 Mexico D.F.
Emergency telephone: SETIQ: (in Mexico) 01-800-002-1400
Non-Emergency telephone: (in Mexico) 01-55-5259-6800

Brazil:

Solutia Brazil Ltd.
Avenue Carlos Marcondes, 1200
CEP: 12241-420-São José dos Campos/SP-Brazil
Emergency telephone: 55 12 3932 7100 (PABX)
Non-Emergency telephone: 55 11 3365 1800 (PABX)

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Form: granular, solid
Colour: white
Odour: characteristic

WARNING STATEMENTS

WARNING!
Combustible dust
May cause eye irritation
EXPLOSION POTENTIAL

POTENTIAL HEALTH EFFECTS

Likely routes of exposure: eye and skin contact
inhalation

Eye contact: Moderately irritating to eyes.

Dust may cause eye irritation as would any foreign material.

Skin contact: No more than slightly irritating to skin.
No more than slightly toxic if absorbed.

Inhalation: No information available.

Ingestion: No more than slightly toxic if swallowed.
Significant adverse health effects are not expected to develop if only small amounts (less than a mouthful) are swallowed.

Refer to Section 11 for toxicological information.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Components</u>	<u>CAS No.</u>	<u>Average concentration</u>	<u>Concentration range</u>	<u>Units</u>
polyvinyl butyral	27360-07-2	96.0		%
1,1-diethoxybutane	3658-95-5		<=2.0	%
water	7732-18-5		<=2.0	%

Polyvinyl butyral also listed as CAS No. 63148-65-2

4. FIRST AID MEASURES

If in eyes: Immediately flush with plenty of water.
If easy to do, remove any contact lenses.
Get medical attention if irritation persists.
Remove material from skin and clothing.

If on skin: Immediate first aid is not likely to be required.
This material can be removed with water.
Wash heavily contaminated clothing before reuse.

If inhaled: Immediate first aid is not likely to be required.
If symptoms occur, remove to fresh air.
Remove material from eyes, skin and clothing.

If swallowed: Immediate first aid is not likely to be required.
A physician or Poison Control Center can be contacted for advice.
Wash heavily contaminated clothing before reuse.

5. FIRE FIGHTING MEASURES

Hazardous products of combustion: butyraldehyde; butyric acid; acrolein; crotonaldehyde; carbon monoxide (CO)

Extinguishing media: Water spray, foam, dry chemical, or carbon dioxide

Unusual fire and explosion hazards: None known

Fire fighting equipment: Firefighters, and others exposed, wear self-contained breathing apparatus.
Equipment should be thoroughly decontaminated after use.

Miscellaneous advice: This material may contain enough fines to form an explosive mixture if mixed with a sufficient quantity of air.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Use personal protection recommended in section 8.

Environmental precautions: Keep out of drains and water courses.

Methods for cleaning up: In case of spill, do not blow material. Use vacuum equipment designed specifically for handling combustible dusts. Flush spill area with water.

Refer to Section 13 for disposal information and Sections 14 and 15 for reportable quantity information.

7. HANDLING AND STORAGE

Handling

Keep away from heat, sparks, and flame.
Avoid creating dust cloud in handling, transfer and clean-up.
Avoid contact with eyes.
Wash thoroughly after handling.

Emptied containers retain vapour and product residue. Observe all recommended safety precautions until container is cleaned, reconditioned or destroyed. Do not cut, drill, grind or weld on or near this container. The reuse of this material's container for non industrial purposes is prohibited and any reuse must be in consideration of the data provided in this material safety data sheet.

Storage

General: Keep in a cool, dry, well ventilated place.
Stable under normal conditions of handling and storage.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Airborne exposure limits: (ml/m³ = ppm)

BUTVAR® B-90 OSHA and/or ACGIH have not established specific exposure limits for this material. However, they have established limits for particulates not otherwise regulated (PNOR) and particulates not otherwise classified (PNOC) respectively, which are the least stringent exposure limits applicable to dusts.
OSHA PEL: 15mg/m³ (total dust) 8-hr TWA
OSHA PEL: 5mg/m³ (respirable) 8-hr TWA
ACGIH TLV: 10mg/m³ (total dust) 8-hr TWA
ACGIH TLV: 3mg/m³ (respirable) 8-hr TWA

Eye protection: Wear chemical goggles.
Have eye flushing equipment available.

Hand protection: Although this product does not present a significant skin concern, minimize skin contamination by following good industrial practice.
Wearing protective gloves is recommended.
Consult the glove/clothing manufacturer to determine the appropriate type glove/clothing for a given application.

- Body protection:** Although this product does not present a significant skin concern, minimize skin contamination by following good industrial practice.
Wash contaminated skin thoroughly after handling.
- Respiratory protection:** Avoid breathing dust.
Use approved respiratory protection equipment (full facepiece recommended) when airborne exposure limits are exceeded.
If used, full facepiece replaces the need for face shield and/or chemical goggles.
Consult the respirator manufacturer to determine the appropriate type of equipment for a given application.
Observe respirator use limitations specified by the manufacturer.
- Ventilation:** Provide natural or mechanical ventilation to minimize exposure.
If practical, use local mechanical exhaust ventilation at sources of air contamination such as processing equipment.

Components referred to herein may be regulated by specific Canadian provincial legislation. Please refer to exposure limits legislated for the province in which the substance will be used.

9. PHYSICAL AND CHEMICAL PROPERTIES

- Flash point:** combustible material
- Density:** 0.22 - 0.25 g/cm³ (bulk density)
- Softening point :** 140 - 200 C
VOC Content: 2.8 % ;

NOTE: These physical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specifications for the product.

10. STABILITY AND REACTIVITY

- Conditions to avoid:** All sources of ignition.
High humidity
Elevated temperatures
- Materials to avoid:** Contact with strong oxidizing agents.
- Hazardous reactions:** Hazardous polymerization does not occur.
- Decomposition temperature:** 100 C
- Hazardous decomposition products:** butyraldehyde; butyric acid; acrolein; crotonaldehyde; carbon monoxide (CO)

11. TOXICOLOGICAL INFORMATION

This product has not been tested for toxicity, but data obtained on similar products are summarized below:

Acute animal toxicity data

Oral:	LD50 , rat , > 10,000 mg/kg , Practically nontoxic following oral administration.
Dermal:	LD50 , rabbit , > 7,940 mg/kg , Practically nontoxic after skin application in animal studies.
Eye irritation:	rabbit , Slightly irritating to eyes (rabbit)., 24 h
Skin irritation:	rabbit , Slightly irritating to skin (rabbit)., 24 h
Mutagenicity:	The active ingredient generally produced no genetic changes in standard tests using bacterial and yeast cells.

12. ECOLOGICAL INFORMATION

Solutia has not conducted environmental toxicity or biodegradation studies with this material.

13. DISPOSAL CONSIDERATIONS

US EPA RCRA Status:	This material when discarded is not a hazardous waste as that term is defined by the Resource, Conservation and Recovery Act (RCRA), 40 CFR 261.
Disposal considerations:	Landfill Incineration Recycle
Miscellaneous advice:	Local, state, provincial, and national disposal regulations may be more or less stringent. Consult your attorney or appropriate regulatory officials for information on such disposal. This product should not be dumped, spilled, rinsed or washed into sewers or public waterways.

14. TRANSPORT INFORMATION

The data provided in this section is for information only. Please apply the appropriate regulations to properly classify your shipment for transportation.

US DOT

Other: Not regulated for transport.

Canadian TDG

Other: Not regulated for transport.

ICAO/IATA Class

Other: Not regulated for transport.

15. REGULATORY INFORMATION

All components are in compliance with the following inventories: U.S. TSCA, Canadian DSL, EU EINECS, Australian AICS, Korean, Phillipine PICCS, Chinese, Japanese ENCS

Other chemical inventory information: The polymer contained within this product is exempt from listing in the European Inventory. The monomers used to manufacture this polymer are listed as required, as are all other components of this product.

One or more of this product's components is considered to be an impurity and is not subject to the New Substances Notification Regulation under the Canadian Environmental Protection Act (CEPA).

Canadian WHMIS classification: D2(B) - Materials Causing Other Toxic Effects

SARA Hazard Notification:

Hazard Categories Under Title III Rules (40 CFR 370):	Immediate
Section 302 Extremely Hazardous Substances:	Not applicable
Section 313 Toxic Chemical(s):	Not applicable

CERCLA Reportable Quantity:

Not applicable

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulation and the MSDS contains all the information required by the Canadian Controlled Products Regulation.

Refer to Section 11 for OSHA/HPA Hazardous Chemical(s) and Section 13 for RCRA classification.

Safety data sheet also created in accordance with Brazilian law NBR 14725

16. OTHER INFORMATION

Product use: Adhesive, binding agents

Reason for revision: Significant changes to the following section(s):, Section 3, Section 15

	Health	Fire	Reactivity	Additional Information
Suggested NFPA Rating	1	1	0	
Suggested HMIS Rating:	1	1	0	E

Prepared by the Solutia Hazard Communication Group. Please consult Solutia @ 314-674-6661 if further information is needed.

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Product name: BUTVAR® B-90 Polyvinyl butyral
Solutia Inc. Material Safety Data Sheet
Reference Number: 00000000463

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Date: 04/20/2005
Version 6/E

receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will Solutia Inc. be responsible for damages of any nature whatsoever resulting from the use of or reliance upon Information. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR THE PRODUCT TO WHICH INFORMATION REFERS.



Data Sheet

Pub. No. 2008161A

Butvar® B-90

Butvar B-90 is a thermoplastic, polyvinyl butyral resin which offers a unique combination of properties for coating or adhesive applications. The use or addition of polyvinyl butyral to a system imparts adhesion, toughness, and flexibility. PVB retains the clarity of the coating and offers reactive hydroxyl sites for crosslinking with thermoset. Butvar B-90 is formulated into many applications including:

- 7 WASH PRIMERS AND GENERAL METAL OR WOOD COATINGS
- 7 BINDERS FOR ADHESIVES AND STRUCTURAL COMPOSITES
- 7 BINDERS FOR INKS AND TONERS

Physical Properties

Specifications

Property	Limits	Test Method
Hydroxyl Content, % (Expressed as % Polyvinyl Alcohol)	18.0-20.0	Titration WS-03-90-09B
Solution Viscosity, cps (6% solids in methanol @ 20°C)	13.0-17.0	Ostwald Viscometer WS-03-90-01C
Volatile Content, %	5.0 max.	Thermogravimetric WS-03-90-03B

Useful Information

Form	White, free-flowing powder
Acetate Content, (% Polyvinyl Acetate)	2.5 maximum
Butyral Content, (% Polyvinyl Butyral)	80 (approximate)
Molecular Weight* (Mw)	70,000-100,000
Specific Gravity	1.100
Glass Transition Temperature (Tg), °C	72-78
* Size exclusion chromatography with low angle laser light scattering standard	



For Technical Service assistance, call 413- 730-3241 or FAX 413-730-3394.
For Customer Order assistance, call toll-free 1-800-964-5224 or FAX 314-674-5147.
Additional information follows.

NOTICE: While the information contained herein is presented in good faith and believed to be correct as of the date hereof, Solutia Inc. does not guarantee satisfactory results from reliance upon such information, disclaims all liability for any loss or damage arising out of any use of this information or the products to which said information refers and **MAKES NO EXPRESS OR IMPLIED REPRESENTATION OR WARRANTY AS TO THE FITNESS, MERCHANTABILITY OR ANY OTHER MATTER WITH RESPECT TO THE INFORMATION OR PRODUCTS**, except as set forth in Solutia's standard conditions of sale. Nothing contained herein is to be construed as a recommendation to use any product or process in conflict with any patent, and Solutia Inc. makes no representation or warranty, express or implied, that the use thereof will not infringe any patent.

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HAZARDOUS MATERIALS INVENTORY FORM

FORM 3

ADD

DELETE

REVISED 1

Page _____ of _____ 2

FACILITY ID#	3 0 0 3 5	38	BUSINESS NAME	IRON GRIP BARBELL CO.	3
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I. FACILITY INFORMATION

CHEMICAL LOCATION	11377 MARKON DR. GARDEN GROVE, CA. 92841					4		
CONFIDENTIAL LOCATION EPCRA	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5	MAP #	1	6	GRID #	D-4 thru D-5	7

II. CHEMICAL INFORMATION

CHEMICAL NAME	POLYETHER TRIOL		WASTE	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	8	TRADE SECRET	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	11
COMMON NAME	POLY-G, 85-29		* If EPCRA see instructions		9	An EHS Chemical	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	12
CAS #	9082-00-2	10	FIRE CODE HAZARD CLASSES (supplied by GGFD)	Class 4		* If EHS is "Yes", all amounts must be LBS		

TYPE (Check one item only)	<input checked="" type="checkbox"/> a. PURE	<input type="checkbox"/> b. MIXTURE	<input type="checkbox"/> c. WASTE	14	RADIOACTIVE	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	15	CURIES	16
PHYSICAL STATE (Check one item only)	<input checked="" type="checkbox"/> a. SOLID	<input checked="" type="checkbox"/> b. LIQUID	<input type="checkbox"/> c. GAS	17	FED HAZARD CATEGORIES	<input checked="" type="checkbox"/> a. FIRE	<input type="checkbox"/> b. REACTIVE	<input type="checkbox"/> c. PRESSURE RELEASE	18
						<input type="checkbox"/> d. ACUTE HEALTH	<input type="checkbox"/> e. CHRONIC HEALTH		

AVERAGE DAILY AMOUNT	800 lbs	19	MAXIMUM DAILY AMOUNT	2000 lbs	20	ANNUAL WASTE AMOUNT	21	STATE WASTE CODE	22
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UNITS	<input type="checkbox"/> a. GALLONS	<input type="checkbox"/> b. CUBIC FEET	23	DAYS ON SITE	365	24	LARGEST CONTAINER	25
	<input checked="" type="checkbox"/> c. POUNDS	<input type="checkbox"/> d. TONS					2400 lb TOTE	

STORAGE CONTAINER (Check all that apply)	<input type="checkbox"/> a. ABOVEGROUND TANK	<input type="checkbox"/> e. PLASTIC DRUM	<input type="checkbox"/> i. VAT	<input type="checkbox"/> m. CYLINDER	<input type="checkbox"/> q. TANK WAGON	26
	<input type="checkbox"/> b. UNDERGROUND TANK	<input type="checkbox"/> f. NONMETALLIC DRUM	<input type="checkbox"/> j. FIBER DRUM	<input type="checkbox"/> n. GLASS CONTAINER	<input type="checkbox"/> r. RAIL CAR	
	<input type="checkbox"/> c. TANK INSIDE BLDG	<input type="checkbox"/> g. METAL CONTAINER	<input type="checkbox"/> k. BAG(S)	<input checked="" type="checkbox"/> o. PLASTIC CONTAINER	<input type="checkbox"/> s. TOTE BIN	
	<input type="checkbox"/> d. STEEL DRUM	<input type="checkbox"/> h. CARBOY	<input type="checkbox"/> l. BOX(S)	<input type="checkbox"/> p. IN MACH OR EQUIP	<input type="checkbox"/> t. OTHER	

STORAGE PRESSURE	<input checked="" type="checkbox"/> a. AMBIENT	<input type="checkbox"/> b. ABOVE AMBIENT	<input type="checkbox"/> c. BELOW AMBIENT	27
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STORAGE TEMPERATURE	<input checked="" type="checkbox"/> a. AMBIENT	<input type="checkbox"/> b. ABOVE AMBIENT	<input type="checkbox"/> c. BELOW AMBIENT	<input type="checkbox"/> d. CRYOGENIC	28
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%WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1	29	<input type="checkbox"/> Yes <input type="checkbox"/> No	30 31 32
2	29	<input type="checkbox"/> Yes <input type="checkbox"/> No	30 31 32
3	29	<input type="checkbox"/> Yes <input type="checkbox"/> No	30 31 32
4	29	<input type="checkbox"/> Yes <input type="checkbox"/> No	30 31 32
5	29	<input type="checkbox"/> Yes <input type="checkbox"/> No	30 31 32

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

PLACARDING INFORMATION

UNDOT #	_____	33	
	Refer to shipping papers or MSDS		
DOT HAZARD CLASS	_____	34	
	Refer to shipping papers or MSDS		
EPCRA	<input type="checkbox"/> YES <input type="checkbox"/> NO	35	
X	_____	36	
	If EPCRA, Please Sign Here		

MAKE AS MANY COPIES OF CHEMICAL INVENTORY FORM AS NEEDED



Arch Chemicals, Inc.
Customer Service Dept.
2450 Olin Road
Brandenburg, KY 40108

Facsimile Cover Sheet

To: *elma*
Company: *Iron Grip*
Phone:
Fax: *714-850-6910*

From: Mary Beth Garretson
Company: Arch Chemicals - Brandenburg
Phone: 800-636-3786
Fax: 270-422-6456

Date: *9/15/08*
Pages including this
cover page: *9*
CC: *9*

Requested MSDS.

Iko!
Mary Beth



**Arch
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Inc.**

**MATERIAL SAFETY
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FOR ANY EMERGENCY, 24 HOURS / 7 DAYS, CALL:	1-800-654-6911 (OUTSIDE USA: 1-423-780-2970)
FOR ALL TRANSPORTATION ACCIDENTS, CALL CHEMTREC@:	1-800-424-9300 (OUTSIDE USA: 1-703-527-3887)
FOR ALL MSDS QUESTIONS & REQUESTS, CALL:	1-800-511-MSDS (OUTSIDE USA: 1-423-780-2347)

PRODUCT NAME: **POLY-G® 85-29**

1. PRODUCT AND COMPANY IDENTIFICATION

Arch Chemicals, Inc. 501 Merritt 7 PO Box 5204 Norwalk, CT 06856-5204	REVISION DATE:	06/24/2008
	SUPERCEDES:	02/12/2008
	MSDS Number:	00000000417
	SYNONYMS:	Polyether triol
	CHEMICAL FAMILY:	Hydroxy terminated poly(oxyalkylene) polyol
	DESCRIPTION / USE:	Chemical intermediate for urethane polymer production
	FORMULA:	None established

2. HAZARDS IDENTIFICATION

OSHA Hazard Classification:	This product is not considered to be hazardous under OSHA 29 CFR 1910.1200.
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Routes of Entry:	Ingestion
Chemical Interactions:	No known or reported interactions.
Medical Conditions Aggravated:	None known or reported

Human Threshold Response Data

Odor Threshold Not established.

Irritation Threshold Not established.

Hazardous Materials Identification System / National Fire Protection Association Classifications

Hazard Ratings :	Health	Flammability	Physical / Instability	PPI / Special hazard.
HMIS	0	1	0	
NFPA	0	1	0	

Immediate (Acute) Health Effects

Inhalation Toxicity:	Not expected to be toxic by inhalation. Not a respiratory irritant.
Skin Toxicity:	Not expected to be irritating to the skin. Not expected to be absorbed through the skin.



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Eye Toxicity: Not expected to be irritating. No corneal involvement or visual impairment is expected.

Ingestion Toxicity: Not expected to be toxic by ingestion. Ingestion may cause irritation of the gastrointestinal tract and gastrointestinal discomfort with any or all of the following symptoms: nausea, vomiting or diarrhea.

Acute Target Organ Toxicity: There are no known or reported target organ effects from acute exposure.

Prolonged (Chronic) Health Effects

Carcinogenicity: This product is not known or reported to be carcinogenic by any reference source including IARC, OSHA, NTP or EPA.

Reproductive and Developmental Toxicity: Not known or reported to cause reproductive or developmental toxicity.

Inhalation: There are no known or reported effects from chronic exposure.

Skin Contact: There are no known or reported effects from chronic exposure.

Skin Absorption: There are no known or reported effects from chronic exposure.

Ingestion: There are no known or reported effects from chronic ingestion except for effects similar to those experienced from single exposure.

Eye Contact: None known or reported

Sensitization: This material is not known or reported to be a skin or respiratory sensitizer.

Chronic Target Organ Toxicity: There are no known or reported target organ effects from chronic exposure.

Supplemental Health Hazard Information : No additional health information available.

3. COMPOSITION / INFORMATION ON INGREDIENTS

<u>CAS OR CHEMICAL NAME</u>	<u>CAS #</u>	<u>% RANGE</u>
POLYETHER TRIOL	9082-00-2	99 - 100

4. FIRST AID MEASURES

Inhalation: IF INHALED: Remove individual to fresh air. Seek medical attention if breathing becomes difficult or if respiratory irritation develops.

Skin Contact: IF ON SKIN: Flush skin with water for 15 minutes. Take off all contaminated clothing. Seek medical attention if irritation develops.

Eye Contact: IF IN EYES: Flush eyes with plenty of water for at least 15 minutes. Seek medical attention if irritation develops.

Ingestion: IF SWALLOWED: Immediately drink water to dilute. Seek medical attention if symptoms develop. Never give anything by mouth to an unconscious person.



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5. FIRE FIGHTING MEASURES

Flammability Summary (OSHA):	Product is not known to be flammable, combustible, pyrophoric or explosive.
<u>Flammable Properties</u>	
Flash Point:	150 DEG°C - 260 DEG°C / 302 DEG°F - 500 DEG°F open cup
Autoignition Temperature:	No data.
Fire / Explosion Hazards:	Material may be ignited only if preheated to high temperatures, for example in a fire.
Extinguishing Media:	Use alcohol foam, carbon dioxide, dry chemical or water spray when fighting fires. Water or foam may cause frothing if liquid solvent or oil is burning but it still may be a useful extinguishing agent if carefully applied to the fire.
Fire Fighting Instructions:	In case of fire, use normal fire-fighting equipment and the personal protective equipment recommended in Section 8 to include a NIOSH approved self-contained breathing apparatus. Use water to cool containers.
Hazardous Combustion Products:	Carbon monoxide, Carbon dioxide
Upper Flammable / Explosive Limit, % in air:	No data
Lower Flammable / Explosive Limit, % in air:	No data

6. ACCIDENTAL RELEASE MEASURES

Personal Protection for Emergency Situations:	Use the personal protective equipment recommended in Section 8 and a NIOSH approved self-contained breathing apparatus.
<u>Spill Mitigation Procedures</u>	
Air Release:	Contain all liquid for treatment or neutralization.
Water Release:	Continue to handle as described in land spill.
Land Release:	Create a dike or trench to contain materials. Absorb spill with inert material (e.g., dry sand, clay, earth or commercial absorbent), then place in a chemical waste container. Decontaminate all clothing and the spill area using a detergent and flush with large amounts of water. Contain all contaminated water for disposal and/or treatment.
Additional Spill Information :	Stop source of spill as soon as possible and notify appropriate personnel. Utilize emergency response personal protection equipment prior to the start of any response. Evacuate all non-essential personnel. Dispose of spill residues per guidelines under Section 13, Disposal Consideration.

7. HANDLING AND STORAGE

Handling:	Do not take internally. Avoid contact with skin, eyes and clothing. Upon contact with skin or eyes, wash off with water. Avoid breathing mist or vapor.
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Storage: Store in a cool, dry and well ventilated place. Isolate from incompatible materials. Product is hygroscopic. Protect with padding of dry air -40 deg. C dew point or dry nitrogen. Calcium chloride drying system with silica gel on the vents can also be used.

Shelf Life Limitations: See label or certificate of analysis for shelf life if applicable.

Incompatible Materials for Storage: Refer to Section 10, "Incompatible Materials."

Do Not Store At temperatures Above: 49 DEG°C / 120 DEG°F

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Ventilation: General exhaust is normally required. Additional ventilation beyond that of general exhaust is not normally required. No exposure limits exist for the constituents of this product.

Protective Equipment for Routine Use of Product

Respiratory Protection : Respiratory protection not normally needed. If vapors, mists, aerosols or dusts are generated, wear a NIOSH approved respirator. a NIOSH approved disposable P95 Particulate Respirator with Exhalation Valve

Skin Protection : Wear impervious gloves to avoid skin contact.

Eye Protection: Use safety glasses with side shields.

Protective Clothing Type: Impervious

Exposure Limit Data

<u>CHEMICAL NAME</u>	<u>CAS #</u>	<u>Name of Limit</u>	<u>Exposure</u>
No Data Found			

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	liquid
Form	clear, liquid
Color:	colorless to pale yellow
Odor:	mild
Molecular Weight:	Not Applicable/Mixture
Specific Gravity :	0.9000 - 1.1500
pH :	Approximately 4.0 - 8.0 (@ 25 Deg. C) 10/6 Isopropanol / water
Boiling Point:	No data
Freezing Point:	No data
Melting Point:	No data
Density:	Not applicable
Vapor Pressure:	0.01000000 - 3.50000000 mmHg (@ 25 Deg. C)
Vapor Density:	No data
Viscosity:	No data
Fat Solubility:	No data
Solubility in Water:	Slight
Partition coefficient n-octanol/water:	No data.
Evaporation Rate:	Not applicable
Oxidizing:	None established
Volatiles, % by vol.:	< 0.1%



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VOC Content No data
HAP Content No data

10. STABILITY AND REACTIVITY

Stability and Reactivity Summary: Stable under normal conditions. Product is not sensitive to electrical static discharge. Product is not sensitive to mechanical shock or impact. Product will not undergo hazardous polymerization.

Conditions to Avoid: Hygroscopic., Moisture (will lead to product performance degradation), High temperatures

Chemical Incompatibility: Strong oxidizing agents

Hazardous Decomposition Products: carbon monoxide, Carbon dioxide

Decomposition Temperature: No data

11. TOXICOLOGICAL INFORMATION

Component Animal Toxicology

Oral LD50 value:

POLYETHER TRIOL LD50 > 5,000 mg/kg Rat

Dermal LD50 value:

POLYETHER TRIOL LD50 > 2,000 mg/kg Rabbit

Inhalation LC50 value:

POLYETHER TRIOL Inhalation LC50 1 h > 200 MG/L Rat

Product Animal Toxicity

Oral LD50 value: LD50 Believed to be > 5,000 mg/kg Rat

Dermal LD50 value: LD50 Believed to be > 2,000 mg/kg Rabbit

Inhalation LC50 value: LC50 1 h Believed to be > 200 MG/L Rat

Skin Irritation: Not expected to be irritating to the skin.

Eye Irritation: This material is expected to be non-irritating.

Skin Sensitization: None known or reported.

Subchronic / Chronic Toxicity: Not known or reported to cause subchronic or chronic toxicity.

Reproductive and Developmental Toxicity: Not known or reported to cause reproductive or developmental toxicity.

POLYETHER TRIOL Not known or reported to cause reproductive or developmental toxicity.

Mutagenicity: Not known or reported to be mutagenic.

POLYETHER TRIOL Not known or reported to be mutagenic.

Carcinogenicity: This product is not known or reported to be carcinogenic by any reference source including IARC, OSHA, NTP or EPA.

POLYETHER TRIOL This chemical is not known or reported to be carcinogenic by any reference source including IARC.



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OSHA, NTP, or EPA.

12. ECOLOGICAL INFORMATION

Ecological Toxicity Values for: POLYETHER TRIOL

Fish - 96 h LC50 Believed to be > 100 mg/l based on available data and comparison to similar compounds.

13. DISPOSAL CONSIDERATIONS

CARE MUST BE TAKEN TO PREVENT ENVIRONMENTAL CONTAMINATION FROM THE USE OF THE MATERIAL. THE USER OF THE MATERIAL HAS THE RESPONSIBILITY TO DISPOSE OF UNUSED MATERIAL, RESIDUES AND CONTAINERS IN COMPLIANCE WITH ALL RELEVANT LOCAL, STATE AND FEDERAL LAWS AND REGULATIONS REGARDING TREATMENT, STORAGE AND DISPOSAL FOR HAZARDOUS AND NONHAZARDOUS WASTES.

Waste Disposal Summary :

If this product becomes a waste, it DOES NOT meet the criteria of a hazardous waste as defined under 40 CFR 261, in that it does not exhibit the characteristics of hazardous waste of Subpart C, nor is it listed as a hazardous waste under Subpart D.

Disposal Methods :

As a nonhazardous liquid waste, it should be disposed of in accordance with local, state and federal regulations.

14. TRANSPORT INFORMATION

Land (US DOT): NOT REGULATED AS A DOT HAZARDOUS MATERIAL
Water (IMDG): NOT REGULATED AS A HAZARDOUS MATERIAL,

Flash Point: 150 DEG°C

Air (IATA): NOT REGULATED AS A HAZARDOUS MATERIAL,
Emergency Response Guide Number: Not applicable

15. REGULATORY INFORMATION

UNITED STATES:

Toxic Substances Control Act (TSCA): The components of this product are listed on the TSCA Inventory of Existing Chemical Substances.
EPA Pesticide Registration Number: None established
FIFRA Listing of Pesticide Chemicals (40 CFR 180): Not registered in the US under FIFRA.

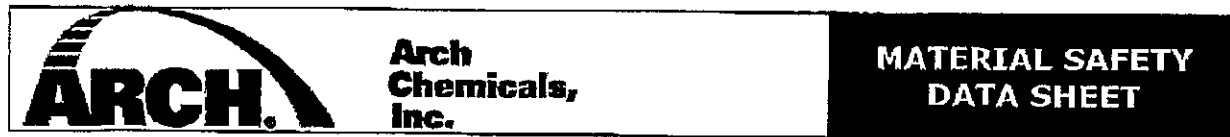
Superfund Amendments and Reauthorization Act (SARA) Title III:

Hazard Categories Sections 311 / 312 (40 CFR 370.2):

POLY-G@ 85-29

REVISION DATE : 06/24/2008

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Health None
Physical None

Emergency Planning & Community Right to Know (40 CFR 355, App. A):

Extremely Hazardous Substance Section 302 - Threshold Planning Quantity:

ZUS_SAR302 TPQ (threshold planning quantity) None established

Reportable Quantity (49 CFR 172.101, Appendix):

ZUS_CERCLA Reportable quantity None established
ZUS_SAR302 Reportable quantity None established

Supplier Notification Requirements (40 CFR 372,45), 313 Reportable Components

ZUS_SAR313 De minimis concentration None established

Clean Air Act Toxic ARP Section 112r:

CAA 112R None established

Clean Air Act Socmi:

HON SOC None established

Clean Air Act VOC Section 111:

CAA 111 None established

Clean Air Act Haz. Air Pollutants Section 112:

ZUS_CAAHAP None established

ZUS_CAAHRP None established

CAA AP None established

State Right-to-Know Regulations Status of Ingredients

Pennsylvania:

CAS #	COMPONENT NAME
ZUSPA_RTK	None established

New Jersey:

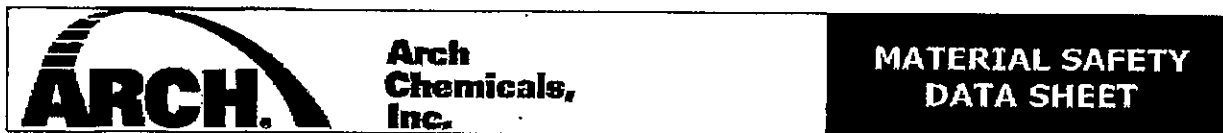
CAS #	COMPONENT NAME
ZUSNJ_RTK	None established

Massachusetts:

CAS #	COMPONENT NAME
ZUSMA_RTK	None established

California Proposition 65:

CAS #	COMPONENT NAME
ZUSCA_P65	None established



WHMIS Hazard Classification:
None established

16. OTHER INFORMATION

MSDS REVISION STATUS : Revised to meet the ANSI standard of 16 sections
Major References : Available upon request.

THIS MATERIAL SAFETY DATA SHEET (MSDS) HAS BEEN PREPARED IN COMPLIANCE WITH THE FEDERAL OSHA HAZARD COMMUNICATION STANDARD, 29 CFR 1910.1200. THE INFORMATION IN THIS MSDS SHOULD BE PROVIDED TO ALL WHO WILL USE, HANDLE, STORE, TRANSPORT, OR OTHERWISE BE EXPOSED TO THIS PRODUCT. THIS INFORMATION HAS BEEN PREPARED FOR THE GUIDANCE OF PLANT ENGINEERING, OPERATIONS AND MANAGEMENT AND FOR PERSONS WORKING WITH OR HANDLING THIS PRODUCT. ARCH CHEMICALS BELIEVES THIS INFORMATION TO BE RELIABLE AND UP TO DATE AS OF THE DATE OF PUBLICATION BUT, MAKES NO WARRANTY THAT IT IS. ADDITIONALLY, IF THIS MSDS IS MORE THAN THREE YEARS OLD, YOU SHOULD CONTACT ARCH CHEMICALS MSDS CONTROL AT THE PHONE NUMBER ON THE FRONT PAGE TO MAKE CERTAIN THAT THIS DOCUMENT IS CURRENT. .



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MATERIAL SAFETY DATA SHEET

SECTION 1 – PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: CARPOL GP-6015

DESCRIPTION: Polyether Polyol

MANUFACTURER: Carpenter Co.
5016 Monument Ave.
Richmond, Virginia 23230

FOR PRODUCT INFORMATION: (804) 233-0606

EMERGENCY TELEPHONE: (800) 424-9300 – CHEMTREC

PREPARATION DATE: June 25, 2008

PREPARED BY: I. H. Department

SECTION 2 – INFORMATION ON INGREDIENTS

Polyether Polyol	CAS# 9082-00-2	100%
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SECTION 3 – HAZARDS IDENTIFICATION

ACUTE EFFECTS:

Eye: May cause slight irritation.

Skin: May cause slight irritation.

Inhalation: Not expected to be a hazard due to low vapor pressure.

Ingestion: Small amounts swallowed may cause gastrointestinal discomfort.

CHRONIC EFFECTS: None known.

EXPOSURE GUIDELINES: None established.

SECTION 4 – FIRST AID

EYES: Flush with plenty of water.

SKIN: Wash thoroughly with soap and water.

INHALATION: Remove victim to fresh air.

INGESTION: If victim is conscious, give 1 to 2 glasses of water for dilution. Do not induce vomiting unless directed to do so by medical personnel.

SECTION 5 – FIRE AND EXPLOSION DATA

FLASH POINT: >200 °F (PMCC)

LFL: Not determined.

UFL: Not determined.

HAZARDOUS COMBUSTION MATERIALS: Oxides of carbon.

EXTINGUISHING MEDIA: Dry chemical, foam, carbon dioxide, water fog or fine spray. Do not use direct water spray.

SPECIAL FIREFIGHTING PROCEDURES: Responding personnel must wear positive-pressure, self-contained breathing apparatus (SCBA) and protective firefighting clothing.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

CONTAINMENT/CLEANUP: Stop leak, dam spill, and transfer liquid into a suitable container. Collect residue with absorbent and transfer into a suitable container for proper disposal.

SECTION 7 – HANDLING AND STORAGE

HANDLING: Keep containers tightly closed when not in use. Do not eat, drink, or smoke in working area.

STORAGE: Store materials in a cool, dry place.

SECTION 8 – PERSONAL PROTECTION / EXPOSURE CONTROLS

RESPIRATORY PROTECTION: None required under normal use.

EYE PROTECTION: Safety glasses with side shields or chemical goggles, if there is a possibility of splashing.

SKIN PROTECTION: Butyl, nitrile, or latex rubber gloves.

ENGINEERING CONTROLS: General ventilation.

ADDITIONAL PROTECTION: Eyewash station and safety shower.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE/ODOR: Clear liquid, low odor.
SPECIFIC GRAVITY: 1.02 (H₂O=1)
VAPOR PRESSURE: Not determined.
VAPOR DENSITY: Not determined.
BOILING POINT (° F): Not determined.
SOLUBILITY IN WATER: Low.

SECTION 10 – STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable.

CONDITIONS TO AVOID: Elevated temperatures.

INCOMPATIBILITY: Oxidizing materials, acids, isocyanates.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11 – TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

LD50 rat (oral) >2000 mg/kg (estimated)
LD50 rabbit (dermal) >2000 mg/kg (estimated)
LC50 rat (inhalation) >20 mg/L, 1 hr (estimated)

CARCINOGENICITY: No component listed under IARC, NTP, or OSHA.

SECTION 12 – ECOLOGICAL INFORMATION

ECOTOXICITY: Not expected to be acutely toxic.

BIODEGRADATION: No data available.

SECTION 13 – DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Do not dump into any sewers, on the ground, or into any body of water. All disposal methods must be in compliance with Federal, State/Provincial, and local regulations

SECTION 14 – TRANSPORT INFORMATION

U.S. DOT: Not regulated.

SECTION 15 – REGULATORY INFORMATION

USA REGULATIONS

TSCA: Listed on the TSCA chemical inventory.

SARA 311/312: Non-hazardous.

SARA 313: None reportable.

STATE RIGHT-TO-KNOW: To the best of our knowledge, this product contains no chemical known to the State of California to cause cancer, birth defects, or other reproductive harm. (California Health and Safety Code Section 25249.6).

CANADIAN REGULATIONS

DSL: Listed on the DSL.

WHMIS INFORMATION: Not a "Controlled Product" under WHMIS.

SECTION 16 – OTHER INFORMATION

NPCA/HMIS RATINGS

Health:	1
Flammability:	1
Reactivity:	0
Personal Protection:	-

The data in this Material Safety Data Sheet is offered for your consideration, investigation and verification. The data is presented in good faith and was obtained from sources Carpenter believes to be reliable. Carpenter, however, makes no representation as to the completeness or accuracy. Carpenter makes no warranty, express or implied, with respect to the data contained herein.

Carpenter cannot anticipate all conditions under which this data and the product may be used. The conditions of handling, storage, use, and disposal of the product are beyond Carpenter's control. Thus, we expressly disclaim responsibility or liability for any loss, damage or expense arising out of reliance on the information contained herein. You are advised to make your own determination as to safety, suitability and appropriate manner of handling, storage, use and disposal.

ERC – 01057



HAZARDOUS MATERIALS INVENTORY FORM

FORM 3

ADD

DELETE

REVISED 1

Page _____ of _____ 2

FACILITY ID# 30035 38 BUSINESS NAME IRON GRIP BARBELL CO. 3

I. FACILITY INFORMATION

CHEMICAL LOCATION 11377 MARKON DR. GARDEN GROVE, CA. 92841 4

CONFIDENTIAL LOCATION Yes No 5 MAP # 1 6 GRID # D-4 7

II. CHEMICAL INFORMATION

CHEMICAL NAME DY(METHYLTHIO)TOLUENEDIAMINE WASTE Yes 8 TRADE SECRET Yes No 11

* If EPCRA see instructions

COMMON NAME ETHACURE 300 9 An EHS Chemical Yes No 12

* If EHS is "Yes", all amounts must be LBS

CAS # 106264-79-3 10 FIRE CODE HAZARD CLASSES (supplied by GGFD) class 9 13

TYPE (Check one item only) a. PURE b. MIXTURE c. WASTE 14 RADIOACTIVE Yes No 15 CURIES 16

PHYSICAL STATE (Check one item only) a. SOLID b. LIQUID c. GAS 17 FED HAZARD CATEGORIES a. FIRE b. REACTIVE c. PRESSURE RELEASE 18

d. ACUTE HEALTH e. CHRONIC HEALTH

AVERAGE DAILY AMOUNT 400 lbs 19 MAXIMUM DAILY AMOUNT 1600 lbs 20 ANNUAL WASTE AMOUNT 0 21 STATE WASTE CODE 22

UNITS a. GALLONS b. CUBIC FEET 23 DAYS ON SITE 365 24 LARGEST CONTAINER 55 GAL DRUM 25

c. POUNDS d. TONS

* If EHS, amount must be in pounds.

STORAGE CONTAINER (Check all that apply) a. ABOVEGROUND TANK e. PLASTIC DRUM i. VAT m. CYLINDER q. TANK WAGON 26

b. UNDERGROUND TANK f. NONMETALLIC DRUM j. FIBER DRUM n. GLASS CONTAINER r. RAIL CAR

c. TANK INSIDE BLDG g. METAL CONTAINER k. BAG(S) o. PLASTIC CONTAINER s. TOTE BIN

d. STEEL DRUM h. CARBOY l. BOX(S) p. IN MACH OR EQUIP t. OTHER _____

STORAGE PRESSURE a. AMBIENT b. ABOVE AMBIENT c. BELOW AMBIENT 27

STORAGE TEMPERATURE a. AMBIENT b. ABOVE AMBIENT c. BELOW AMBIENT d. CRYOGENIC 28

%WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1	29	<input type="checkbox"/> Yes <input type="checkbox"/> No 31	32
2	29	<input type="checkbox"/> Yes <input type="checkbox"/> No 31	32
3	29	<input type="checkbox"/> Yes <input type="checkbox"/> No 31	32
4	29	<input type="checkbox"/> Yes <input type="checkbox"/> No 31	32
5	29	<input type="checkbox"/> Yes <input type="checkbox"/> No 31	32

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

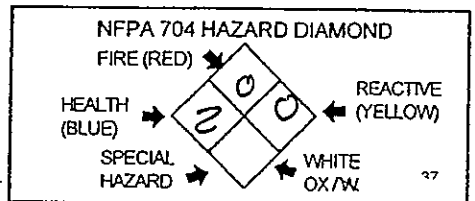
PLACARDING INFORMATION

UNDOT # UN 3082 33 Refer to shipping papers or MSDS

DOT HAZARD CLASS 9 34 Refer to shipping papers or MSDS

EPCRA YES NO 35

X _____ 36 If EPCRA, Please Sign Here



MAKE AS MANY COPIES OF CHEMICAL INVENTORY FORM AS NEEDED



MATERIAL SAFETY DATA SHEET

ETHACURE 300

Version: 1.1
DATE OF ISSUE: 01/08/2006
Date printed: 03/25/2006

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : ETHACURE 300

Chemical name: Di(methylthio)toluenediamine [DMTDA]

Use of substance/preparation: No specific information.

Supplier: Chemtura USA Corporation
Chemtura Corporation (Worldwide HQ)
199 Benson Road
Middlebury, CT 06749 USA

Emergency telephone number CHEMTREC (24 hours) 800-424-9300
Chemtura Corporation Emergency Response
(24 hours) 800-292-5898
For additional emergency telephone numbers
see section 16 of the Safety Data Sheet.

Environmental, Health and Safety Department: 866-430-2775

2. COMPOSITION / INFORMATION ON INGREDIENTS

INGREDIENT	% BY WEIGHT
Di(methylthio)toluenediamine [DMTDA] CAS# 106264-79-3	> 97

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

CAUTION!

HARMFUL IF SWALLOWED.

MAY CAUSE SENSITIZATION BY SKIN CONTACT.

VERY TOXIC TO AQUATIC ORGANISMS, MAY CAUSE LONG-TERM ADVERSE EFFECTS IN THE AQUATIC ENVIRONMENT.



MATERIAL SAFETY DATA SHEET

ETHACURE 300

Version: 1.1
DATE OF ISSUE: 01/08/2006
Date printed: 03/25/2006

4. FIRST AID MEASURES

Swallowing

If patient is fully conscious, give two glasses of water., Induce vomiting., Obtain medical attention immediately.

Skin contact

Remove contaminated clothing and flush skin with water., Wash clothing before re-use., Obtain medical attention if discomfort persists.

Inhalation

Remove to fresh air., Obtain medical attention.

Eye contact

Immediately flush eyes with water and continue washing for several minutes., Obtain medical attention immediately.

5. FIRE-FIGHTING MEASURES

Flash point: 349 °F 176 °C

Flammable limits

Lower limit:	Not available
Upper limit:	Not available

Autoignition

temperature: Not available

Hazardous combustion products

Oxides of carbon.
Oxides of nitrogen.
Oxides of sulfur.

Special fire fighting procedures

Do not discharge extinguishing waters into streams, rivers and lakes.

Special protective equipment for firefighters

Body covering protective clothing.
Self-contained breathing apparatus.

Extinguishing media

Suitable: - foam
- CO2
- dry chemical
- water spray

Unsuitable: - water jets



MATERIAL SAFETY DATA SHEET

ETHACURE 300

Version: 1.1
DATE OF ISSUE: 01/08/2006
Date printed: 03/25/2006

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Wear suitable protective equipment., Avoid contact with eyes and skin.

Environmental precautions

Prevent from entering sewer system, surface water or soil.

Methods for cleaning up

Observe government regulations.

Small spills Absorb on inert material such as sand, earth, vermiculite.
Collect for disposal.

Large spills Dike to contain spill.
Pump excess material into suitable container (metal drums, metal tank, or such).

7. HANDLING AND STORAGE

STORAGE

Storage requirements

Store under nitrogen., Keep away from heat and flame., Protect from moisture.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

No other exposure limits have been established

PERSONAL PROTECTION

Respiratory protection

Self-contained breathing apparatus in high vapor concentrations.

Hand protection / protective gloves

Neoprene, Nitrile (NBR)

Eye protection

Safety glasses with side shields.

Skin protection

Chemical protective clothing.

Other protective equipment

Eye bath, Safety shower



MATERIAL SAFETY DATA SHEET

ETHACURE 300

Version: 1.1
DATE OF ISSUE: 01/08/2006
Date printed: 03/25/2006

Industrial hygiene measures

Before eating, drinking or smoking, wash hands and face thoroughly with soap and water.

ENGINEERING CONTROLS

Ventilation

General (mechanical) room ventilation is expected to be satisfactory., Special, local ventilation is needed at points where vapors can be expected to escape to the workplace air.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Physical state	Liquid
Color	Amber
Odor	Amine
Odor threshold	Not available

OTHER PROPERTIES

Boiling point	353 °C Decomposes
Melting point	Not available
Solidification	Not available
pH	Not available
Specific gravity (H ₂ O=1)	1.2 at 20 °C
Solubility in water	Slightly soluble
Solubility in organic solvents	No data available.
Partitioning coefficient	log POW: 2.5
Flash point	349 °F 176 °C Method: Pensky-Martens closed cup ASTM D 93
Autoignition temperature	Not available
Upper explosion limits	Not available
Lower explosion limits	Not available
Percent volatiles	Not available
Kinematic viscosity	691.0 mm ² /s at 20 °C



MATERIAL SAFETY DATA SHEET

ETHACURE 300

Version: 1.1
DATE OF ISSUE: 01/08/2006
Date printed: 03/25/2006

10. STABILITY AND REACTIVITY

Stability: Stable.

Stability - Conditions to avoid

Avoid exposure to:

Moisture.

Heat.

Incompatible materials

Oxidizing agents.

Hazardous combustion products

Oxides of carbon.

Oxides of nitrogen.

Oxides of sulfur.

Hazardous polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

SWALLOWING

Test results

Acute toxicity: LD50 Rat
Result: 1,515 mg/kg

Test results

Chronic toxicity: Remark: SUBCHRONIC EFFECTS: Aromatic diamine was fed to rats for 90 days at concentrations up to 1,250 ppm. Effects included reduced body weight gains at the high dose, altered liver and kidney weights, and hepa- tome-galy. The NOEL for subchronic toxicity was determined to be 50 ppm.

SKIN ABSORPTION

Test results

Acute toxicity: LD50 - Rabbit
Result: > 2,000 mg/kg

SKIN CONTACT

Test results

Skin irritation: Species: Rabbit
Result: Not irritating

EYE CONTACT



MATERIAL SAFETY DATA SHEET

ETHACURE 300

Version: 1.1
DATE OF ISSUE: 01/08/2006
Date printed: 03/25/2006

Test results

Eye irritation: Species: Rabbit
Result: Not irritating

SENSITIZATION

Test results: Species: Skin - Guinea pigs
Result: Positive

MUTAGENICITY

Genetic toxicity in vitro: Test type: Ames bacterial assay
Result: Positive

Genetic toxicity in vitro: Test type: Chinese Hamster Ovary (CHO)
Result: Negative

Genetic toxicity in vitro: Test type: Unscheduled DNA synthesis (UDS)
Result: Negative

Genetic toxicity in vitro: Test type: Cell Transformation (Balb-c/3T3)
Result: Negative

Genetic toxicity in vitro: Test type: Chromosome aberration assay in CHO cells
Result: Positive

SIGNIFICANT DATA WITH POSSIBLE RELEVANCE TO HUMAN HEALTH

SUBCHRONIC EFFECTS: Aromatic diamine was fed to rats for 90 days at concentrations up to 1,250 ppm. Effects included reduced body weight gains at the high dose, altered liver and kidney weights, and hepa- tomegaly. The NOEL for subchronic toxicity was determined to be 50 ppm.

12. ECOLOGICAL INFORMATION

Biodegradation: Result: 0 %
Remark: Non-biodegradable.

TEST RESULTS: Species: Common carp (Cyprinus carpio)
Exposure time: 28 d

AQUATIC TOXICITY

Acute toxicity fish: - LC50 - Rainbow trout (Oncorhynchus mykiss)
Result: 16.9 mg/l
Exposure time: 96 h



MATERIAL SAFETY DATA SHEET

ETHACURE 300

Version: 1.1
DATE OF ISSUE: 01/08/2006
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Acute toxicity to aquatic invertebrates: LC50 - - Water flea (Daphnia magna)
Result: 0.9 mg/l
Exposure time: 48 h

13. DISPOSAL CONSIDERATIONS

General: Avoid discharge to sewers and natural waters., Incinerate in a furnace where permitted under appropriate Federal, State, and local regulations.

Non-cleaned packages

Empty drums should be decontaminated and either passed to an approved drum reconditioner or destroyed., Containers that cannot be cleaned must be treated as waste.

14. TRANSPORT INFORMATION

DOT Classification

Not regulated by ground or rail if shipped or transported in containers less than 450 liters.

Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Class: 9
UN ID #: UN3082
Packing group: III
marine pollutant: MARINE POLLUTANT

Not regulated by ground or rail if shipped or transported in containers less than 450 liters.

IMDG Classification

Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Class: 9
UN ID #: UN 3082
Packing group: III

ICAO Classification

Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Class: 9
UN ID #: UN 3082
Packing group: III

15. REGULATORY INFORMATION

Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA) requires notification of the National Response Center of release of quantities of hazardous substances equal to or greater than the reportable quantities (RQ's) in 40CFR302.4.



MATERIAL SAFETY DATA SHEET

ETHACURE 300

Version: 1.1
 DATE OF ISSUE: 01/08/2006
 Date printed: 03/25/2006

Components present in this product at a level which could require reporting under the statute are:
 **** NONE ****

Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires submission of annual reports of release of toxic chemicals that appear in 40CFR372 (for SARA 313). This information must be included in MSDS's that are copied and distributed for this material.

Components present in this product at a level which could require reporting under the statute are:
 **** NONE ****

New Jersey Worker and Community Right-To-Know Act (Labeling Requirements)

Chemical name	CAS#	New Jersey TS Number
Di(methylthio)toluenediamine [DMTDA]	106264-79-3	

EPA Hazard Categories (SARA 311, 312): Immediate Health Hazard

California Proposition 65
 **** NONE ****

CHEMICAL INVENTORY

Canada: This product is on the DSL.
Europe: 403-240-8
United States: This product is on the TSCA inventory.
Australia: This product is on the AICS inventory.
China: This product is on the IECSC Inventory.
Korea: This product is listed on the Existing Chemicals List (ECL).

16. OTHER INFORMATION

FURTHER INFORMATION

MAY BE ON THE INVENTORY LIST BUT NOT NECESSARILY REGISTERED, (Korea, China, New Zealand) CONSULT REGULATORY SPECIALIST.

Emergency Telephone Numbers

Latin America:	All	+44 (0)208 762 8322
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MATERIAL SAFETY DATA SHEET

ETHACURE 300

Version: 1.1
DATE OF ISSUE: 01/08/2006
Date printed: 03/25/2006

STP	Standard temperature and pressure
W/W	0 (HMIS)
1 (HMIS)	Slight hazard
2 (HMIS)	Moderate hazard
3 (HMIS)	Serious hazard
4 (HMIS)	Severe hazard
X (HMIS)	Personal protection rating to be supplied by user depending on use conditions

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THE OPINIONS EXPRESSED HEREIN ARE THOSE OF QUALIFIED EXPERTS WITHIN CHEMTURA CORPORATION. WE BELIEVE THAT THE INFORMATION CONTAINED HEREIN IS CURRENT AS OF THE DATE OF THIS SAFETY DATA SHEET. SINCE THE USE OF THIS INFORMATION AND OF THESE OPINIONS AND THE CONDITIONS OF USE OF THIS PRODUCT ARE NOT WITHIN THE CONTROL OF CHEMTURA CORPORATION, IT IS THE USER'S OBLIGATION TO DETERMINE THE CONDITIONS OF SAFE USE OF THE PRODUCTS.



HAZARDOUS MATERIALS INVENTORY FORM

FORM 3

ADD DELETE REVISED 1 Page _____ of _____ 2

FACILITY ID#	3 0 0 3 5	38	BUSINESS NAME	IRON GRIP BARBELL CO.	3
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I. FACILITY INFORMATION

CHEMICAL LOCATION	11377 MARKON DR. GARDEN GROVE, CA. 92841				4
CONFIDENTIAL LOCATION EPCRA	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5	MAP #	1	6
			GRID #	C-3, E-5	7

II. CHEMICAL INFORMATION

CHEMICAL NAME	99% ISOPROPYL ALCOHOL		WASTE	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	8	TRADE SECRET	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	11	
COMMON NAME	ETHANOL CDA				9	An EHS Chemical	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	12	
CAS #	67-63-0	10	FIRE CODE HAZARD CLASSES (supplied by GGF)	Class 3		*If EPCRA see instructions			
TYPE (Check one item only)	<input type="checkbox"/> a. PURE <input checked="" type="checkbox"/> b. MIXTURE <input type="checkbox"/> c. WASTE	14	RADIOACTIVE	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	15	CURIES			
PHYSICAL STATE (Check one item only)	<input type="checkbox"/> a. SOLID <input checked="" type="checkbox"/> b. LIQUID <input type="checkbox"/> c. GAS	17	FED HAZARD CATEGORIES	<input checked="" type="checkbox"/> a. FIRE <input type="checkbox"/> b. REACTIVE <input type="checkbox"/> c. PRESSURE RELEASE	18	<input type="checkbox"/> d. ACUTE HEALTH <input checked="" type="checkbox"/> e. CHRONIC HEALTH			
AVERAGE DAILY AMOUNT	2.6 GAL	19	MAXIMUM DAILY AMOUNT	2.6 GAL	20	ANNUAL WASTE AMOUNT	0	21	
UNITS	<input checked="" type="checkbox"/> a. GALLONS <input type="checkbox"/> b. CUBIC FEET <input type="checkbox"/> c. POUNDS <input type="checkbox"/> d. TONS	23	DAYS ON SITE	365	24	LARGEST CONTAINER			
STORAGE CONTAINER (Check all that apply)	<input checked="" type="checkbox"/> a. ABOVEGROUND TANK <input type="checkbox"/> b. UNDERGROUND TANK <input type="checkbox"/> c. TANK INSIDE BLDG <input checked="" type="checkbox"/> d. STEEL DRUM		<input type="checkbox"/> e. PLASTIC DRUM <input type="checkbox"/> f. NONMETALLIC DRUM <input type="checkbox"/> g. METAL CONTAINER <input type="checkbox"/> h. CARBOY			<input type="checkbox"/> i. VAT <input type="checkbox"/> j. FIBER DRUM <input type="checkbox"/> k. BAG(S) <input type="checkbox"/> l. BOX(S)	<input type="checkbox"/> m. CYLINDER <input type="checkbox"/> n. GLASS CONTAINER <input type="checkbox"/> o. PLASTIC CONTAINER <input type="checkbox"/> p. IN MACH OR EQUIP	<input type="checkbox"/> q. TANK WAGON <input type="checkbox"/> r. RAIL CAR <input type="checkbox"/> s. TOTE BIN <input type="checkbox"/> t. OTHER	26
STORAGE PRESSURE	<input checked="" type="checkbox"/> a. AMBIENT <input type="checkbox"/> b. ABOVE AMBIENT <input type="checkbox"/> c. BELOW AMBIENT	27							
STORAGE TEMPERATURE	<input checked="" type="checkbox"/> a. AMBIENT <input type="checkbox"/> b. ABOVE AMBIENT <input type="checkbox"/> c. BELOW AMBIENT <input type="checkbox"/> d. CRYOGENIC	28							

%WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1 99	ISOPROPYL ALCOHOL	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	67-63-0
2 29		<input type="checkbox"/> Yes <input type="checkbox"/> No	
3 29		<input type="checkbox"/> Yes <input type="checkbox"/> No	
4 29		<input type="checkbox"/> Yes <input type="checkbox"/> No	
5 29		<input type="checkbox"/> Yes <input type="checkbox"/> No	

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

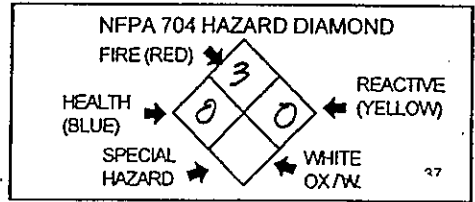
PLACARDING INFORMATION

UNDOT # _____ 33
Refer to shipping papers or MSDS

DOT HAZARD CLASS _____ 34
Refer to shipping papers or MSDS

EPCRA YES NO 35

X _____ 36
If EPCRA, Please Sign Here



MAKE AS MANY COPIES OF CHEMICAL INVENTORY FORM AS NEEDED

MATERIAL SAFETY DATA SHEET

ISOPROPYL ALCOHOL 99%

PADDOCK LABORATORIES, INC. 3940 QUEBEC AVENUE NORTH MINNEAPOLIS, MINNESOTA 55427 PHONE: (763)-546-4676	EMERGENCY ASSISTANCE: CHEMTREC 800-424-9300 PADDOCK TECH. ASST. 800-328-5113
--	---

DATE PREPARED: 10-18-91 BY: Patrick L. Johnson
REVISED: 01-16-03 BY: Eric Randall

SECTION 1 - PRODUCT IDENTIFICATION AND HAZARDOUS COMPONENTS

PRODUCT NAME: Isopropyl Alcohol 99%

SYNONYMS: Isopropanol, Isopropyl Alcohol Anhydrous

MOLECULAR FORMULA: C₃H₈O MOLECULAR WEIGHT: 60.09

CHEMICAL NAME: 2-Isopropanol CHEMICAL FAMILY: Aliphatic alcohol

<u>INGREDIENT (CAS #)</u>	<u>%</u>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>
Isopropyl alcohol (67-63-0)	99	400 ppm	400 ppm

SECTION 2 - PHYSICAL AND CHEMICAL CHARACTERISTICS

BOILING POINT: 82°C VAPOR PRESSURE: 37 mm Hg @ 20°C

MELTING POINT: N/A VAPOR DENSITY: 2.1 (air = 1)

SPECIFIC GRAVITY: 0.783 - 0.787 EVAPORATION RATE: 1.70
(WATER = 1) (BUTYL ACETATE = 1)

WATER SOLUBILITY: Freely soluble WATER REACTIVE: No

APPEARANCE AND ODOR: Clear, colorless, volatile, flammable liquid; characteristic odor.

SECTION 3 - FIRE AND EXPLOSION DATA

FLASH POINT (METHOD): 11.7°C (CC) AUTOIGNITION TEMPERATURE: 455.6°C

FLAMMABLE LIMITS: LOWER: 2.5% (v/v) UPPER: 12% (v/v)

EXTINGUISHING MEDIA: Water spray, carbon dioxide, chemical foam.

SPECIAL FIRE FIGHTING PROCEDURES: Fire fighters should wear full protective gear including self-contained breathing apparatus. Water spray may be used to minimize vapors and cool containers exposed to heat and flame, however, caution must be used to avoid spreading burning liquid.

UNUSUAL FIRE AND EXPLOSION HAZARDS: This material is **extremely flammable** and may be ignited by heat, spark, flame or static discharge.

SECTION 4 - REACTIVITY HAZARD DATA

STABILITY: Stable (X) Unstable ()

INCOMPATIBILITY (MATERIALS TO AVOID): Anhydride, isocyanate, acetylaldehyde, chlorine, ethylene oxide, hydrogen peroxide.

HAZARDOUS DECOMPOSITION PRODUCTS: As with any organic compound, this material may produce toxic carbon monoxide and carbon dioxide fumes if heated to decomposition.

HAZARDOUS POLYMERIZATION: May Occur () Will Not Occur (X)

SECTION 5 - HEALTH HAZARD DATA

TOXICITY: LD₅₀: Oral (rat) = 5.8 gm/kg

 OSHA IDLH: 20,000 ppm

 ACGIH STEL: 500 ppm

CARCINOGEN LISTED BY: NTP Yes () No (X)
 IARC Yes () No (X)
 OSHA Yes () No (X)
 Other Yes () No (X)

ROUTES OF ENTRY: Inhalation, ingestion, absorption.

SIGNS AND SYMPTOMS OF OVEREXPOSURE:

INHALATION: May cause irritation of the respiratory tract, headache, dizziness, mental depression, nausea, vomiting, narcosis, anesthesia, coma.

EYE CONTACT: May cause slight to severe irritation and damage to eye tissues.

SKIN CONTACT: May cause irritation.

INGESTION: Toxic by ingestion. May cause irritation of the gastrointestinal tract, nausea, vomiting, headache, dizziness, mental depression, narcosis, anesthesia, coma. Ingestion of 100 ml has been fatal.

CHRONIC EFFECTS OF OVEREXPOSURE: Possible renal dysfunction or failure, damage to respiratory tract tissues.

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE: Persons with impaired lung function or asthma-like conditions may experience additional breathing difficulties if exposed to vapors. Persons with existing skin disorders may be more susceptible to skin irritation.

OTHER PRECAUTIONS TO CONSIDER: Persons developing hypersensitivity (anaphylactic) reactions must receive immediate medical attention.

EMERGENCY FIRST AID PROCEDURES:

INHALATION: Remove from exposure. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek immediate medical attention.

EYE CONTACT: Flush immediately with water for at least 15 minutes and seek medical attention.

SKIN CONTACT: Wash thoroughly with soap and water. If irritation persists or develops seek medical attention.

INGESTION: Flush mouth out with water and seek medical attention or contact a poison control center immediately. Do not leave victim unattended.

SECTION 6 - CONTROL AND PROTECTIVE MEASURES

RESPIRATORY PROTECTION: NIOSH/MSHA approved respirator.

PROTECTIVE GLOVES: Chemical resistant gloves.

EYE PROTECTION: Safety goggles. Avoid wearing contact lenses when working with this or any chemical due to the possibility of increased severity of eye damage.

VENTILATION: Local explosion-proof exhaust recommended.

OTHER PROTECTIVE EQUIPMENT: Appropriate laboratory apparel.

HYGIENIC WORK PRACTICES: Do not eat, drink or smoke near this material. Wash thoroughly after handling and wash any contaminated clothing before reuse.

SECTION 7 - HANDLING AND STORAGE PRECAUTIONS

HANDLING PRECAUTIONS: Avoid contact with eyes, skin or clothing and avoid breathing vapors. Wash thoroughly after handling and wash any contaminated clothing before reuse.

STORAGE PRECAUTIONS: Store in a tight container in a cool, dry, well ventilated location away from any ignition sources.

SECTION 8 - SPILL AND DISPOSAL PROCEDURES

STEPS TO BE TAKEN IN CASE OF SPILL OR DISCHARGE: Remove any ignition source and ventilate spill site. Wear all protective gear including: respirator, goggles, gloves. Mop up spillage with an absorbent material and place in a tight container. Wash spill site and remove contaminated absorbent materials. Wash thoroughly or shower after handling and wash all clothing and protective gear before reuse.

WASTE DISPOSAL METHOD: Dispose of in accordance with all applicable local, state, federal, and environmental regulations.

SECTION 9 - DISCLAIMER

The information contained in this Material Safety Data Sheet has been compiled from reliable sources and is believed to be correct as of the date issued. It is the responsibility of the user to determine the appropriateness and applicability to their situation. Paddock Laboratories, Inc. disclaims any expressed or implied warranty as to the accuracy of the above information and shall not be held liable for any direct, incidental, or consequential damages from use or reliance on the above information.

DEFINITIONS OF ABBREVIATIONS USED:

ACGIH: American Conference of Governmental Industrial Hygienists
CAS: Chemical Abstract Service
IARC: Internal Agency for Research on Cancer
IDLH: Immediately Dangerous to Life or Health level
LC₅₀: Median Lethal Concentration
LD₅₀: Median Lethal Dose

MSHA: Mine Safety and Health Administration
N/A: Not available
NIOSH: National Institute for Occupational Safety and Health
NTP: National Toxicology Program
OSHA: Occupational Safety and Health Administration
PEL: Permissible Exposure Limit
STEL: Short Term Exposure Limit
TLV: Threshold Limit Value
TWA: Time Weighted Average

ISOPROPYL ALCOHOL 99%

Attachment to Material Safety Data Sheet

TRANSPORTATION INFORMATION

APPLICABLE DOT REGULATIONS: Title 49

SHIPPING NAME: Isopropanol

IDENTIFICATION NUMBER: UN1219

REPORTABLE QUANTITY: Yes (1 gallon per container).

LABELS:

One Gallon: "Flammable Liquid (3) Isopropanol UN1219"

One Pint: "ORM-D Consumer Commodity"

UNIT CONTAINER:

One Gallon: Natural, square, high density polyethylene bottle with a polyethylene coated paper on pulpboard lined white metal cap.

One Pint: Natural, oblong, pinched waist, polyethylene alcohol bottle with a foam-lined white polypropylene cap.

DOT SPECIFICATION CONTAINER:

Bottle: DOT 2E Carton: DOT 12-B

DOT EXEMPTION NUMBER: Not available.

DOD CERTIFICATION CONTROL NUMBER: Not available.

NET EXPLOSIVE WEIGHT: Not applicable.

LIMITED QUANTITY: No.

AEROSOL PROPELLANTS: Not applicable.

USPS REGULATIONS: Not available.

DISPOSAL INFORMATION

EPA HAZARDOUS WASTE NUMBER/CODE: Not listed.

HAZARDOUS WASTE CHARACTERISTICS: Highly flammable.

DISPOSAL METHODS: Incineration accordance with all applicable local, state and federal regulations.



HAZARDOUS MATERIALS INVENTORY FORM

FORM 3

ADD

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REVISED 1

Page _____ of _____ 2

FACILITY ID#	3 0 0 3 5	38	BUSINESS NAME	IRON GRIP BARBELL CO.	3
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I. FACILITY INFORMATION

CHEMICAL LOCATION	11377 MARKON DR. GARDEN GROVE, CA. 92841					4
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CONFIDENTIAL LOCATION EPCRA	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5	MAP #	1	6	GRID #	D-3	7
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II. CHEMICAL INFORMATION

CHEMICAL NAME	SODIUM HYDROXIDE		WASTE	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	8	TRADE SECRET	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	11
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COMMON NAME	LIQUID CAUSTIC SODA 50%		9	An EHS Chemical	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	12
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CAS #	1310-73-2	10	FIRE CODE HAZARD CLASSES (supplied by GGFD)	Class 3	13
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TYPE (Check one item only)	<input checked="" type="checkbox"/> a. PURE	<input type="checkbox"/> b. MIXTURE	<input type="checkbox"/> c. WASTE	14	RADIOACTIVE	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	15	CURIES	16
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PHYSICAL STATE (Check one item only)	<input type="checkbox"/> a. SOLID	<input checked="" type="checkbox"/> b. LIQUID	<input type="checkbox"/> c. GAS	17	FED HAZARD CATEGORIES	<input checked="" type="checkbox"/> a. FIRE	<input type="checkbox"/> b. REACTIVE	<input type="checkbox"/> c. PRESSURE RELEASE	18
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AVERAGE DAILY AMOUNT	2 GAL	19	MAXIMUM DAILY AMOUNT	15 GAL	20	ANNUAL WASTE AMOUNT	21	STATE WASTE CODE	22
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UNITS	<input checked="" type="checkbox"/> a. GALLONS	<input type="checkbox"/> b. CUBIC FEET	<input type="checkbox"/> c. POUNDS	<input type="checkbox"/> d. TONS	23	DAYS ON SITE	365	24	LARGEST CONTAINER	25
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STORAGE CONTAINER (Check all that apply)	<input type="checkbox"/> a. ABOVEGROUND TANK	<input checked="" type="checkbox"/> e. PLASTIC DRUM	<input type="checkbox"/> i. VAT	<input type="checkbox"/> m. CYLINDER	<input type="checkbox"/> q. TANK WAGON	26
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STORAGE PRESSURE	<input checked="" type="checkbox"/> a. AMBIENT	<input type="checkbox"/> b. ABOVE AMBIENT	<input type="checkbox"/> c. BELOW AMBIENT	27
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STORAGE TEMPERATURE	<input checked="" type="checkbox"/> a. AMBIENT	<input type="checkbox"/> b. ABOVE AMBIENT	<input type="checkbox"/> c. BELOW AMBIENT	<input type="checkbox"/> d. CRYOGENIC	28
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%WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
29		<input type="checkbox"/> Yes <input type="checkbox"/> No	32
29		<input type="checkbox"/> Yes <input type="checkbox"/> No	32
29		<input type="checkbox"/> Yes <input type="checkbox"/> No	32
29		<input type="checkbox"/> Yes <input type="checkbox"/> No	32
29		<input type="checkbox"/> Yes <input type="checkbox"/> No	32

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

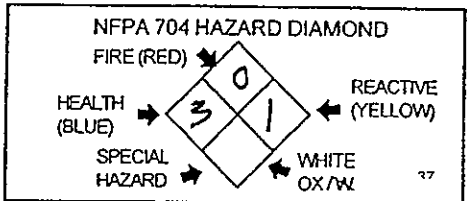
PLACARDING INFORMATION

UNDOT # _____ 33
Refer to shipping papers or MSDS

DOT HAZARD CLASS _____ 34
Refer to shipping papers or MSDS

EPCRA YES NO 35

X _____ 36
If EPCRA, Please Sign Here



MAKE AS MANY COPIES OF CHEMICAL INVENTORY FORM AS NEEDED



S H E P A R D B R O S . I N C .

MATERIAL SAFETY DATA SHEET

SECTION I - IDENTIFICATION

PRODUCT: LIQUID CAUSTIC SODA 50%
MANUFACTURER: SHEPARD BROS., INC.
ADDRESS: 503 S. Cypress Street, La Habra, CA 90631
TELEPHONE: (562) 697-1366

DESCRIPTION: Heavy duty liquid C.I.P.
CHEMICAL FAMILY: Base
FORMULA: NaOH
EMERGENCY TELEPHONE NUMBER: (562) 697-1366 or (800) 424-9300
NFPA RATING: Health: 3 Fire: 0 Reactivity: 1
NFPA Hazard Rating: Extreme: 4 High: 3 Moderate: 2 Slight: 1 Insignificant: 0

SECTION II - HAZARDOUS INGREDIENTS/MIXTURES

<u>MATERIAL or COMPONENT</u>	<u>CAS No.</u>	<u>PERCENT</u>	<u>TLV/ACGIH</u>
Sodium hydroxide	1310-73-2	< 50	2 mg/m ³

SECTION III - PHYSICAL DATA

BOILING POINT: 288°F
MELTING POINT: < 32°F
VAPOR PRESSURE (mm Hg): ND
VAPOR DENSITY (Air = 1): ND
PERCENT VOLATILE BY VOLUME: ND
AUTOIGNITION TEMPERATURE: ND
FORM Liquid
SOLUBILITY IN WATER: Complete
SPECIFIC GRAVITY (WATER=1): 1.53
APPEARANCE: Transparent, colorless
ODOR: Odorless
pH (1% solution) 11.4

SECTION IV - FIRE AND EXPLOSION DATA

FLASH POINT (TEST METHOD): ND

EXTINGUISHING MEDIA: This product is not combustible. Foam, carbon dioxide, or dry chemical extinguishers may be used in areas where the product is stored.

SPECIAL FIRE FIGHTING PROCEDURES: Wear full protective clothing. Direct contact with water can cause a strongly exothermic reaction.

UNUSUAL FIRE AND EXPLOSION HAZARD: This product will react with metals, i.e. aluminum, tin, and zinc releasing flammable hydrogen gas.

SECTION V - HEALTH HAZARD INFORMATION

EFFECTS OF OVEREXPOSURE:

SKIN: Will cause chemical burns.

EYES: Will cause severe chemical burns and possibly blindness.

INGESTION: Will cause severe irritation to gastric lining, possible death.

INHALATION: Breathing of mist may cause damage to the upper respiratory tract and the lung tissue, which could result in chemical pneumonia depending on the severity of exposure.

EMERGENCY AND FIRST AID PROCEDURES:

SKIN: Immediately flush with excess water for at least 15 minutes, while removing contaminated clothing. Launder clothing before reuse.

EYES: Immediately flush with excess water for at least 15 minutes, alternately lifting upper and lower eyelids. Obtain medical attention without delay, preferably from an ophthalmologist.

INGESTION: If swallowed, do NOT induce vomiting. Never give anything by mouth to an unconscious person. Give large quantities of water. If available, give several glasses of milk. If vomiting occurs, keep airway clear. Get immediate medical attention.

INHALATION: Remove victim to fresh air. If breathing is difficult, have a trained person administer oxygen. Get immediate medical attention.

SECTION VI - REACTIVITY DATA

STABILITY: Stable

CONDITIONS TO AVOID: Avoid contact with concentrated acids and incompatible metals.

INCOMPATIBILITY: Avoid contact with aluminum, tin and zinc and alloys containing these metals.

HAZARDOUS DECOMPOSITION PRODUCTS: Combustible hydrogen gas is produced by contact with the above metals. At temperatures above 1562°F, this product may react with air and reducing sugars (fructose, galactose, arabinose, levulose, lactose, and maltose) in foods or dry whey solids to form toxic carbon monoxide. (The reaction will also occur at lower temperatures, but more slowly.) When a confined space entry must be made, even into an empty tank, be sure to follow all appropriate confined entry procedures (ANSI Z117.1).

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Wear appropriate respirator, clothing and gloves. Use inert diking material to contain spill. Place in an approved container for possible recovery and reuse or disposal.

WASTE DISPOSAL METHOD: Dispose of waste material in accordance with applicable Federal, State, and Local regulations. The spill area may be neutralized with dilute acid (hydrochloric, sulfuric, phosphoric, acetic, etc.) solution, then flushed with water, followed by liberal covering of sodium bicarbonate.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type): NIOSH/MSHA approved respirator where mist or spray may exist.

VENTILATION: Not required under normal use. Local exhaust, face velocity > 60 ppm, should be used in a confined space.

PROTECTIVE GLOVES: Natural or butyl rubber

EYE PROTECTION: Wear chemical goggles or full-face shield.

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Store in cool place away from acid materials. Keep containers dry and sealed.

OTHER PRECAUTIONS: Use good industrial practice in the storage, handling, and distribution of this product.

SECTION X – REGULATORY INFORMATION

This product is not considered carcinogen or cancer suspect under NTP, IARC and OSHA.

SARA Title III Section 313 (Toxic Chemicals): None listed.

SARA Title III Section 302 (Extremely Hazardous Substances): None listed

CAL-OSHA Directors List of Hazardous Substances: Sodium hydroxide (CAS 1310-73-2)

SUPERFUND REPORTABLE QUANTITY: 1,000 lb as sodium hydroxide (CAS 1310-73-2)

U.S. DOT PROPER SHIPPING NAME: SODIUM HYDROXIDE SOLUTION, 8, UN1824, PGII

LABEL: CORROSIVE

NA: not applicable ND: not determined

Information presented herein has been compiled from sources considered to be dependable and is accurate and reliable to the best of our knowledge, but is not guaranteed to be so. Since conditions of use are beyond our control, we make no warranties, express or implied, except those that are stated in corresponding labels and technical literature.



HAZARDOUS MATERIALS INVENTORY FORM

FORM 3

ADD DELETE REVISED 1 Page _____ of _____ 2

FACILITY ID#	3 0 0 3 5	38	BUSINESS NAME	IRON GRIP BARBELL CO.	3
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I. FACILITY INFORMATION

CHEMICAL LOCATION	11377 MARKON DR. GARDEN GROVE, CA. 92841					4		
CONFIDENTIAL LOCATION EPCRA	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5	MAP #	1	6	GRID #	E 4-5 & D-3	7

II. CHEMICAL INFORMATION

CHEMICAL NAME	PHOSPHORIC ACID		WASTE	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	8	TRADE SECRET	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	11
COMMON NAME	PHOSPHORIC ACID 75%		* If EPCRA see instructions		9	An EHS Chemical	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	12
CAS #	7664-38-2	10	FIRE CODE HAZARD CLASSES (supplied by GGFD)		13	*If EHS is "Yes", all amounts must be LBS		

TYPE (Check one item only)	<input checked="" type="checkbox"/> a. PURE <input type="checkbox"/> b. MIXTURE <input type="checkbox"/> c. WASTE	14	RADIOACTIVE	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	15	CURIES	16
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PHYSICAL STATE (Check one item only)	<input type="checkbox"/> a. SOLID <input checked="" type="checkbox"/> b. LIQUID <input type="checkbox"/> c. GAS	17	FED-HAZARD CATEGORIES	<input type="checkbox"/> a. FIRE <input type="checkbox"/> b. REACTIVE <input type="checkbox"/> c. PRESSURE RELEASE <input checked="" type="checkbox"/> d. ACUTE HEALTH <input type="checkbox"/> e. CHRONIC HEALTH	18
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AVERAGE DAILY AMOUNT	2 GAL	19	MAXIMUM DAILY AMOUNT	15 GAL	20	ANNUAL WASTE AMOUNT	0	21	STATE WASTE CODE	22
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UNITS	<input checked="" type="checkbox"/> a. GALLONS <input type="checkbox"/> b. CUBIC FEET <input type="checkbox"/> c. POUNDS <input type="checkbox"/> d. TONS	23	DAYS ON SITE	365	24	LARGEST CONTAINER	55 GAL DRUM	25
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STORAGE CONTAINER (Check all that apply)	<input type="checkbox"/> a. ABOVEGROUND TANK <input type="checkbox"/> b. UNDERGROUND TANK <input type="checkbox"/> c. TANK INSIDE BLDG <input type="checkbox"/> d. STEEL DRUM <input checked="" type="checkbox"/> e. PLASTIC DRUM <input type="checkbox"/> f. NONMETALLIC DRUM <input type="checkbox"/> g. METAL CONTAINER <input type="checkbox"/> h. CARBOY <input type="checkbox"/> i. VAT <input type="checkbox"/> j. FIBER DRUM <input type="checkbox"/> k. BAG(S) <input type="checkbox"/> l. BOX(S) <input type="checkbox"/> m. CYLINDER <input type="checkbox"/> n. GLASS CONTAINER <input type="checkbox"/> o. PLASTIC CONTAINER <input type="checkbox"/> p. IN MACH OR EQUIP <input type="checkbox"/> q. TANK WAGON <input type="checkbox"/> r. RAIL CAR <input type="checkbox"/> s. TOTE BIN <input type="checkbox"/> t. OTHER	26
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STORAGE PRESSURE	<input checked="" type="checkbox"/> a. AMBIENT <input type="checkbox"/> b. ABOVE AMBIENT <input type="checkbox"/> c. BELOW AMBIENT	27
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STORAGE TEMPERATURE	<input checked="" type="checkbox"/> a. AMBIENT <input type="checkbox"/> b. ABOVE AMBIENT <input type="checkbox"/> c. BELOW AMBIENT <input type="checkbox"/> d. CRYOGENIC	28
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%WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1	29	<input type="checkbox"/> Yes <input type="checkbox"/> No	30
2	29	<input type="checkbox"/> Yes <input type="checkbox"/> No	30
3	29	<input type="checkbox"/> Yes <input type="checkbox"/> No	30
4	29	<input type="checkbox"/> Yes <input type="checkbox"/> No	30
5	29	<input type="checkbox"/> Yes <input type="checkbox"/> No	30

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

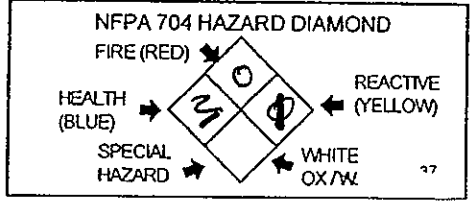
PLACARDING INFORMATION

UNDOT # _____ 33
Refer to shipping papers or MSDS

DOT HAZARD CLASS _____ 34
Refer to shipping papers or MSDS

EPCRA YES NO 35

X _____ 36
If EPCRA, Please Sign Here



MAKE AS MANY COPIES OF CHEMICAL INVENTORY FORM AS NEEDED



S H E P A R D B R O S . I N C .

MATERIAL SAFETY DATA SHEET

SECTION I - IDENTIFICATION

PRODUCT: PHOSPHORIC ACID 75% FOOD GRADE
MANUFACTURER: SHEPARD BROS., INC.
ADDRESS: 503 S. Cypress Street, La Habra, CA 90631
TELEPHONE: (562) 697-1366

DESCRIPTION: Phosphoric acid (food grade)
CHEMICAL FAMILY: Acid
FORMULA: H₃PO₄
EMERGENCY TELEPHONE NUMBER: (562) 697-1366 or (800) 424-9300
NFPA RATING: Health: 3 Fire: 0 Reactivity: 1
NFPA Hazard Rating: Extreme: 4 High: 3 Moderate: 2 Slight: 1 Insignificant: 0
MSDS ORIGATION DATE: 04/30/2001 **REVISION DATE:** 09/05/2006

SECTION II - HAZARDOUS INGREDIENTS/MIXTURES

<u>MATERIAL or COMPONENT</u>	<u>CAS No.</u>	<u>PERCENT</u>	<u>TLV/ACGIH</u>
Phosphoric acid	7664-38-2	75	3 mg/m ³

SECTION III - PHYSICAL DATA

BOILING POINT: 275°F
MELTING POINT: 0.5°F
VAPOR PRESSURE (mm Hg) (68°F): 5.65
VAPOR DENSITY (Air = 1): ND
PERCENT VOLATILE BY VOLUME: ND
AUTOIGNITION TEMPERATURE: ND
FORM Liquid
SOLUBILITY IN WATER: Complete
SPECIFIC GRAVITY (WATER=1): 1.59
APPEARANCE: Transparent, colorless
ODOR: Odorless

SECTION IV - FIRE AND EXPLOSION DATA

FLASH POINT (TEST METHOD): NA

EXTINGUISHING MEDIA: Typical fire fighting media, such as water spray, dry chemical, foam, and carbon dioxide, for surrounding material.

SPECIAL FIRE FIGHTING PROCEDURES: When this product is involved in a fire, firefighters should

wear protective clothing and self-contained breathing apparatus to avoid exposure to vapors or products of combustion.

UNUSUAL FIRE AND EXPLOSION HAZARD: Contact of this product with many metals can cause formation of flammable hydrogen gas.

SECTION V - HEALTH HAZARD INFORMATION

EFFECTS OF OVEREXPOSURE:

SKIN: Direct contact may result in redness, swelling, burns and severe skin damage.

EYES: May cause severe irritation and chemical burns.

INGESTION: May cause harmful to fatal chemical burns of the mouth, throat, esophagus and stomach.

INHALATION: Aerosols and mists may severely damage contacted tissue and produce scarring. Exposure to high concentrations may cause pulmonary edema and pneumonia.

EMERGENCY AND FIRST AID PROCEDURES:

SKIN: Flush with plenty of water for 15 minutes, followed by soap and water. Remove and discard contaminated clothing. Get immediate medical attention.

EYES: Flush the eyes with plenty of water, alternately lifting the upper and lower eyelids. After 5 minutes, if appropriate, remove contact lenses and continue flushing the eyes for an additional 15 minutes. Get immediate medical attention.

INGESTION: Do NOT induce vomiting. Rinse mouth and drink 2 glasses of water. If vomiting should occur, give fluids again. Never give anything by mouth to an unconscious person. Call a physician.

INHALATION: Move the victim to fresh air. Give artificial respiration if not breathing.

SECTION VI - REACTIVITY DATA

STABILITY: Stable.

CONDITIONS TO AVOID: High temperatures, flames, and incompatibles.

INCOMPATIBILITY: Liberates flammable hydrogen gas when in contact with reactive metals. Avoid contact with sodium tetrahydroborate. Exothermic reactions may occur with aldehydes, amines, amides, alcohols, glycols, azo-compounds, carbamates, esters, caustics, phenols, cresols, ketones, organophosphates, epoxides, explosives, combustible materials, unsaturated halides, organic peroxides and halogenated organics. Mixtures with nitromethane are explosive.

HAZARDOUS DECOMPOSITION PRODUCTS: High temperatures and flames may produce toxic carbon monoxide, carbon dioxide, and oxides of phosphorous.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Wear appropriate personal protective equipment to avoid exposure. Contain spill using an inert diking material. Transfer material into an approved container for possible recovery and reuse or for disposal. Neutralize with sodium carbonate or sodium bicarbonate. Keep product out of sewers, watersheds, and water systems.

WASTE DISPOSAL METHOD: Any material that cannot be recovered and reused should be disposed of

as a waste in a manner consistent with Local, State and Federal regulations.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type): Avoid breathing vapors or mists. Use a NIOSH/MSHA approved respirator, with a full-facepiece or a full-facepiece respirator with acid gases cartridges when concentrations are unknown.

VENTILATION: Provide adequate mechanical or local exhaust ventilation to minimize exposure levels, particularly in areas where the air contacts open process equipment.

PROTECTIVE GLOVES: Wear acid resistant rubber, nitrile, butyl, polyethylene, or neoprene gloves

EYE PROTECTION: Wear chemical splash goggles and/or full-face shield where there is potential for eye contact. An eyewash fountain should be located in areas where the product is used.

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Containers should be stored in a cool, dry, well-ventilated area. Exercise due caution to prevent damage to or leakage from the container. Avoid contact with ignition sources and incompatibles listed in Section VI. Keep containers closed when not in use.

OTHER PRECAUTIONS: Do not store near alkalis or chlorine-containing compounds. Use good industrial practice in storing, handling and distributing this product.

SECTION X – REGULATORY INFORMATION

This product is not considered a carcinogen or cancer suspect under NTP, IARC and OSHA.

SARA Title III Section 313 (Toxic Chemicals): None listed.

SARA Title III Section 302 (Extremely Hazardous Substances): None listed

CAL-OSHA Directors List of Hazardous Substances: Phosphoric acid (CAS 7664-38-2)

U.S. DOT PROPER SHIPPING NAME: PHOSPHORIC ACID SOLUTION, 8, UN1805, PGIII

LABEL: CORROSIVE

NA: not applicable ND: not determined

Information presented herein has been compiled from sources considered dependable and is accurate and reliable to the best of our knowledge, but is not guaranteed to be so. Since conditions of use are beyond our control, we make no warranties, express or implied, except those that are stated in corresponding labels and technical literature.



HAZARDOUS MATERIALS INVENTORY FORM

FORM 3

ADD DELETE REVISED 1 Page _____ of _____ 2

FACILITY ID#	3 0 0 3 5	38	BUSINESS NAME	IRON GRIP BARBELL CO.	3
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I. FACILITY INFORMATION

CHEMICAL LOCATION	11377 MARKON DR. GARDEN GROVE, CA. 92841				4
CONFIDENTIAL LOCATION EPCRA	<input type="checkbox"/> Yes <input type="checkbox"/> No	5	MAP #	1	6
			GRID #	E-4	7

II. CHEMICAL INFORMATION

CHEMICAL NAME	BLACK DISPERSION		WASTE	<input type="checkbox"/> Yes <input type="checkbox"/> No	8	TRADE SECRET	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	11	
COMMON NAME	POP 4342 BLACK DISPERSION				9	An EHS Chemical	<input type="checkbox"/> Yes <input type="checkbox"/> No	12	
CAS #	01333-86 4	10	FIRE CODE HAZARD CLASSES (supplied by GGFD)			*If EPCRA see instructions *If EHS is "Yes", all amounts must be LBS			
TYPE (Check one item only)	<input type="checkbox"/> a. PURE <input checked="" type="checkbox"/> b. MIXTURE <input type="checkbox"/> c. WASTE	14	RADIOACTIVE	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	15	CURIES		16	
PHYSICAL STATE (Check one item only)	<input type="checkbox"/> a. SOLID <input checked="" type="checkbox"/> b. LIQUID <input type="checkbox"/> c. GAS	17	FED HAZARD CATEGORIES	<input checked="" type="checkbox"/> a. FIRE <input type="checkbox"/> b. REACTIVE <input type="checkbox"/> c. PRESSURE RELEASE <input type="checkbox"/> d. ACUTE HEALTH <input type="checkbox"/> e. CHRONIC HEALTH				18	
AVERAGE DAILY AMOUNT	10 lbs	19	MAXIMUM DAILY AMOUNT	25 lbs.	20	ANNUAL WASTE AMOUNT		21	
						STATE WASTE CODE		22	
UNITS	<input checked="" type="checkbox"/> a. POUNDS <input type="checkbox"/> b. GALLONS <input type="checkbox"/> c. TONS <input type="checkbox"/> d. CUBIC FEET	23	DAYS ON SITE	365	24	LARGEST CONTAINER	55 GAL DRUM	25	
STORAGE CONTAINER (Check all that apply)	<input type="checkbox"/> a. ABOVEGROUND TANK <input type="checkbox"/> b. UNDERGROUND TANK <input type="checkbox"/> c. TANK INSIDE BLDG <input checked="" type="checkbox"/> d. STEEL DRUM		<input type="checkbox"/> e. PLASTIC DRUM <input type="checkbox"/> f. NONMETALLIC DRUM <input type="checkbox"/> g. METAL CONTAINER <input type="checkbox"/> h. CARBOY			<input type="checkbox"/> i. VAT <input type="checkbox"/> j. FIBER DRUM <input type="checkbox"/> k. BAG(S) <input type="checkbox"/> l. BOX(S)	<input type="checkbox"/> m. CYLINDER <input type="checkbox"/> n. GLASS CONTAINER <input type="checkbox"/> o. PLASTIC CONTAINER <input type="checkbox"/> p. IN MACH OR EQUIP	<input type="checkbox"/> q. TANK WAGON <input type="checkbox"/> r. RAIL CAR <input type="checkbox"/> s. TOTE BIN <input type="checkbox"/> t. OTHER	26
STORAGE PRESSURE	<input checked="" type="checkbox"/> a. AMBIENT <input type="checkbox"/> b. ABOVE AMBIENT <input type="checkbox"/> c. BELOW AMBIENT							27	
STORAGE TEMPERATURE	<input checked="" type="checkbox"/> a. AMBIENT <input type="checkbox"/> b. ABOVE AMBIENT <input type="checkbox"/> c. BELOW AMBIENT <input type="checkbox"/> d. CRYOGENIC							28	

%WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
40	CARBON BLACK	<input type="checkbox"/> Yes <input type="checkbox"/> No	01333-86-4
5	CALCIUM SULFONATE SOLUTION	<input type="checkbox"/> Yes <input type="checkbox"/> No	N/A
		<input type="checkbox"/> Yes <input type="checkbox"/> No	
		<input type="checkbox"/> Yes <input type="checkbox"/> No	
		<input type="checkbox"/> Yes <input type="checkbox"/> No	

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

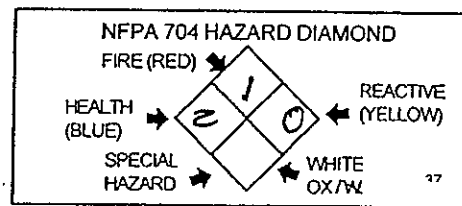
PLACARDING INFORMATION

UNDOT # _____ 33
Refer to shipping papers or MSDS

DOT HAZARD CLASS _____ 34
Refer to shipping papers or MSDS

EPCRA YES NO 35

X _____ 36
If EPCRA, Please Sign Here



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MATERIAL SAFETY DATA SHEET

MSDS Name: POP4342 BLACK DISPERSION

Revision Date: 01/12/07
Page Number: 1 of 6

SECTION I - PRODUCT AND COMPANY INFORMATION

Product Name: POP4342 BLACK DISPERSION
CAS Number: MIXTURE
HMIS Rating: Health: 2* Fire: 1 Reactivity: 0

Company Identification: DAY-GLO COLOR CORP.
4515 SAINT CLAIR AVENUE
CLEVELAND OH 44103

Telephone/Fax: (216) 391-7070 (216) 391-7751
Chemtrec (24 hr. Emergency) (800) 424-9300

Product Class: PIGMENT DISPERSION
Trade Name: BLACK DISPERSION
Product Code: POP4342

SECTION II - INGREDIENT AND HAZARD INFORMATION

Ingredient Name	CAS Number	Percent
CARBON BLACK	01333-86-4	15 - 40
CALCIUM SULFONATE SOLUTION	N/A	0 - 5

SECTION III - HAZARDS IDENTIFICATION

EYE CONTACT
Will cause irritation.

SKIN CONTACT
May cause irritation.

INHALATION HAZARDS
May cause irritation.

INGESTION HAZARDS
Small amounts swallowed are not likely to cause injury. Not a hazard in normal industrial use.

TARGET ORGANS
No organs affected.

MATERIAL SAFETY DATA SHEET

MSDS Name: POP4342 BLACK DISPERSION

Revision Date: 01/12/07

Page Number: 2 of 6

CANCER HAZARDS

This product contains CARBON BLACK (See Section II for amount in this product). IARC has classified Carbon Black as a Group 2B carcinogen.

SECTION IV - FIRST AID MEASURES

EYE CONTACT

Immediately flush with water for at least 15 minutes while holding eyelids open. Call a physician.

SKIN CONTACT

Practice good industrial hygiene. Wash with soap and water.

INHALATION

Remove to fresh air. Treat symptoms. Call a physician.

INGESTION

Do not induce vomiting. Give water. Call a physician.

SECTION V - FIRE-FIGHTING MEASURES

Flammability Class

IIIA

Flash Point:

>300 F

Explosive Range:

None

None

FLAMMABLE PROPERTIES

Difficult to ignite unless directly involved in flame. Exposure to heat will produce irritating vapors. Closed containers may explode when subject to high heat. Dense smoke and toxic fumes will result during combustion creating a health hazard.

EXTINGUISHING MEDIA

Use dry chemical, alcohol foam, carbon dioxide or water spray when fighting fires involving this material.

FIRE FIGHTING INSTRUCTIONS

Keep unnecessary people away. Isolate area. Stay upwind. Wear self-contained breathing apparatus.

SECTION VI - ACCIDENTAL RELEASE MEASURES

CONTAINMENT

Contain with absorbent material such as clay, soil, or any

MATERIAL SAFETY DATA SHEET

MSDS Name: POP4342 BLACK DISPERSION

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commercially available absorbent. Dike to prevent entry to sewer systems.

CLEAN-UP

Place in an appropriate recovery or salvage drum for disposal.

CERCLA/SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (TITLE III)

This is not a regulated material under 40 CFR 117, 302. Notification of spills is not required.

EVACUATION

Not normally necessary. Refer to your organization's Release Response Procedures.

SECTION VII - HANDLING AND STORAGE

HANDLING

Use in a well ventilated area.

STORAGE

Keep away from heat, sparks, and flame. Store in a cool place.

SECTION VIII - EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits

	ACGIH TLV	ACGIH TLV-C	ACGIH STEL	OSHA STEL	OSHA PEL
CARBON BLACK	3.50 mg/M3	N/est	N/est	N/est	N, est
CALCIUM SULFONATE SOLUTION	N/est	N/est	N/est	N/est	N, est

No exposure limits have been established for this product.

ENGINEERING CONTROLS

General ventilation is recommended. Additional local exhaust ventilation is recommended where dusts, mists, or vapors may be released.

RESPIRATORY PROTECTION

If it is possible to generate significant levels of vapors or mists, a NIOSH approved respirator with appropriate cartridges is recommended.

PERSONAL PROTECTIVE EQUIPMENT

Where contact is likely, chemical resistant gloves and safety glasses

MATERIAL SAFETY DATA SHEET

MSDS Name: POP4342 BLACK DISPERSION

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or goggles are recommended.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Form: Liquid
Appearance/Color: Black
Odor: Mild
Solubility (in water): Slight
Boiling Range: None
Evaporation Rate: Slower than n-Butyl Acetate

Vapor Density: Heavier than air

% Volatile Weight 0.0%
% Volatile Volume: 0.0%
Weight/Gallon: 9.39
VOC None

SECTION X - STABILITY AND REACTIVITY

Stability: This product is stable
Hazardous Polymerization: Hazardous polymerization will not occur

CONDITIONS TO AVOID

Heat, sparks, and open flame.

INCOMPATIBILITIES

Strong oxidizers.

HAZARDOUS DECOMPOSITION PRODUCTS

In the event of combustion, carbon monoxide and carbon dioxide will be formed.

SECTION XI - TOXICOLOGICAL INFORMATION

No toxicological studies have been conducted on this product.

SECTION XII - ECOLOGICAL INFORMATION

No studies have been conducted on this product.

SECTION XIII - DISPOSAL

Dispose of in accordance with local, state, and federal regulations.

MATERIAL SAFETY DATA SHEET

MSDS Name: POP4342 BLACK DISPERSION

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SECTION XIV - TRANSPORT INFORMATION

UN Number NOT REGULATED

Packaging Group

Hazard Class

Shipping Name

SECTION XV - REGULATORY INFORMATION

SARA TITLE III SECTION 313:

This product contains no chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act.

CALIFORNIA PROPOSITION 65 REGULATED SUBSTANCES:

None

OSHA HAZARD COMMUNICATION STANDARD, 29 CFR 1910.1200

This product is a hazardous material as defined. See Section II for hazardous ingredients in this product.

SARA SECTIONS 311 AND 312

Reporting of this product is required under the following EPA hazard categories:

- Immediate (acute) health hazard
- Delayed (chronic) health hazard
- Fire hazard
- Sudden release of pressure hazard
- Reactive hazard

TOXIC SUBSTANCES CONTROL ACT (TSCA)

All components in this product are listed, or are excluded from listing on the U.S. Toxic Substances Control Act (TSCA) 8(b) Inventory.

CLEAN WATER ACT

This product contains no ingredients regulated by the Clean Water Act.

CLEAN AIR ACT

This product contains no ingredients regulated by the Clean Air Act.

HAZARDOUS AIR POLLUTANTS (HAPS)

This product contains no Hazardous Air Pollutants (HAP's).

CLEAN AIR ACT AMMENDMENTS (ODS)

No DAY-GLO product contains an ozone depleting substance (ODS), nor are any of our products manufactured with them.

COALITION OF NORTHEAST GOVERNORS (CONEG)

MATERIAL SAFETY DATA SHEET

MSDS Name: POP4342 BLACK DISPERSION

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This product is in compliance with CONEG (i.e., total cadmium, chromium, lead and mercury < 100 ppm).

FDA 21 CFR

DAY-GLO Color Corp. products are not listed by the FDA for use under 21 CFR since potential applications are so numerous that specific applications must be submitted to the FDA for inclusion in the 21 CFR FDA listing.

SECTION XVI - OTHER INFORMATION

LABEL INFORMATION

POP4342 BLACK DISPERSION

HEALTH - 2* FLAMMABILITY - 1 REACTIVITY - 0

PRECAUTIONS: For industrial use only. Keep from freezing. Avoid contact with skin and eyes. Do not swallow. Use appropriate respirator when spray painting.

FIRST AID: EYES: Flush for 15 minutes. SKIN: Wash with soap and water. INGESTION: Give water; do not induce vomiting. Call a physician.

FIRE FIGHTING USE: Foam, CO₂, or dry chemical.

SPILL CONTROL: Dike to prevent spread or entry to sewer. Remove ignition sources. Absorb on inert material and incinerate.

CONTAINS:

CAS NO. OR NJ TSRN:

POLYOL

PROPRIETARY

CARBON BLACK

01333-86-4

CALCIUM SULFONATE SOLUTION

N/A

TARGET ORGANS: NO ORGANS AFFECTED

MATERIAL V.O.C.: NONE

NOTE - Additional information is available from your employer and the Material Safety Data Sheet.

DISCLAIMER

The information contained herein is believed to be accurate, but is not warranted. Nothing contained herein constitutes a specification, nor is it intended to warrant suitability for the intended use.



HAZARDOUS MATERIALS INVENTORY FORM

FORM 3

ADD DELETE REVISED 1 Page _____ of _____ 2

FACILITY ID#	3 0 0 3 5	38 BUSINESS NAME	IRON GRIP BARBELL CO.	3
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I. FACILITY INFORMATION

CHEMICAL LOCATION	11377 MARKON DR. GARDEN GROVE, CA. 92841			4		
CONFIDENTIAL LOCATION EPCRA	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5 MAP #	1	6 GRID #	D-4	7

II. CHEMICAL INFORMATION

CHEMICAL NAME	4-METHYL, 1-3 DIOXIAN -2-ONE		WASTE	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	8 TRADE SECRET	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	11														
COMMON NAME	EF34 PROPYLENE CARBONATE		9 An EHS Chemical		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	12															
CAS #	108-32-7	10 FIRE CODE HAZARD CLASSES (supplied by GGFD)		Class A				13													
TYPE (Check one item only)	<input checked="" type="checkbox"/> a. PURE	<input type="checkbox"/> b. MIXTURE	<input checked="" type="checkbox"/> c. WASTE	14 RADIOACTIVE	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	15 CURIES	16														
PHYSICAL STATE (Check one item only)	<input type="checkbox"/> a. SOLID	<input checked="" type="checkbox"/> b. LIQUID	<input type="checkbox"/> c. GAS	17 FED HAZARD CATEGORIES	<input checked="" type="checkbox"/> a. FIRE	<input type="checkbox"/> b. REACTIVE	<input type="checkbox"/> c. PRESSURE RELEASE	18													
AVERAGE DAILY AMOUNT		2 lbs	19 MAXIMUM DAILY AMOUNT	24 lbs	20 ANNUAL WASTE AMOUNT	21 STATE WASTE CODE	22														
UNITS	<input checked="" type="checkbox"/> a. GALLONS	<input type="checkbox"/> b. CUBIC FEET	23 DAYS ON SITE	24 LARGEST CONTAINER	55 Gallon Drum			25													
STORAGE CONTAINER (Check all that apply)	<input checked="" type="checkbox"/> a. ABOVEGROUND TANK	<input type="checkbox"/> b. UNDERGROUND TANK	<input type="checkbox"/> c. TANK INSIDE BLDG	<input checked="" type="checkbox"/> d. STEEL DRUM	<input type="checkbox"/> e. PLASTIC DRUM	<input type="checkbox"/> f. NONMETALLIC DRUM	<input type="checkbox"/> g. METAL CONTAINER	<input type="checkbox"/> h. CARBOY	<input type="checkbox"/> i. VAT	<input type="checkbox"/> j. FIBER DRUM	<input type="checkbox"/> k. BAG(S)	<input type="checkbox"/> l. BOX(S)	<input type="checkbox"/> m. CYLINDER	<input type="checkbox"/> n. GLASS CONTAINER	<input type="checkbox"/> o. PLASTIC CONTAINER	<input type="checkbox"/> p. IN MACH OR EQUIP	<input type="checkbox"/> q. TANK WAGON	<input type="checkbox"/> r. RAIL CAR	<input type="checkbox"/> s. TOTE BIN	<input type="checkbox"/> t. OTHER	26
STORAGE PRESSURE	<input checked="" type="checkbox"/> a. AMBIENT	<input type="checkbox"/> b. ABOVE AMBIENT	<input type="checkbox"/> c. BELOW AMBIENT	27																	
STORAGE TEMPERATURE	<input checked="" type="checkbox"/> a. AMBIENT	<input type="checkbox"/> b. ABOVE AMBIENT	<input type="checkbox"/> c. BELOW AMBIENT	<input type="checkbox"/> d. CRYOGENIC	28																

%WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1	29	<input type="checkbox"/> Yes <input type="checkbox"/> No	30
2	29	<input type="checkbox"/> Yes <input type="checkbox"/> No	31
3	29	<input type="checkbox"/> Yes <input type="checkbox"/> No	32
4	29	<input type="checkbox"/> Yes <input type="checkbox"/> No	33
5	29	<input type="checkbox"/> Yes <input type="checkbox"/> No	34

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

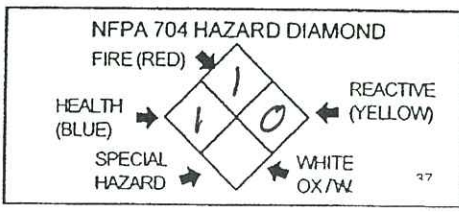
PLACARDING INFORMATION

UNDOT # _____ 33
 Refer to shipping papers or MSDS

DOT HAZARD CLASS _____ 34
 Refer to shipping papers or MSDS

EPCRA YES NO 35

X _____ 36
 If EPCRA, Please Sign Here



MAKE AS MANY COPIES OF CHEMICAL INVENTORY FORM AS NEEDED



Rose Tree Corporate Center
1400 N. Providence Rd., Suite 302
Media, PA 19063
484-234-5030 (Phone)
484-234-5037 (FAX)

Emergency: CHEMTREC 800-424-9300

MATERIAL SAFETY DATA SHEET

EF 34 Propylene Carbonate

SECTION 1: IDENTIFICATION

Product Name: PROPYLENE CARBONATE
Chemical Family: Organic carbonates
CAS Number: 108-32-7
Chemical Name: 4-Methyl, 1-3 Dioxolan-2-one
Synonyms: 1,2-Propanediolcyclic carbonate

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

Component Name	CAS #	EU Inventory	Concentration	Wt.%*	Risk Symbol
Propylene Carbonate	108-32-7	203-572-1	> 99.5	R36	XI

* Concentration of gaseous products or materials is given in Mole %
Compositions given are typical values not specifications.

SECTION 3: HAZARD IDENTIFICATION

Emergency Overview

This material is HAZARDOUS by OSHA Hazard Communication definition.

Signal Word
Caution.

Hazards
Slightly combustible liquid. Moderate eye irritant. Slight skin irritant. Decomposition hazard at elevated temperatures.
Health 1
Flammability 1
Reactivity 0

HMIS® NFPA®
1 0 1

Physical State
Liquid

Color
Colorless

Odor
Slight odor

Odor Threshold
No value available

MSDS PROPYLENE CARBONATE

Effective 5/06/04

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Potential Health Effects

Routes of Exposure

Skin, Eye Inhalation

Signs and Symptoms of Acute Exposure

See component summary.

- *Propylene Carbonate 108-32-7*
Moderate eye irritant. Contact may cause mild skin irritation. Not a skin absorption hazard. No inhalation hazard identified from data available. Not an ingestion hazard.

Skin
May produce skin irritation. Not expected to be a skin absorption hazard.

Inhalation
Although no appropriate human or animal health effects data are known to exist, this material is not expected to be an inhalation hazard.

Eye
May cause moderate irritation, including burning sensation, tearing, redness or swelling.

Ingestion
No significant signs or symptoms indicative of any health hazard are expected to occur as a result of ingestion.

Chronic Health Effects
See component summary.
- *Propylene Carbonate 108-32-7*
Repeated exposures to this material are not expected to result in systemic toxicity.

Conditions Aggravated by Exposure
Any pre-existing disorders or diseases of the eye.

SECTION 4: FIRST AID MEASURES

General
If you feel unwell, seek medical advice (show the label where possible).

Skin
Remove contaminated clothing as needed. Wash thoroughly with soap and water. Flush with lukewarm water for 15 minutes. If sticky, use waterless cleaner first. Seek medical attention if ill effect or irritation develops.

Inhalation
If overcome by exposure, remove victim to fresh air immediately. Give oxygen or artificial respiration as needed. Obtain emergency medical attention.

Eye
Thoroughly flush the eyes with large amounts of clean low-pressure water for at least 15 minutes, occasionally lifting the upper and lower eyelids. If irritation persists, seek medical attention.

Ingestion
If large quantity swallowed, give lukewarm water (pint/ 1/2 liter) if victim completely conscious/alert. Do not induce vomiting. Risk of damage to lungs exceeds poisoning risk. Obtain emergency medical attention.

Note to Physician
Treat symptomatically. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.

SECTION 5: FIRE FIGHTING MEASURES

Flammable Properties

Classification

OSHA/NFPA Class III-B combustible liquid.

Flash Point:

~ 108 °C (226.4 °F) (SETA)

Auto-ignition Temperature

~ 455 °C (851 °F)

Lower Flammable Limit

1.7 vol%

Upper Flammable Limit

32.5 vol%

Extinguishing Media

Suitable: SMALL FIRE: Use dry chemical, CO₂, water spray or regular foam. LARGE FIRE: Use water spray, water fog or regular foam. Do not use straight streams.

Unsuitable: No additional information available.

Protection of Firefighters

Protective Equipment/Clothing: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters protective clothing will only provide limited protection.

Fire Fighting Guidance: On exposure to high temperature, may decompose, releasing toxic/flammable vapors. When mixed with air and exposed to ignition source, vapors can burn in open or explode if confined. Vapors may be heavier than air. May travel long distances along the ground before igniting and flashing back to vapor source. May decompose and liberate gases if heated above 230°F. The presence of acids, bases, or salts may lower decomposition temperatures. Although this product is not explosive under anticipated conditions of normal use, over pressurization of un-vented containers may occur if exposed to excessive heat. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Move containers from fire area if you can do it without risk. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. Always stay away from tanks engulfed in fire.

Hazardous Combustion Products: Incomplete combustion can result in production of carbon monoxide, carbon dioxide, nitrogen oxides, bromide gases, and other toxic gases. Decomposition will result in the production of propylene oxide and carbon dioxide.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Release Response

Eliminate all sources of ignition. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.

SECTION 7: HANDLING AND STORAGE

Handling

For industrial use only. Follow standard plant procedures or supervisor's instructions for decontamination operations. Carefully vent any internal pressure before removing closure.

Storage

Store only in tightly closed, properly vented containers away from heat, sparks, open flame and strong oxidizing agents.
Store closed drums with bung in up position.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Engineering Controls

Both local exhaust and general room ventilation are usually required.

Personal Protection

Inhalation No occupational exposure limits has been developed for this material. A respiratory protection program that meets OSHA's 29 CFR 1910.134 or ANSI Z88.2 requirements must be followed whenever workplace conditions warrant respirator use.

Skin Wear chemical resistant gloves such as Neoprene. Protective clothing such as long sleeves or a lab coat should be worn. The equipment must be cleaned thoroughly after each use.

Eye protection such as chemical splash goggles and/or face shield must be worn when possibility exists for eye contact due to splashing or spraying liquid, airborne particles, or vapor.

Additional Remarks

Selection of appropriate personal protective equipment should be based on an evaluation of the performance characteristics of the protective equipment relative to the task(s) to be performed, conditions present, duration of use, and the hazards and/or potential hazards that may be encountered during use. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Use good personal hygiene practices. Promptly remove soiled clothing/wash thoroughly before reuse. Wash hands before eating, drinking, smoking, or using toilet facilities. Shower after work using plenty of soap and water.

Occupational Exposure Limits

Component Name	Source / Data	Value	Type	Notation
Propylene Carbonate	US (ACGIH) / 1998	N/L	No	
	US (OSHA) / 1998	N/L		

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Liquid. Colorless.

Odor: Slight odor.

Odor Threshold: No value available.

pH: 6.0 - 8.0 (10% in water).

Boiling Point/Boiling Range: -242 °C (467.6 °F) @ 760 mm Hg

Freezing Point/Melting Point: No Data Available.

Flash Point: -108 °C (226.4 °F) (SETA)

Auto-ignition: -456 °C (851 °F)

Flammability: OSHA/NFPA Class III B combustible liquid.

Lower Flammable Limit: 1.7 vol%

Upper Flammable Limit: 32.6 vol%

Explosive Properties: No Data Available.

Oxidizing Properties: No Data Available.

Vapor Pressure: ~ 0.03 mm Hg @ 20 °C (68 °F)

Evaporation Rate: < 0.005 (butyl acetate = 1)

Relative Density: ~ 1.2 - 1.21 @ 20 °C (68 °F)

Relative Vapor Density: No Data Available.

Viscosity: ~ 2.4 mPa.s @ 25 °C (77 °F) (Brookfield).

Solubility (Water): Appreciable (10 Percent or more).

Partition Coefficient (Kow): No Data Available.

Additional Physical and Chemical Properties: Volatile Characteristics: Slight: 0.1 to 1.0% Additional properties may be listed in Sections 3 and 5.

SECTION 10: STABILITY AND REACTIVITY

Chemical Stability

Stable.

Conditions to Avoid

Heat, sparks, open flame, other ignition sources, and oxidizing conditions. Propylene carbonate can decompose at high temperatures to propylene oxide and carbon dioxide causing high pressure rise if not properly vented.

Substances to Avoid

Peroxides. Strong acids. Strong bases. Strong oxidizing agents. Water.

Decomposition Products

Incomplete combustion can result in production of carbon monoxide, carbon dioxide, and other toxic gases. Decomposition will result in the production of propylene oxide and carbon dioxide. May decompose slowly in the presence of water to propylene glycol and gaseous carbon dioxide. Acids or bases can accelerate decomposition process.

Hazardous Polymerization

Not expected to occur.

Reactions with Air and Water

Not expected to occur.

SECTION 11: TOXICOLOGICAL INFORMATION**PRODUCT INFORMATION****Product Summary**

Propylene carbonate is practically non-toxic following acute exposure by oral, dermal or inhalation routes. Propylene carbonate is minimally irritating to skin and moderately irritating to the eye. Repeated exposure by oral, dermal or inhalation at the normal limits of testing did not result in toxicity. Propylene carbonate was not genotoxic in an in vitro (Ames) and an in vivo (micronucleus) assay, and did not cause skin tumors when applied dermally to mice for 2 years. Propylene carbonate did not cause developmental effects when administered to pregnant rats. No reproduction studies were found, but no effects on reproductive organs were seen in subchronic studies.

COMPONENT INFORMATION

□ Propylene Carbonate 108-32-7

Acute Toxicity - Lethal Doses

LC50 (Inhl),

Aerosol

Rat 1000 MG/M3 6 HOUR

LD50 (Oral) Rat > 5000 MG/KG

LD50 (Skin) Rabbit. > 3000 MG/KG

Irritation

Skin Contact may cause mild skin irritation. No adverse effects are expected.

Eye Moderate eye irritant. Effects of eye irritation are reversible.

Target Organ Effects

Eye Irritant.

Repeated Dose Toxicity

Repeated exposures to this material are not expected to result in systemic toxicity.

Reproductive Effects

This material has not been tested for effects on fertility, however, no effects on reproductive organs in animals were found in repeated exposure studies.

Developmental Effects

Results from animal studies demonstrate that this material is not a teratogen or toxic to the developing embryo or fetus.

Genetic Toxicity

Was not mutagenic in bacteria and did not cause chromosome damage in the mouse bone marrow cells in vivo.

Carcinogenicity

This material did not induce skin tumors following lifetime dermal exposure in mice. Not listed by IARC, NTP, or OSHA.

SECTION 12: ECOLOGICAL INFORMATION

PRODUCT INFORMATION

Ecotoxicity

This material is expected to be non-hazardous to aquatic species. See component summary.

Environmental Fate and Pathway

This material is expected to exist solely as a vapor in the ambient atmosphere. Expected to have high mobility in soils. Vapor-phase is degraded in the atmosphere by reaction with photochemically produced hydroxyl radicals. This material is expected to be readily biodegradable. This material is not expected to bioaccumulate. See component summary.

COMPONENT INFORMATION

□ Propylene Carbonate 108-32-7

Ecotoxicity

This material is expected to be non-hazardous to aquatic species.

Acute toxicity to fish

LC50 / 96 HOURS sheepshead minnow. > 1,000 mg/l

Acute toxicity to aquatic invertebrates

LC50 / 48 HOURS Marine copepod. > 1,000 mg/l

Toxicity to aquatic plants

Summary: No Data Available.

Toxicity to microorganisms

Summary: No Data Available.

Chronic toxicity to fish

Summary: No Data Available.

Chronic toxicity to aquatic invertebrates

Summary: No Data Available.

Environmental Fate and Pathway

This material is expected to exist solely as a vapor in the ambient atmosphere. Expected to have high mobility in soils. Vapor-phase is degraded in the atmosphere by reaction with photochemically produced hydroxyl radicals.

Persistence and Degradability

Stability in Soil: The Koc value suggests that this compound would be highly mobile if released onto soil and would not adsorb to suspended solids or sediments.

Biodegradation: This material is expected to be readily biodegradable. Abiotic degradation is expected.

Bioaccumulation: This material is not expected to bioaccumulate. BCF = 3.0

SECTION 13: DISPOSAL CONSIDERATIONS

Landfill solids at permitted sites. Use registered transporters. Burn concentrated liquids. Avoid flame-outs. Assure emissions comply with applicable regulations. Dilute aqueous waste may biodegrade. Avoid overloading/poisoning plant biomass. Assure effluent complies with applicable regulations.

SECTION 14: TRANSPORT INFORMATION

Proper Shipping Name

NON_REG PROPYLENE CARBONATE

SECTION 15: REGULATORY INFORMATION

Regulatory Status

Country Inventory

Australia AICS X

MSDS PROPYLENE CARBONATE

Effective 5/06/04

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Canada DSL X
Canada NDSL
China IECS X
European Union EINECS X
X = All components are included or are otherwise
exempt from inclusion on this inventory.
European Union ELINCS
European Union NLP
Japan ENCS X
Korea ECL X
Philippines PICCS X
United States TSCA X

If identified components of this product is listed under the TSCA 12(b) Export Notification rule; they will be listed below.

SARA 302/304

No chemicals in this material with known CAS numbers are subject to the reporting requirements of CERCLA.

SARA 311/312

Based upon available information, this material is classified as the following health and/or physical hazards according to Section 311 & 312:

Immediate (Acute) Health Hazard.

SARA 313

This material does not contain any chemical components with known CAS numbers that exceed the De Minimis reporting levels established by SARA Title III, Section 313 and 40 CFR 372.
Component Reporting Threshold

State Reporting

This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins under California Proposition 65 at levels which would be subject to the proposition.

Massachusetts Substances List (MSL) - Extraordinarily hazardous substances must be identified when present in materials at levels greater than state specified criterion. The criterion is $\geq 0.0001\%$. Hazardous Substances (MSL-HS) on the MSL must be identified when present in materials at greater than the state specified criterion. The criterion is $\geq 1\%$. Components with CAS numbers present in this material, at levels specified in Section 2 - Composition do not require reporting under the statute.

Special Hazardous Substances (PA-SHS) must be identified when present in materials at levels greater than the state specified criterion. The criterion is $\geq 0.01\%$. Hazardous Substances (PA-HS) must be identified when present in materials at levels greater than the state specified criterion. The criterion is $\geq 1\%$. Environmental Hazards (PA-EH) must be identified when present in materials at levels greater than the state specified criterion. The criterion is $\geq 0.01\%$.

Components with CAS numbers present in this material, at levels specified in Section 2 - Composition, do not require reporting under the statute.

SECTION 16: OTHER INFORMATION

DISCLAIMER OF RESPONSIBILITY

This document is generated for the purpose of distributing health, safety, and environmental data. It is not a specification sheet nor should any displayed data be construed as a specification. The information on this MSDS was obtained from sources that we believe are reliable. However, the information is provided without any warranty, expressed or implied, regarding its correctness. Some information presented and conclusions drawn herein are from sources other than direct test data on the substance itself. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage, or expense arising out of or in any way connected with handling, storage, use, or disposal of this product. If the product is used as a component in another product, this MSDS information may not be applicable.



HAZARDOUS MATERIALS INVENTORY FORM

FORM 3

ADD DELETE REVISED 1 Page _____ of _____ 2

FACILITY ID#	30035	38	BUSINESS NAME	IRON GRIP BARBELL CO.	3
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I. FACILITY INFORMATION

CHEMICAL LOCATION	11377 MARKON DR. GARDEN GROVE, CA. 92841				4
CONFIDENTIAL LOCATION EPCRA	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5	MAP #	1	6
			GRID #	D-4	7

II. CHEMICAL INFORMATION

CHEMICAL NAME	WASTE	TRADE SECRET
REACTANT BLACK	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

COMMON NAME	An EHS Chemical
REACTANT BLACK X95 AB	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

CAS #	FIRE CODE HAZARD CLASSES (supplied by GGFD)
PROPRIETARY	Class 3

TYPE (Check one item only)	RADIOACTIVE	CURIES
<input checked="" type="checkbox"/> a. PURE <input type="checkbox"/> b. MIXTURE <input type="checkbox"/> c. WASTE	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

PHYSICAL STATE (Check one item only)	FED HAZARD CATEGORIES
<input type="checkbox"/> a. SOLID <input checked="" type="checkbox"/> b. LIQUID <input type="checkbox"/> c. GAS	<input checked="" type="checkbox"/> a. FIRE <input type="checkbox"/> b. REACTIVE <input type="checkbox"/> c. PRESSURE RELEASE <input type="checkbox"/> d. ACUTE HEALTH <input type="checkbox"/> e. CHRONIC HEALTH

AVERAGE DAILY AMOUNT	MAXIMUM DAILY AMOUNT	ANNUAL WASTE AMOUNT	STATE WASTE CODE
2 lbs	24 lbs		

UNITS	DAYS ON SITE	LARGEST CONTAINER
<input checked="" type="checkbox"/> a. GALLONS <input type="checkbox"/> b. CUBIC FEET <input checked="" type="checkbox"/> c. POUNDS <input type="checkbox"/> d. TONS	365	55 GAL DRUM

STORAGE CONTAINER (Check all that apply)	a. ABOVEGROUND TANK	e. PLASTIC DRUM	i. VAT	m. CYLINDER	q. TANK WAGON
<input checked="" type="checkbox"/> d. STEEL DRUM	<input type="checkbox"/> b. UNDERGROUND TANK	<input type="checkbox"/> f. NONMETALLIC DRUM	<input type="checkbox"/> j. FIBER DRUM	<input type="checkbox"/> n. GLASS CONTAINER	<input type="checkbox"/> r. RAIL CAR
	<input type="checkbox"/> c. TANK INSIDE BLDG	<input type="checkbox"/> g. METAL CONTAINER	<input type="checkbox"/> k. BAG(S)	<input type="checkbox"/> o. PLASTIC CONTAINER	<input type="checkbox"/> s. TOTE BIN
	<input type="checkbox"/> h. CARBOY	<input type="checkbox"/> l. BOX(S)	<input type="checkbox"/> p. IN MACH OR EQUIP	<input type="checkbox"/> t. OTHER	

STORAGE PRESSURE	<input checked="" type="checkbox"/> a. AMBIENT <input type="checkbox"/> b. ABOVE AMBIENT <input type="checkbox"/> c. BELOW AMBIENT
------------------	--

STORAGE TEMPERATURE	<input checked="" type="checkbox"/> a. AMBIENT <input type="checkbox"/> b. ABOVE AMBIENT <input type="checkbox"/> c. BELOW AMBIENT <input type="checkbox"/> d. CRYOGENIC
---------------------	--

%WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1	29	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	32
2	29	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	32
3	29	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	32
4	29	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	32
5	29	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	32

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

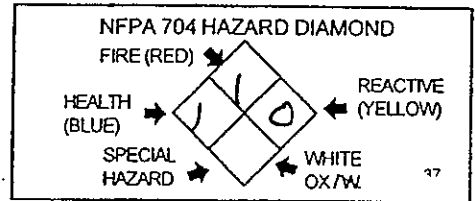
PLACARDING INFORMATION

UNDOT # _____ 33
Refer to shipping papers or MSDS

DOT HAZARD CLASS _____ 34
Refer to shipping papers or MSDS

EPCRA YES NO 35

X _____ 36
If EPCRA, Please Sign Here



MAKE AS MANY COPIES OF CHEMICAL INVENTORY FORM AS NEEDED

MATERIAL SAFETY DATA SHEET

Version: 1.1

Date:
08/03/2008



Safety Data Sheet Status: Released

1. PRODUCT AND COMPANY IDENTIFICATION

REACTINT® BLACK X95AB

Product Information: REACTINT® BLACK X95AB

Company Identification:

Milliken Chemical
P.O. Box P.O. Box 1926
Spartanburg, SC, 29303 USA
1-864-472-9041
msds@milliken.com



Emergency Telephone Number:

Chemtrec:
1-800-424-9300 (Chemtrec - US)
1-703-527-3887 (International)

2. HAZARDS IDENTIFICATION

Emergency Overview

This material is a concentrated colorant. The health hazards of this product should be low under normal industrial and commercial uses. Do not allow material to enter soil or surface water.

HFRP Rating

Health	1
Flammability	1
Reactivity	0
Personal protection	B

Eye	May cause eye irritation. Not known to cause permanent injury to eye tissue.
Inhalation	No information regarding inhalation available.
Skin	Prolonged or repeated skin contact may cause irritation. Not expected to be a skin irritant
Ingestion	Essentially non-toxic.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Product name	CAS Number	Amount
Proprietary Colorant Blend	Proprietary	100.0 %

MATERIAL SAFETY DATA SHEET

Version: 1.1

Date:
08/03/2008



Safety Data Sheet Status: Released

4. FIRST AID MEASURES

Eye	Flush thoroughly with water. If irritation occurs, get medical assistance.
Inhalation	Under normal conditions of intended use, this material is not expected to be an inhalation hazard. When breathing is difficult, properly trained personnel may assist affected person by administering 100% oxygen. Get medical attention if any discomfort continues.
Skin	Wash skin thoroughly with soap and water for several minutes. Immediately remove contaminated clothing. Get medical attention if any discomfort continues.
Ingestion	Give one or two glasses of water if patient is alert and able to swallow. Seek immediate medical attention. Do not induce vomiting.

5. FIRE-FIGHTING MEASURES

Fire Fighting Instructions	Use standard firefighting procedures and consider the hazards of other involved materials. Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Unusual Fire & Explosion Hazards	Decomposition may produce fumes, smoke, oxides of carbon and hydrocarbons.

6. ACCIDENTAL RELEASE MEASURES

Safety Advice	Non-hazardous substance. Wear appropriate personal protective equipment.
Spill Cleanup Methods	This material is a concentrated colorant. Do not allow material to enter soil or surface water. Dam and absorb spillage with sand, sawdust or other absorbent. In case of spills, beware of slippery floors and surfaces. Report spills as required to appropriate authorities.

7. HANDLING AND STORAGE

Handling	No specific hygiene procedures noted, but good personal hygiene practices are always advisable, especially when working with chemicals. Wash promptly with soap and water if skin becomes contaminated. Practice good housekeeping. Provide adequate ventilation if fumes or vapors are generated. Wash promptly if skin becomes contaminated. Avoid prolonged contact with skin or eyes.
Handling / Physical Hazards	Avoid extreme temperatures.

MATERIAL SAFETY DATA SHEET

Version: 1.1

Date:
08/03/2008



Safety Data Sheet Status: Released

Storage Precautions

Store in a cool, dry place with adequate ventilation. Keep away from incompatible materials, open flames, and high temperatures. Keep containers tightly closed.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls	No special requirements under ordinary conditions of use and with adequate ventilation.
Eye protection	Wear necessary protective equipment. Avoid contact with eyes and prolonged skin contact. Where contact with this material is likely, chemical goggles are recommended.
Skin and Body Protection	Wash promptly with soap and water if skin becomes contaminated. Wear protective gloves to minimize skin contamination. When prolonged or frequently repeated contact could occur, use protective clothing impervious to this material.
Personal protection	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.
Respiratory Protection	No protection is ordinarily required under normal conditions of use and with adequate ventilation.

9. PHYSICAL AND CHEMICAL PROPERTIES

State of Matter	Liquid
Color	Black
Odor	Mild
Specific Gravity	1.1
Volatiles	< 0.5 %
Solubility	Miscible
Boiling Point	> 100 °C
Melting Point	< 0 °C

10. STABILITY AND REACTIVITY

Conditions to Avoid	No special precautions are necessary beyond normal good hygiene practices. See Section 8 of the MSDS for additional personal protection advice when handling this product.
---------------------	--

MATERIAL SAFETY DATA SHEET

Version: 1.1

Date:
08/03/2008



Safety Data Sheet Status: Released

Hazardous Polymerization

Hazardous polymerization will not occur.

Hazardous decomposition products

Decomposition will not occur if handled and stored properly.

11. TOXICOLOGICAL INFORMATION

No data available.

12. ECOLOGICAL INFORMATION

No data available.

13. DISPOSAL CONSIDERATIONS

Disposal Recommendations

This material is a concentrated colorant. Avoid washing material into sewer systems without proper treatment and authorization by the treatment facility management. Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal. Recycle empty drums at an appropriate facility in accordance with current applicable laws and regulations, and product characteristics at time of disposal. Ensure drums are tightly sealed.

14. TRANSPORT INFORMATION

Transport classifications may vary by container volume and may be influenced by regional or country variations in regulations.

15. REGULATORY INFORMATION

Regulatory Lists Searched

Component

This material or all of its components are listed on the Inventory of Existing Chemical Substance under the Toxic Substance Control Act (TSCA).

16. OTHER INFORMATION

The information contained in this Material Safety Data Sheet is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of Milliken Chemical.



HAZARDOUS MATERIALS INVENTORY FORM

FORM 3

ADD

DELETE

REVISED 1

Page _____ of _____ 2

FACILITY ID# 3 0 0 3 5 38 BUSINESS NAME IRON GRIP BARBELL CO. 3

I. FACILITY INFORMATION

CHEMICAL LOCATION 11377 MARKON DR. GARDEN GROVE, CA. 92841 4

CONFIDENTIAL LOCATION EPCRA Yes No 5 MAP # 6 GRID # D-7 7

II. CHEMICAL INFORMATION

CHEMICAL NAME 4,4-DIPHENYLMETHANE WASTE Yes 8 TRADE SECRET Yes No 11
* If EPCRA see instructions

COMMON NAME RUBINATE 9 An EHS Chemical Yes No 12
* If EHS is "Yes", all amounts must be LBS

CAS # 101-68-8 10 FIRE CODE HAZARD CLASSES (supplied by GGFD) Class 3 13

TYPE (Check one item only) a. PURE b. MIXTURE c. WASTE 14 RADIOACTIVE Yes No 15 CURIES 16

PHYSICAL STATE (Check one item only) a. SOLID b. LIQUID c. GAS 17 FED HAZARD CATEGORIES a. FIRE b. REACTIVE c. PRESSURE RELEASE 18
 d. ACUTE HEALTH e. CHRONIC HEALTH

AVERAGE DAILY AMOUNT 500 19 MAXIMUM DAILY AMOUNT 1000 20 ANNUAL WASTE AMOUNT 21 STATE WASTE CODE 22

UNITS a. GALLONS b. CUBIC FEET 23 DAYS ON SITE 365 24 LARGEST CONTAINER 55 GAL DRUM. 25
 c. POUNDS d. TONS
* If EHS, amount must be in pounds.

STORAGE CONTAINER (Check all that apply) a. ABOVEGROUND TANK e. PLASTIC DRUM i. VAT m. CYLINDER q. TANK WAGON 26
 b. UNDERGROUND TANK f. NONMETALLIC DRUM l. FIBER DRUM n. GLASS CONTAINER r. RAIL CAR
 c. TANK INSIDE BLDG g. METAL CONTAINER o. PLASTIC CONTAINER s. TOTE BIN
 d. STEEL DRUM h. CARBOY j. BAG(S) p. IN MACH OR EQUIP t. OTHER

STORAGE PRESSURE a. AMBIENT b. ABOVE AMBIENT c. BELOW AMBIENT 27

STORAGE TEMPERATURE a. AMBIENT b. ABOVE AMBIENT c. BELOW AMBIENT d. CRYOGENIC 28

%WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1	29	<input type="checkbox"/> Yes <input type="checkbox"/> No 31	32
2	29	<input type="checkbox"/> Yes <input type="checkbox"/> No 31	32
3	29	<input type="checkbox"/> Yes <input type="checkbox"/> No 31	32
4	29	<input type="checkbox"/> Yes <input type="checkbox"/> No 31	32
5	29	<input type="checkbox"/> Yes <input type="checkbox"/> No 31	32

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

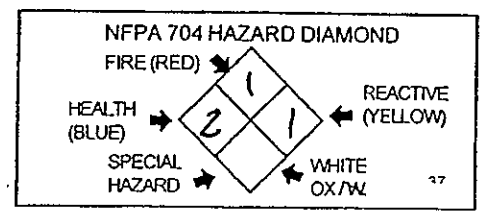
PLACARDING INFORMATION

UNDOT # _____ 33
Refer to shipping papers or MSDS

DOT HAZARD CLASS _____ 34
Refer to shipping papers or MSDS

EPCRA YES NO 35

X _____ 36
If EPCRA, Please Sign Here



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Material Safety Data Sheet

Section 1. Chemical Product and Company IdentificationProduct name **RUBINATE® 44**

MSDS#2280

Huntsman Polyurethanes (an international business unit of Huntsman International LLC.)

286 Mantua Grove Rd.
West Deptford, NJ 08066-1723

For Polyurethanes product information/assistance:

West Deptford: (800)257-5547

Auburn Hills: (800)553-8624

Canadian Office: (905)678-9150

In Case of Emergency:

Spills, Leaks, Fire or Exposure Call Chemtrec: (800) 424-9300

Medical Emergency Information: (800) 328-8501

Section 2. Composition, Information on Ingredients

Hazardous ingredients

	§	CAS#
4,4'-Diphenylmethane-Diisocyanate	97	101-68-8

* Occupational Exposure Limit(s), if available, are listed in section 8

Section 3. Hazards Identification

This material is classified as hazardous under OSHA Hazard Communication Standard (29 CFR 1910.1200).

Physical State and Appearance Liquid.

Emergency Overview Reacts slowly with water to produce carbon dioxide which may rupture closed containers. This reaction accelerates at higher temperatures.

Inhalation at levels above the occupational exposure limit could cause respiratory sensitization and risk of serious damage to respiratory system. The onset of the respiratory symptoms may be delayed for several hours after exposure. A hyper-reactive response to even minimal concentrations of diisocyanates may develop in sensitized persons.

Potential Acute Health Effects

Eyes Hazardous in case of eye contact (irritant).

Skin Hazardous in case of skin contact (irritant, sensitizer). Skin inflammation is characterized by itching, scaling or reddening.

Inhalation Hazardous in case of inhalation (lung irritant, lung sensitizer).

Ingestion Slightly hazardous in case of ingestion.

Medical Conditions Aggravated by Overexposure:

May cause or aggravate dermatitis and asthma.

GENERAL INFORMATION

Read the entire MSDS for a more thorough evaluation of the hazards.

Section 4 First Aid Measures

Eye Contact	Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.
Skin Contact	Remove contaminated clothing. After contact with skin, wash immediately with plenty of warm soapy water. If symptoms develop, obtain medical attention. Contaminated clothing should be thoroughly cleaned. An MDI study has demonstrated that a polyglycol-based skin cleanser or corn oil may be more effective than soap and water.
Inhalation	Remove patient from exposure, keep warm and at rest. Obtain immediate medical attention. Treatment is symptomatic for primary irritation or bronchospasm. If breathing is labored, oxygen should be given by administered by qualified personnel. Apply artificial respiration if breathing has ceased or shows signs of failing.
Ingestion	Do not induce vomiting. Provided the patient is conscious, wash out mouth with water. Obtain immediate medical attention.
Notes to Physician	Symptomatic and supportive therapy as needed. Following severe exposure medical follow-up should be monitored for at least 48 hours.

Section 5. Fire Fighting Measures

Auto-ignition Temperature	>600 °C
Flash Points	Closed cup: >110°C (230°F).
Flammable Limits	Not available.
Products of Combustion	Carbon Monoxide, Carbon Dioxide, Nitrous Oxide and HCN.
Fire Fighting Media and Instructions	SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.
Protective Clothing (Fire)	Splash goggles. Full suit. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product.
Special Remarks on Fire Hazards	Reacts slowly with water to produce carbon dioxide which may rupture closed containers. This reaction accelerates at higher temperatures.

Section 6. Accidental Release Measures

For major spills call Chemtrec (800-424-9300).

See Safety Data Sheet section 8 Personal protective equipment

Small Spill and Leak	Clean-up should only be performed by trained personnel. People dealing with major spillages should wear full protective clothing including appropriate respiratory protection. Evacuate the area. Prevent further leakage, spillage or entry into drains.
Large Spill and Leak	Contain and absorb large spillages onto an inert, non-flammable adsorbent carrier (such as earth or sand). Shovel into open-top drums or plastic bags for further decontamination, if necessary. Wash the spillage area clean with liquid decontaminant. Test atmosphere for MDI. Neutralize small spillages with decontaminant. Remove and properly dispose of residues. (See Section 13 for disposal considerations.) Notify applicable government authorities if release is reportable. The CERCLA RQ for 4,4-MDI is 5,000 lbs (see CERCLA in Section 15).

Decontaminant

Preparation of Decontamination Solution: Prepare a decontamination solution of 0.2-0.5% liquid detergent and 3-8% concentrated ammonium hydroxide in water (5-10% sodium carbonate may be substituted for the ammonium hydroxide). Follow the precautions on the supplier's material safety data sheets when preparing and using solution. Use of Decontamination Solution: Allow deactivated material to stand for at least 30 minutes before shoveling into drums. Do not tighten the bungs. Mixing with wet earth is also effective, but slower.

Section 7: Handling and Storage**Handling**

Avoid personal contact with the product or reaction mixture. Use only with adequate ventilation to ensure that the occupational exposure limit is not exceeded. The efficiency of the ventilation system must be monitored regularly because of the possibility of blockage. Avoid breathing aerosols, mists and vapors. (See Section 8--Exposure Control for details.)

Storage

Keep containers properly sealed and when stored indoors, in a well ventilated area. Keep contents away from moisture. Due to reaction with water, producing CO₂-gas, a hazardous build-up of pressure could result if contaminated containers are re-sealed. Do not reseal contaminated containers. Uncontaminated containers, free of moisture, may be resealed only after placing under a nitrogen blanket. Do not store in containers made of copper, copper alloys or galvanized surfaces.

Ideal storage temperature is 16-38°C (60-100°F).

Keep stocks of decontaminant (See Section 6) readily available.

Section 8: Exposure Controls, Personal Protection**Preventive Measures**

Conditions of use, adequacy of engineering or other control measures, and actual exposures will dictate the need for specific protective devices at your workplace.

Engineering Controls

Use local exhaust ventilation to maintain airborne concentrations below the TLV. Suitable respiratory equipment should be used in cases of insufficient ventilation or where operational procedures demand it. For guidance on engineering control measures refer to publications such as the ACGIH current edition of 'Industrial Ventilation, a manual of Recommended Practice.'

Personal Protection

Eyes Chemical safety goggles. If there is a potential for splashing, use a full face shield.

Body and Hands The following protective materials are recommended: Gloves - neoprene, nitrile rubber, butyl rubber. Thin latex disposable gloves should be avoided for repeated or long term use. Protective clothing should be selected and used in accordance with 'Guidelines for the Selection of Chemical Protective Clothing' published by ACGIH.

Respiratory When the product is sprayed or heated without adequate ventilation, an approved MSHA/NIOSH positive-pressure, supplied-air respirator may be required. Air purifying respirators equipped with organic vapor cartridges and a HEPA (P100) particulate filter may be used under certain conditions when a cartridge change-out schedule has been developed in accordance with the OSHA respiratory protection standard (29 C.F.R. 1910.134).

**Protective Clothing
(Pictograms)**



**Personal Protection in
Case of a Large Spill**

Splash goggles. Full suit. Vapor respirator or a self-contained breathing apparatus. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Product Name

4,4-Diphenylmethane Diisocyanate

Exposure Limits

ACGIH TLV	0.05 mg/m ³ (8-hour, 40 hours/week)
OSHA PEL Ceiling Limit	0.20 mg/m ³
NIOSH REL/TWA	0.05 mg/m ³ (10-hour, 40 hours/week)
NIOSH REL/CEILING	0.20 mg/m ³ (10-minute)

**Exposure
controls/personal
protection**

Medical supervision of all employees who handle or come in contact with respiratory sensitizers is recommended. Persons with respiratory problems including asthmatic-type conditions, chronic bronchitis, other chronic respiratory diseases or recurrent skin eczema or skin allergies should be evaluated for their suitability of working with this product. Once a person is diagnosed as sensitized, no further exposure to the material that caused the sensitization should be permitted.

The Occupational Exposure limits do not apply to previously sensitized individuals.

Section 9. Physical and Chemical Properties

Physical State and Appearance	Liquid.
Odor	slightly musty
pH	Not applicable.
Boiling/Condensation Point	>300 °C decomposes
Melting/Freezing Point	Not available.
Vapor Density	8.5
Evaporation Rate	Not available.

RUBINATE® 44

HUNTSMAN

Flash Points Closed cup: >110°C (230°F).

Section 10. Stability and Reactivity

Stability and Reactivity Stable at room temperature.

Conditions of Instability Avoid high temperatures. Avoid freezing.

Incompatibility with Various Substances Not available.

Hazardous Decomposition Products Carbon Monoxide, Carbon Dioxide, Nitrous Oxide and HCN.

Hazardous Polymerization Polymerization may occur at elevated temperatures in the presence of alkalis, tertiary amines and metal compounds.

Section 11. Toxicological Information

Toxicity to Animals LD50 Rat Oral: > 5000 mg/kg
LD50 Rabbit Dermal: > 5000 mg/kg

Inhalation This product is a respiratory irritant and potential respiratory sensitizer. Repeated inhalation of vapor or aerosol at levels above the occupational exposure limit could cause respiratory sensitization. Symptoms may include irritation to the eyes, nose, throat, and lungs, possibly combined with dryness of the throat, tightness of chest and difficulty in breathing. The onset of the respiratory symptoms may be delayed for several hours after exposure. A hyper-reactive response to even minimal concentrations of MDI may develop in sensitized persons.

Skin Contact Moderate irritant. Repeated and/or prolonged contact may cause skin sensitization. There is limited evidence from animal studies that skin contact may play a role in respiratory sensitization. These results emphasize the need for protective clothing including gloves to be worn at all times when handling these chemicals or in maintenance work.

Eye Contact The vapor, aerosol, and liquid are irritant.

Ingestion Ingestion may cause irritation of the gastrointestinal tract. Based on the acute oral LD50 this product is considered practically non-toxic by ingestion.

Carcinogenic Effects The ingredients of this product are not classified as carcinogenic by ACGIH or IARC, not regulated as carcinogens by OSHA, and not listed as carcinogens by NTP.

Mutagenic Effects There is no substantial evidence of mutagenic potential.

Reproductive Effects No adverse reproductive effects are anticipated.

Teratogenic effects No birth defects were seen in two independent animal (rat) studies. Fetotoxicity was observed at doses that were extremely toxic (including lethal) to the mother. Fetotoxicity was not observed at doses that were not maternally toxic. The doses used in these studies were maximal respirable concentrations well in excess of the defined occupational limits.

Remark A study was conducted where groups of rats were exposed for 6 hours/day, 5 days/week for a lifetime to atmospheres of respirable polymeric MDI aerosol at concentrations of 0, 0.2, 1 or 6 mg/m³. No adverse effects were observed at 0.2 mg/m³. At the 1 mg/m³ concentration, minimal nasal and lung irritant effects were seen. Only at the top concentration (6.0 mg/m³) was there an increased incidence of a benign tumor of the lung (adenoma). One malignant pulmonary tumor (adenocarcinoma) was seen in the 6.0 mg/m³ group. MDI administration to rats in this study did not change the distribution and incidence of tumors from those seen in control animals. The increased incidence of lung tumors is associated with prolonged respiratory irritation and the concurrent accumulation of yellow material in the lung. In the absence of prolonged exposure to high concentrations leading to chronic irritation and lung damage, it is highly unlikely that tumor formation will occur. (MDI)

There are reports that chronic exposure to diisocyanates by inhalation may result in permanent decreases in lung function.

Section 12. Ecological Information

Ecotoxicity Polymeric MDI. LC50 (Zebra Fish) > 1000 mg/l . EC50 (Daphnia magna) (24 hour) > 1000 mg/l EC50 (E. Coli) > 100 mg/l

Environmental Fate and Distribution It is unlikely that significant environmental exposure in the air or water will arise based on consideration of the production and use of the substance.

Persistence and Degradation Immiscible with water, but will react with water to produce inert and non-biodegradable solids.

Section 13. Disposal Considerations

Waste Information The generation of waste should be avoided or minimized wherever possible.

Disposal should be in accordance with local, state, provincial or national regulations. This material is not a hazardous waste under RCRA 40 CFR 261. Small quantities should be treated with a decontaminant solution (See Section 6). The treated waste is not a hazardous material under RCRA 40 CFR 261. Chemical waste, even small quantities, should never be poured down drains, sewers or waterways.

Empty containers should be decontaminated and either passed to an approved drum recycler or destroyed.



Section 14. Transport Information

Transportation Emergency Number 1-800-424-9300 (CHEMTREC).

DOT Classification Single containers less than 5,000 lbs. are not regulated. Single containers with 5,000 lbs. or more of 4,4'-Methylene Diphenyl Diisocyanate are regulated as: Other Regulated Substances, Liquid, N.O.S. (Methylene Diphenyl Diisocyanate), 9, NA3082, PGIII, RQ.

TDG Classification Not regulated.

IMO/IMDG Classification Not regulated.

ICAO/IATA Classification Not regulated.

Section 15. Regulatory Information

U.S. Federal Regulations

This material is classified as hazardous under OSHA Hazard Communication Standard (29 CFR 1910.1200).

HCS Classification Toxic material
 Irritating material
 Sensitizing material

TSCA 8(b) inventory: All Ingredients Listed.

EPCRA Section 313 (40 CFR 372)
 Diisocyanate Compounds (Category Code N120) 97.43%

EPCRA Section 313 (40 CFR 372) CERCLA (Comprehensive Environmental Response, Compensation and Liability Act): 4,4-Methylene diphenyl diisocyanate (CAS 101-68-8) has a 5,000 lb. RQ (reportable quantity). Any spill or release above the RQ must be reported to the National Response Center (800-424-8802).

This product does not contain nor is it manufactured with ozone depleting substances.

State Regulations California prop. 65: No ingredients listed.

Canadian Regulations

This product has been classified in accordance with the hazard criteria of the CPR (Controlled Products Regulations) and this MSDS (Material Safety Data Sheet) contains all the information required by the CPR.

HUNTSMAN

Page: 9/9
Date: 3/15/2004.
RUBINATE® 44

WHMIS (Canada) Class D-1A: Material causing immediate and serious toxic effects (VERY TOXIC).
Class D-2A: Material causing other toxic effects (VERY TOXIC).
Class D-2B: Material causing other toxic effects (TOXIC).

CEPA DSL: All Ingredients Listed.

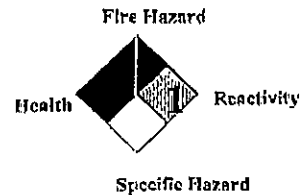
Section 16 Other Information

CAUSES DAMAGE TO THE FOLLOWING ORGANS: LUNGS, RESPIRATORY TRACT, SKIN, EYES. MAY BE HARMFUL IF INHALED. MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION. MAY CAUSE ALLERGIC RESPIRATORY AND SKIN REACTION.

Hazardous Material
Information System
(U.S.A.)

Health	2
Fire Hazard	1
Reactivity	1

National Fire
Protection
Association
(U.S.A.)



Trademarks:

RUBINATE® is a registered trademark of Huntsman LLC or an affiliate thereof in one or more countries, but not all countries.

Notice to Reader

While the information and recommendations in this publication are to the best of our knowledge, information and belief accurate at the date of publication, **NOTHING HEREIN IS TO BE CONSTRUED AS A WARRANTY, EXPRESS OR OTHERWISE.**

IN ALL CASES, IT IS THE RESPONSIBILITY OF THE USER TO DETERMINE THE APPLICABILITY OF SUCH INFORMATION AND RECOMMENDATIONS AND THE SUITABILITY OF ANY PRODUCT FOR ITS OWN PARTICULAR PURPOSE.

THE PRODUCT MAY PRESENT HAZARDS AND SHOULD BE USED WITH CAUTION. WHILE CERTAIN HAZARDS ARE DESCRIBED IN THIS PUBLICATION, NO GUARANTEE IS MADE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.

Hazards, toxicity, and behavior of the products may differ when used with other materials and are dependent upon the manufacturing circumstances or other processes. Such hazards, toxicity and behavior should be determined by the user and made known to handlers, processors and end users.

Verified by newhdm.

Printed 3/15/2004.



HAZARDOUS MATERIALS INVENTORY FORM

FORM 3

ADD DELETE REVISED 1 Page _____ of _____ 2

FACILITY ID#	3 0 0 3 5	38	BUSINESS NAME	IRON GRIP BARBELL CO.	3
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I. FACILITY INFORMATION

CHEMICAL LOCATION	11377 MARKON DR. GARDEN GROVE, CA. 92841				4
CONFIDENTIAL LOCATION EPCRA	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5	MAP #	1	6
			GRID #	D-3	7

II. CHEMICAL INFORMATION

CHEMICAL NAME	PAINT REMOVER		WASTE	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	8	TRADE SECRET	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	11
COMMON NAME	SAFE STRIP G				9	An EHS Chemical	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	12
CAS #	872-50-4	10	FIRE CODE HAZARD CLASSES (supplied by GGFD)			*If EHS is "Yes", all amounts must be LBS		

TYPE (Check one item only)	<input type="checkbox"/> a. PURE <input checked="" type="checkbox"/> b. MIXTURE <input type="checkbox"/> c. WASTE	14	RADIOACTIVE	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	15	CURIES		16
PHYSICAL STATE (Check one item only)	<input type="checkbox"/> a. SOLID <input checked="" type="checkbox"/> b. LIQUID <input type="checkbox"/> c. GAS	17	FED HAZARD CATEGORIES	<input checked="" type="checkbox"/> a. FIRE <input type="checkbox"/> b. REACTIVE <input type="checkbox"/> c. PRESSURE RELEASE <input type="checkbox"/> d. ACUTE HEALTH <input checked="" type="checkbox"/> e. CHRONIC HEALTH				18

AVERAGE DAILY AMOUNT	2 lbs	19	MAXIMUM DAILY AMOUNT	3 lbs	20	ANNUAL WASTE AMOUNT	0	21	STATE WASTE CODE	22
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UNITS	<input checked="" type="checkbox"/> a. GALLONS <input type="checkbox"/> b. CUBIC FEET <input type="checkbox"/> c. POUNDS <input type="checkbox"/> d. TONS	23	DAYS ON SITE	365	24	LARGEST CONTAINER	55 GAL DRUM	25
-------	---	----	--------------	-----	----	-------------------	-------------	----

STORAGE CONTAINER (Check all that apply)	<input type="checkbox"/> a. ABOVEGROUND TANK <input type="checkbox"/> b. UNDERGROUND TANK <input type="checkbox"/> c. TANK INSIDE BLDG <input type="checkbox"/> d. STEEL DRUM <input checked="" type="checkbox"/> e. PLASTIC DRUM <input type="checkbox"/> f. NONMETALLIC DRUM <input type="checkbox"/> g. METAL CONTAINER <input type="checkbox"/> h. CARBOY <input type="checkbox"/> i. VAT <input type="checkbox"/> j. FIBER DRUM <input type="checkbox"/> k. BAG(S) <input type="checkbox"/> l. BOX(S) <input type="checkbox"/> m. CYLINDER <input type="checkbox"/> n. GLASS CONTAINER <input type="checkbox"/> o. PLASTIC CONTAINER <input type="checkbox"/> p. IN MACH OR EQUIP <input type="checkbox"/> q. TANK WAGON <input type="checkbox"/> r. RAIL CAR <input type="checkbox"/> s. TOTE BIN <input type="checkbox"/> t. OTHER	26
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STORAGE PRESSURE	<input checked="" type="checkbox"/> a. AMBIENT <input type="checkbox"/> b. ABOVE AMBIENT <input type="checkbox"/> c. BELOW AMBIENT	27
STORAGE TEMPERATURE	<input checked="" type="checkbox"/> a. AMBIENT <input type="checkbox"/> b. ABOVE AMBIENT <input type="checkbox"/> c. BELOW AMBIENT <input type="checkbox"/> d. CRYOGENIC	28

%WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1 95	N-METHYL-2-PYRROLIDONE	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	872-50-4
2 5	TRIETHANOLAMINE	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	102-71-6
3		<input type="checkbox"/> Yes <input type="checkbox"/> No	
4		<input type="checkbox"/> Yes <input type="checkbox"/> No	
5		<input type="checkbox"/> Yes <input type="checkbox"/> No	

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

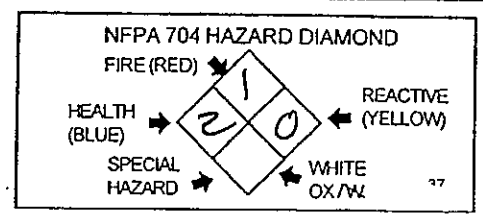
PLACARDING INFORMATION

UNDOT # _____ 33
Refer to shipping papers or MSDS

DOT HAZARD CLASS _____ 34
Refer to shipping papers or MSDS

EPCRA YES NO 35

X _____ 36
If EPCRA, Please Sign Here



MAKE AS MANY COPIES OF CHEMICAL INVENTORY FORM AS NEEDED

Material Safety Data Sheet



Safe Strip G Environmentally Preferred Paint & Coating Remover Gel

Rev. 06/06/2007

2177A Flintstone Drive
TUCKER, GA 30084
www.ecolink.com
email: info@ecolink.com
800/886-8240 or
770/621-8240 (9-5 EST)

FOR CHEMICAL EMERGENCY
Call INFOTRAC
800/535-5053 (24 HOURS)

Section I: Product Identification

Product name: Safe Strip G
Synonym: Hydrocarbon-Based Paint
& Coating Remover
Molecular Formula: Proprietary Blend

The "Plain English" Section

Material Safety Data Sheets can be confusing. Federal law requires us to print a great deal of technical information, which probably won't help the non-scientist. ECOLINK includes this "PLAIN ENGLISH" section, written to address the questions and concerns of the average person. If you have additional health, safety or product questions, don't hesitate to call us at 800/886-8240.

Health Hazards: SAFE STRIP G is an industrial chemical. We call it "environmentally preferred" because it is intended to replace products that are more hazardous, (1,1,1 trichloroethane, mineral spirits, MEK, etc.). This does not mean that it is completely harmless. It is strong enough to remove tough industrial soils, so it can irritate your skin. We suggest you wear gloves, and avoid extended exposure to unprotected skin. Don't get it in your eyes, or breath large amounts of the vapor, (it will dry out your nasal passages). Used on a rag or from a spray bottle, the product won't produce fumes in any great quantity, (don't spray this material under high pressure without adequate ventilation). For more exposure and first aid information, please read through this MSDS.

Flashpoint: SAFE STRIP G's flashpoint is over 200° F. This represents the temperature that the liquid must reach before it emits fumes that will ignite. This is pretty hot, so combustion in ordinary use isn't a big concern. If SAFE STRIP G is used on rags, the rags can ignite if exposed to an open flame because the solvent is "wicked" onto the cloth. Be sure to dispose of rags in an airtight container specifically designed to prevent spontaneous combustion. Don't use this or any other combustible solvent around welding or any other hot work area.

Disposal: Contaminated SAFE STRIP G may be considered a hazardous waste. Once it is contaminated with whatever you are cleaning, the resulting mixture may fall under various other hazardous classifications, depending on whether or not the material you are cleaning is hazardous. If you aren't sure how to dispose of this material, give us a call and we will help you make the right decisions.

Section II: Chemical or Hazardous Components

Chemical Name	*N-Methyl-2-Pyrrolidone (NMP)
CAS No.	872-50-4
Approx. wt. %	90-95%
Exposure	ACGIH-TLV – N/E OSHA-PEL – N/E

Chemical Name	Triethanolamine
CAS No.	102-71-6
Approx. wt. %	5-8%
Exposure	ACGIH-TLV – N/E

ALL MATERIALS IN PRODUCT ARE TSCA LISTED

RCRA REGULATED:	No
CERCLA (superfund):	N/A
DOT Regulated:	No
DOT Haz. Class:	N/A
DOT Shipping Name:	N/A
DOT Number:	N/A
SARA Title III Section 312:	Acute Health Hazard
SARA Title III Section 313	NMP (CAS # 872-50-4) 1% Reporting threshold

Section III: Physical Data

Boiling Point:	200°F
Specific Gravity:	1.03
Vapor Pressure (mm Hg@ 68°F):	<0.3
Melting Point:	None to -20°C
Vapor Density (AIR=1):	>3.0
Evaporation Rate (nBuAc = 1):	~0.03
Solubility In Water:	Complete
Appearance & Odor:	Thick clear liquid, sweet odor.

Section IV: Fire and Explosion Hazard Data

Flash Point (Method):
Bulk Liquid (TCC) over 200°F

Explosive limits: N/E

Extinguishing Media:
Water spray, alcohol foam, dry chemical or carbon dioxide.

Special Fire Fighting Procedures:
Firefighters should wear positive pressure, self-contained breathing apparatus with full-face piece. Cool fire exposed containers with water spray.

Unusual Fire & Explosion Hazards:
Combustible liquid. Fire hazard when exposed to heat or flame.

Section V: Reactivity Data

Stability: Stable

Conditions to Avoid:
Heat, fire, and ignition sources.

Hazardous Decomposition:
Carbon monoxide, carbon dioxide, oxides of nitrogen, smoke.

Hazardous Polymerization:
Will not occur.

Section VI: Health Hazard Data

Primary Routes of Exposure:
Oral, inhalation, & skin

Ingestion:
Swallowing large amounts may be harmful by causing gastrointestinal irritation.

Inhalation:
Nose, throat, and respiratory tract irritation.

Eyes:
Irritant. Liquid contact will irritate eyes and may cause stinging, tearing, and redness.

Skin or Contact:
Causes irritation, redness, and burning.

First Aid:

Ingestion: Seek medical attention immediately. If individual is drowsy or unconscious, do not give anything by mouth; place individual on left side with head down. Give victim water if they are conscious and alert. Contact medical facility or Poison Control Center.

Inhalation: Remove to fresh air. If breathing is difficult, give oxygen. Keep person warm and quiet. Seek medical attention.

Eyes: Irrigate immediately with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get medical attention if irritation persists..

Skin: Wash off in flowing water or shower using soap and water. Remove contaminated clothing and shoes and thoroughly clean before reuse.

Carcinogen: NTP – Not Listed
IARC Monographs – None
OSHA REGS – Not Regulated

Section VII: Precautions for Safe Handling

HMIS Information:
Health – 2 / Reactivity – 0
Flammability – 1 Personal Protection – B

HMIS Definition:
0 – Minimal 1 – Slight 2 – Moderate 3 – Serious 4 – Extreme
"/" in the Health Category denotes material does not target any major organs.
"/" in the Health Category denotes material may target certain organs.

Eye Protection:
Safety glasses and splash protection or chemical goggles are recommended.

Protective Gloves:
Butyl rubber gloves are recommended. Gloves should be checked for deterioration on a regular basis.

Respiratory Protection:
None required under normal use conditions.

Ventilation: Local exhaust/hood or fan may be used. Set to maintain below TLV. Mechanical/none required.

Other Protective Clothing: Chemical apron and rubber boots may be required if splashing is likely to occur..

Work Practices: Use with adequate ventilation. Wash hands after use.

Section VIII: Control Measures

Spills: Remove all sources of ignition. Absorb liquid with earth, sand or similar inert material and dispose of with solid waste according to federal, state and local regulations. Flush spill area with water.

Waste Disposal Method: This material should be disposed of in compliance with state and federal regulations.

Precautions To Be Taken In Handling & Storing: Avoid contact with eyes and skin. Wash thoroughly after handling. Avoid breathing mist or vapor. Use with adequate ventilation. Keep container and vapors away from heat and flame. Keep container closed when not in use.

Other Precautions: Keep this and all chemicals out of the reach of children.

Section IX: Part Number and Packaging

<u>Product Name</u>	<u>Part No.</u>	<u>Packaging</u>	<u>National Stock No.</u>
Safe Strip G	0389-55	55 Gal Drum	6850-01-454-6500
Safe Strip G	0389-5	5 Gal Pail	6850-01-454-6489
Safe Strip G	0389-1	4 x 1 Gal Case	
Safe Strip G	0389-66	12 Pt. Case	

DISCLAIMER: Ecolink, Inc. believes the information contained herein is accurate. However, Ecolink makes no warranty, expressed or implied, regarding the accuracy of this data or the results to be obtained by the use thereof. Ecolink, Inc. assumes no responsibility for injury from the use of the product described herein.

END OF MSDS



HAZARDOUS MATERIALS INVENTORY FORM

FORM 3

ADD DELETE REVISED 1 Page _____ of _____ 2

FACILITY ID#	3 0 0 3 5	38	BUSINESS NAME	IRON GRIP BARBELL CO.	3
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I. FACILITY INFORMATION

CHEMICAL LOCATION	11377 MARKON DR. GARDEN GROVE, CA. 92841				4
CONFIDENTIAL LOCATION EPCRA	<input type="checkbox"/> Yes <input type="checkbox"/> No	5	MAP #	1	6
			GRID #	??	7

II. CHEMICAL INFORMATION

CHEMICAL NAME	DIPROPYLENE GLYCOL		WASTE	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	8	TRADE SECRET	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	11													
COMMON NAME	JEFFCAT D33A		* If EPCRA see instructions		9	An EHS Chemical	<input type="checkbox"/> Yes <input type="checkbox"/> No	12													
CAS #	10	FIRE CODE HAZARD CLASSES (supplied by GGFDD)		13		"If EHS is "Yes", all amounts must be LBS															
TYPE (Check one item only)	<input type="checkbox"/> a. PURE	<input checked="" type="checkbox"/> b. MIXTURE	<input type="checkbox"/> c. WASTE	14	RADIOACTIVE	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	15	CURIES	16												
PHYSICAL STATE (Check one item only)	<input type="checkbox"/> a. SOLID	<input checked="" type="checkbox"/> b. LIQUID	<input type="checkbox"/> c. GAS	17	FED HAZARD CATEGORIES	<input checked="" type="checkbox"/> a. FIRE	<input type="checkbox"/> b. REACTIVE	<input type="checkbox"/> c. PRESSURE RELEASE	18												
						<input type="checkbox"/> d. ACUTE HEALTH	<input type="checkbox"/> e. CHRONIC HEALTH														
AVERAGE DAILY AMOUNT	2 lbs	19	MAXIMUM DAILY AMOUNT	24 lbs	20	ANNUAL WASTE AMOUNT	21	STATE WASTE CODE	22												
UNITS	<input type="checkbox"/> a. GALLONS	<input type="checkbox"/> b. CUBIC FEET	<input checked="" type="checkbox"/> c. POUNDS	<input type="checkbox"/> d. TONS	23	DAYS ON SITE	365	24	LARGEST CONTAINER	25											
	* If EHS, amount must be in pounds.							55 GAL DRUM													
STORAGE CONTAINER (Check all that apply)	<input type="checkbox"/> a. ABOVEGROUND TANK	<input type="checkbox"/> b. UNDERGROUND TANK	<input type="checkbox"/> c. TANK INSIDE BLDG	<input checked="" type="checkbox"/> d. STEEL DRUM	<input type="checkbox"/> e. PLASTIC DRUM	<input type="checkbox"/> f. NONMETALLIC DRUM	<input type="checkbox"/> g. METAL CONTAINER	<input type="checkbox"/> h. CARBOY	<input type="checkbox"/> i. VAT	<input type="checkbox"/> j. FIBER DRUM	<input type="checkbox"/> k. BAG(S)	<input type="checkbox"/> l. BOX(S)	<input type="checkbox"/> m. CYLINDER	<input type="checkbox"/> n. GLASS CONTAINER	<input type="checkbox"/> o. PLASTIC CONTAINER	<input type="checkbox"/> p. IN MACH OR EQUIP	<input type="checkbox"/> q. TANK WAGON	<input type="checkbox"/> r. RAIL CAR	<input type="checkbox"/> s. TOTE BIN	<input type="checkbox"/> t. OTHER	26
STORAGE PRESSURE	<input checked="" type="checkbox"/> a. AMBIENT	<input type="checkbox"/> b. ABOVE AMBIENT	<input type="checkbox"/> c. BELOW AMBIENT	27																	
STORAGE TEMPERATURE	<input checked="" type="checkbox"/> a. AMBIENT	<input type="checkbox"/> b. ABOVE AMBIENT	<input type="checkbox"/> c. BELOW AMBIENT	<input type="checkbox"/> d. CRYOGENIC	28																

%WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
65	DIPROPYLENE GLYCOL	<input type="checkbox"/> Yes <input type="checkbox"/> No	25265-71-8
35	TRIETHYLENE DIAMINE	<input type="checkbox"/> Yes <input type="checkbox"/> No	280-579
		<input type="checkbox"/> Yes <input type="checkbox"/> No	
		<input type="checkbox"/> Yes <input type="checkbox"/> No	
		<input type="checkbox"/> Yes <input type="checkbox"/> No	

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

PLACARDING INFORMATION

UNDOT #	33	
Refer to shipping papers or MSDS		
DOT HAZARD CLASS	34	
Refer to shipping papers or MSDS		
EPCRA <input type="checkbox"/> YES <input type="checkbox"/> NO	35	
X	36	
Refer to shipping papers or MSDS		

MAKE AS MANY COPIES OF CHEMICAL INVENTORY FORM AS NEEDED

HUNTSMAN

MATERIAL SAFETY DATA SHEET

READ AND UNDERSTAND MATERIAL SAFETY DATA SHEET BEFORE HANDLING OR DISPOSING OF PRODUCT

MSDS CODE AND NAME	: JCTD33A	JEFFCAT® TD-33A
DATE ISSUED	: 7/1/2004	
DATE PRINTED	: 2/14/2005	

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MATERIAL IDENTITY

MSDS CODE AND NAME

JCTD33A JEFFCAT® TD-33A

Chemical Name and/or Family or Description:

Urethane catalyst - tertiary amine in glycol

COMPANY INFORMATION

Huntsman Petrochemical Corporation
P.O. Box 4980
The Woodlands, TX 77387-4980

TELEPHONE NUMBERS

Transportation Emergency
Company: (409) 727-0831
CHEMTREC: (800) 424-9300
Medical Emergency: (409) 722-9673 (24 Hour)
General MSDS Assistance: (281) 719-6432
Technical Information: (512) 459-6543

2. COMPOSITION AND INFORMATION ON INGREDIENTS

THE CRITERIA FOR LISTING COMPONENTS IN THE COMPOSITION SECTION ARE AS FOLLOWS: CARCINOGENS ARE LISTED WHEN PRESENT AT 0.1 % OR GREATER; COMPONENTS WHICH ARE OTHERWISE HAZARDOUS ACCORDING TO OSHA ARE LISTED WHEN PRESENT AT 1.0 % OR GREATER; NON-HAZARDOUS COMPONENTS ARE LISTED AT 3.0 % OR GREATER. THIS IS NOT INTENDED TO BE COMPLETE COMPOSITIONAL DISCLOSURE. REFER TO SECTION 14 FOR APPLICABLE STATES' RIGHT TO KNOW AND OTHER REGULATORY INFORMATION. Product and/or Component(s) Carcinogenic According to:

OSHA IARC NTP OTHER NONE X

Composition:

Chemical Name	CAS Number	Exposure Limits	Range in %
Dipropylene glycol	25285-71-8		85.00-79.99
Triethylenediamine	280-57-8		20.00-34.99

MSDS CODE AND NAME : JCTD33A JEFFCAT® TD-33A
DATE ISSUED : 7/1/2004
DATE PRINTED : 2/14/2005
COMPANY : HUNTSMAN

3. HAZARD IDENTIFICATION

EMERGENCY OVERVIEW

Appearance:
Clear liquid
Odor:
Ammonia-like odor

WARNING STATEMENT

CAUTION !
MAY CAUSE DIZZINESS AND DROWSINESS
MAY CAUSE EYE IRRITATION
COMBUSTIBLE LIQUID AND VAPOR
MAY CAUSE KIDNEY DAMAGE BASED ON ANIMAL DATA

Hazardous Material Information System (United States)

Health	2
Fire	2
Reactivity	0
Personal protection	0

National Fire Protection Association NFPA (United States)



POTENTIAL HEALTH EFFECTS

Primary Route of Exposure
Eye X Skin X Inhalation X Ingestion

Effects of Overexposure

Acute:

Eyes: May cause irritation, experienced as discomfort or pain, and seen as excess redness and swelling of the eye, and possible injury to the cornea.

Skin: Brief contact may cause slight irritation. Prolonged contact, as with clothing wetted with material, may cause more severe irritation and discomfort, seen as local redness and swelling. Other than the potential skin irritation effects noted above, acute (short term) adverse effects are not expected from brief skin contact; see other effects, below, and Section 11 for information regarding potential long term effects.

Inhalation: Vapors or mist, in excess of permissible concentrations, or in unusually high concentrations generated from spraying, heating the material or as from exposure in poorly ventilated areas or confined spaces, may cause irritation of the nose and throat, headache, nausea, and drowsiness. Inhalation may cause dizziness, drowsiness, euphoria, loss of coordination, disorientation, headache, nausea, and vomiting. In poorly ventilated areas or confined spaces, unconsciousness and asphyxiation may result. Prolonged or repeated overexposure may result in the absorption of potentially harmful amounts of material.

Ingestion: May cause abdominal discomfort, nausea, and diarrhea.

Sensitization Properties: This product is not expected to be a human skin sensitizer based on animal data.

Chronic:

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No adverse effects have been documented in humans as a result of chronic exposure. Section 11 may contain applicable animal data.

Medical Conditions Aggravated by Exposure:

Repeated overexposure may aggravate existing kidney disease.

Other Remarks:

This product contains one or more amines which may produce temporary and reversible hazy or blurred vision. Symptoms disappear when exposure is terminated.

4. FIRST AID MEASURES

Eyes:

Immediately flush eyes with plenty of water for at least 15 minutes. Hold eyelids apart while flushing to rinse entire surface of eye and lids with water. Get medical attention.

Skin:

Wash skin with plenty of soap and water for several minutes. Get medical attention if skin irritation develops or persists.

Ingestion:

If patient is conscious and can swallow, give two glasses of water (16 oz.) Induce vomiting as directed by medical personnel. Do not induce vomiting or give anything by mouth to an unconscious or convulsing person.

Inhalation:

If irritation, headache, nausea, or drowsiness occurs, remove to fresh air. Get medical attention if breathing becomes difficult or respiratory irritation persists.

Other Instructions:

None

5. FIRE-FIGHTING MEASURES

Ignition Temperature - AIT (degrees C):

Not determined.

Flash Point (degrees C):

91.1 (196 F) (PMCC)

Flammable Limits % (Lower-Upper):

Lower: Not Determined

Upper: Not Determined

Recommended Fire Extinguishing Agents And Special Procedures:

Use water spray, dry chemical, foam or carbon dioxide to extinguish flames. Use water spray to cool fire-exposed containers.

Unusual or Explosive Hazards:

None

Special Protective Equipment for Firefighters:

Wear full protective clothing and positive pressure breathing apparatus.

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6. ACCIDENTAL RELEASE MEASURES (Transportation Spills: CHEMTREC (800)424-9300)

Procedures in Case of Accidental Release, Breakage or Leakage:

Ventilate area. Avoid breathing vapor. Wear appropriate personal protective equipment, including appropriate respiratory protection. Contain spill if possible. Wipe up or absorb on suitable material and shovel up. Prevent entry into sewers and waterways. Avoid contact with skin, eyes or clothing.

7. HANDLING AND STORAGE

Precautions to be Taken in

Handling:

Minimum feasible handling temperatures should be maintained.

Storage:

Store away from heat and open flame. Periods of exposure to high temperatures should be minimized. Water contamination should be avoided.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Protective Equipment (Type)

Eye/Face Protection:

Avoid eye contact. Chemical type goggles must be worn. Do not wear contact lenses.

Skin Protection:

Workers should wash exposed skin several times daily with soap and water. Soiled work clothing should be laundered or dry-cleaned.

Respiratory Protection:

Airborne concentrations should be kept to lowest levels possible. If vapor, mist or dust is generated and the occupational exposure limit of the product, or any component of the product, is exceeded, use appropriate NIOSH or MSHA approved air purifying or air supplied respirator after determining the airborne concentration of the contaminant. Air supplied respirators should always be worn when airborne concentration of the contaminant or oxygen content is unknown.

Ventilation:

Local exhaust ventilation recommended if generating vapor, dust, or mist. If exhaust ventilation is not available or inadequate, use MSHA or NIOSH approved respirator as appropriate.

Exposure Limit for the Total Product:

None established for product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:

Clear liquid

Odor:

Ammonia-like odor

Boiling Point (degrees C):

Not determined.

Melting/Freezing Point (degrees C):

-31.1 (-24 F)

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Specific Gravity (water=1):

1.03

pH:

11.3

Vapor Pressure:

Not determined.

Viscosity:

112 cSt at 20 C (68-F)

VOC Content:

Not Determined

Vapor Density (Air=1):

>1

Solubility in Water (%):

>10

Other:

None

10. STABILITY AND REACTIVITY

This Material Reacts Violently With:

Air Water Heat X Strong Oxidizers X Others X None of these

Comments:

This material reacts violently with acids.

Products Evolved When Subjected to Heat or Combustion:

Toxic levels of ammonia, combustion products of nitrogen, carbon monoxide, carbon dioxide, irritating aldehydes and ketones may be formed on burning in a limited air supply.

Hazardous Polymerizations:

DO NOT OCCUR

11. TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION (ANIMAL TOXICITY DATA)

Oral:

LD50 3.40 g/kg (rat) slightly toxic

Inhalation:

Not determined.

Dermal:

LD50 > 8.00 g/kg (rabbit) practically non-toxic

IRRITATION INDEX, ESTIMATION OF IRRITATION (SPECIES)

Skin:

(Draize) 2.10 /8.0 (rabbit) slightly irritating.

Eyes:

(Draize) 36.80 /110 (rabbit) moderately irritating

Sensitization:

Not determined.

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DATE ISSUED : 7/1/2004
DATE PRINTED : 2/14/2005
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Other:

Repeated ingestion of dipropylene glycol has produced kidney damage in laboratory animals.

12. DISPOSAL CONSIDERATIONS:

Waste Disposal Methods:

This product has been evaluated for RCRA characteristics and does not meet the criteria of a hazardous waste if discarded in its purchased form. Under RCRA, it is the responsibility of the user of the product to determine at the time of disposal, whether the product meets RCRA criteria for hazardous waste. This is because product uses, transformations, mixtures, processes, etc. may render the resulting materials hazardous.

Remarks:

None

13. TRANSPORT INFORMATION

Transportation

DOT:

Proper Shipping Name:

Not regulated for drums. Regulated in containers in excess of 119 gal. (Bulk): Combustible liquid, n.o.s. (triethylenediamine)

Hazard Class:

Not regulated for drums

Identification Number:

Not regulated for drums.
Bulk: NA 1993

Packing Group:

Not regulated for drums

Label Required:

Not regulated for drums

IMDG:

Proper Shipping Name:

Not regulated

ICAO:

Proper Shipping Name:

Not regulated

TDG:

Proper Shipping Name:

Not regulated

Hazard Class:

Not regulated

Identification Number:

Label Required:

Not regulated

MSDS CODE AND NAME : JCTD33A **JEFFCAT® TD-33A**
DATE ISSUED : 7/1/2004
DATE PRINTED : 2/14/2005
COMPANY : HUNTSMAN

14. REGULATORY INFORMATION

Federal Regulations:

SARA Title III:

Section 302/304 Extremely Hazardous Substances:

Chemical Name	CAS Number	Range in %	TPQ	RQ
None.				

Section 311 Hazardous Categorization:

Acute X Chronic X Fire X Pressure Reactive N/A

Section 313 Toxic Chemical

Chemical Name	CAS Number	Concentration
None.		

CERCLA 102(a)(1) DOT Hazardous Substances:

Chemical Name	CAS Number	Range in %	RQ
None.			

States Right-to-Know Regulations:

Chemical Name	State Right-to-know
Dipropylene glycol	PA
Triethylenediamine	NJ

California Prop. 65:

The following detectable components of this product are substances, or belong to classes of substances, known to the State of California to cause cancer and/or reproductive toxicity.

Chemical Name	CAS Number
None.	

INTERNATIONAL REGULATIONS:

TSCA Inventory Status:

This product, or its components, are listed on or are exempt from the Toxic Substance Control Act (TSCA) Chemical Substance Inventory.

WHMIS Classification:

Class D, Div 2, Subdiv B: Irritant Class B, Div 3: Combustible liquid

Canadian Inventory Status:

This product, or its components, are listed on or are exempt from the Canadian Domestic Substance List (DSL).

EINECS Inventory Status:

This product, or its components, are listed on or are exempt from the European Inventory of Existing Chemical Substances (EINECS) or the European List of Notified Chemical Substances (ELNCS).

Australian Inventory Status:

This product, or its components, are listed on or are exempt from the Australian Inventory of Chemical Substances (AICS).

Japan Inventory Status:

This product, or its components, are listed on or are exempt from the Japan Ministry of International Trade and Industry (MITI) Inventory.

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15. ENVIRONMENTAL INFORMATION

Aquatic Toxicity:

Not determined.

Mobility:

Not determined.

Persistence and Biodegradability:

Not determined.

Potential to Bioaccumulate:

Not determined.

Remarks:

None

16. OTHER INFORMATION 7/1/2004

None

Date Issued: 7/1/2004.

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HUNTSMAN
MANAGER, PRODUCT SAFETY
P.O. BOX 4980
THE WOODLANDS, TX 77387-4980

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HAZARDOUS MATERIALS INVENTORY FORM

FORM 3

ADD DELETE REVISED 1 Page _____ of _____ 2

FACILITY ID#	30035	38	BUSINESS NAME	IRON GRIP BARBELL CO.	3
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I. FACILITY INFORMATION

CHEMICAL LOCATION	11377 MARKON DR. GARDEN GROVE, CA. 92841				4
CONFIDENTIAL LOCATION EPCRA	<input type="checkbox"/> Yes <input type="checkbox"/> No	5	MAP #	1	6
			GRID #	C-3	7

II. CHEMICAL INFORMATION

CHEMICAL NAME	TOLUENE		WASTE	<input type="checkbox"/> Yes <input type="checkbox"/> No	8	TRADE SECRET	<input type="checkbox"/> Yes <input type="checkbox"/> No	11													
COMMON NAME	TOLUENE		* If EPCRA see instructions			An EHS Chemical	<input type="checkbox"/> Yes <input type="checkbox"/> No	12													
CAS #	108-88-3	10	FIRE CODE HAZARD CLASSES (supplied by GGFD)	Class 3		*If EHS is "Yes", all amounts must be LBS															
TYPE (Check one item only)	<input checked="" type="checkbox"/> a. PURE	<input type="checkbox"/> b. MIXTURE	<input type="checkbox"/> c. WASTE	14	RADIOACTIVE	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	15	CURIES	16												
PHYSICAL STATE (Check one item only)	<input type="checkbox"/> a. SOLID	<input checked="" type="checkbox"/> b. LIQUID	<input type="checkbox"/> c. GAS	17	FED HAZARD CATEGORIES	<input checked="" type="checkbox"/> a. FIRE	<input type="checkbox"/> b. REACTIVE	<input type="checkbox"/> c. PRESSURE RELEASE	18												
						<input type="checkbox"/> d. ACUTE HEALTH	<input checked="" type="checkbox"/> e. CHRONIC HEALTH														
AVERAGE DAILY AMOUNT	1 GAL	19	MAXIMUM DAILY AMOUNT	1 GAL	20	ANNUAL WASTE AMOUNT	0	21	STATE WASTE CODE	22											
UNITS	<input checked="" type="checkbox"/> a. GALLONS	<input type="checkbox"/> b. CUBIC FEET	23	DAYS ON SITE	365	24	LARGEST CONTAINER	55 GAL. DRUM	25												
	<input type="checkbox"/> c. POUNDS	<input type="checkbox"/> d. TONS																			
STORAGE CONTAINER (Check all that apply)	<input type="checkbox"/> a. ABOVEGROUND TANK	<input type="checkbox"/> b. UNDERGROUND TANK	<input type="checkbox"/> c. TANK INSIDE BLDG	<input checked="" type="checkbox"/> d. STEEL DRUM	<input type="checkbox"/> e. PLASTIC DRUM	<input type="checkbox"/> f. NONMETALLIC DRUM	<input type="checkbox"/> g. METAL CONTAINER	<input type="checkbox"/> h. CARBOY	<input type="checkbox"/> i. VAT	<input type="checkbox"/> j. FIBER DRUM	<input type="checkbox"/> k. BAG(S)	<input type="checkbox"/> l. BOX(S)	<input type="checkbox"/> m. CYLINDER	<input type="checkbox"/> n. GLASS CONTAINER	<input type="checkbox"/> o. PLASTIC CONTAINER	<input type="checkbox"/> p. IN MACH OR EQUIP	<input type="checkbox"/> q. TANK WAGON	<input type="checkbox"/> r. RAIL CAR	<input type="checkbox"/> s. TOTE BIN	<input type="checkbox"/> t. OTHER	26
STORAGE PRESSURE	<input checked="" type="checkbox"/> a. AMBIENT	<input type="checkbox"/> b. ABOVE AMBIENT	<input type="checkbox"/> c. BELOW AMBIENT								27										
STORAGE TEMPERATURE	<input checked="" type="checkbox"/> a. AMBIENT	<input type="checkbox"/> b. ABOVE AMBIENT	<input type="checkbox"/> c. BELOW AMBIENT	<input type="checkbox"/> d. CRYOGENIC							28										

%WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1	29	<input type="checkbox"/> Yes <input type="checkbox"/> No 30	32
2	29	<input type="checkbox"/> Yes <input type="checkbox"/> No 30	32
3	29	<input type="checkbox"/> Yes <input type="checkbox"/> No 30	32
4	29	<input type="checkbox"/> Yes <input type="checkbox"/> No 30	32
5	29	<input type="checkbox"/> Yes <input type="checkbox"/> No 30	32

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

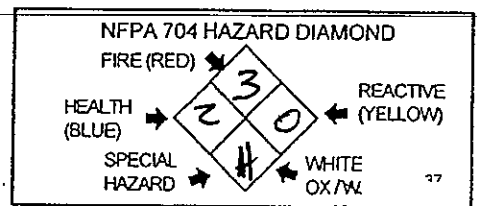
PLACARDING INFORMATION

UNDOT # _____ 33
 Refer to shipping papers or MSDS

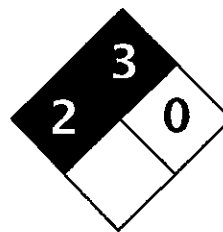
DOT HAZARD CLASS _____ 34
 Refer to shipping papers or MSDS

EPCRA YES NO 35

X _____ 36
 If EPCRA, Please Sign Here



MAKE AS MANY COPIES OF CHEMICAL INVENTORY FORM AS NEEDED



Health	2
Fire	3
Reactivity	0
Personal Protection	H

Material Safety Data Sheet Toluene MSDS

Section 1: Chemical Product and Company Identification

Product Name: Toluene

Catalog Codes: SLT2857, SLT3277

CAS#: 108-88-3

RTECS: XS5250000

TSCA: TSCA 8(b) inventory: Toluene

CI#: Not available.

Synonym: Toluol, Tolu-Sol; Methylbenzene; Methacide; Phenylmethane; Methylbenzol

Chemical Name: Toluene

Chemical Formula: C6-H5-CH3 or C7-H8

Contact Information:

Sciencelab.com, Inc.
14025 Smith Rd.
Houston, Texas 77396

US Sales: 1-800-901-7247
International Sales: 1-281-441-4400

Order Online: ScienceLab.com

CHEMTREC (24HR Emergency Telephone), call:
1-800-424-9300

International CHEMTREC, call: 1-703-527-3887

For non-emergency assistance, call: 1-281-441-4400

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Toluene	108-88-3	100

Toxicological Data on Ingredients: Toluene: ORAL (LD50): Acute: 636 mg/kg [Rat]. DERMAL (LD50): Acute: 14100 mg/kg [Rabbit]. VAPOR (LC50): Acute: 49000 mg/m 4 hours [Rat]. 440 ppm 24 hours [Mouse].

Section 3: Hazards Identification

Potential Acute Health Effects:

Hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation. Slightly hazardous in case of skin contact (permeator).

Potential Chronic Health Effects:

CARCINOGENIC EFFECTS: A4 (Not classifiable for human or animal.) by ACGIH, 3 (Not classifiable for human.) by IARC.

MUTAGENIC EFFECTS: Not available.

TERATOGENIC EFFECTS: Not available.

DEVELOPMENTAL TOXICITY: Not available.

The substance may be toxic to blood, kidneys, the nervous system, liver, brain, central nervous system (CNS).

Repeated or prolonged exposure to the substance can produce target organs damage.

Section 4: First Aid Measures

Eye Contact:

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.

Skin Contact:

In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

Serious Skin Contact:

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Serious Inhalation:

Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. **WARNING:** It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek medical attention.

Ingestion:

Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: Flammable.

Auto-Ignition Temperature: 480°C (896°F)

Flash Points: CLOSED CUP: 4.4444°C (40°F). (Setaflash) OPEN CUP: 16°C (60.8°F).

Flammable Limits: LOWER: 1.1% UPPER: 7.1%

Products of Combustion: These products are carbon oxides (CO, CO₂).

Fire Hazards in Presence of Various Substances:

Flammable in presence of open flames and sparks, of heat.
Non-flammable in presence of shocks.

Explosion Hazards in Presence of Various Substances:

Risks of explosion of the product in presence of mechanical impact: Not available.
Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions:

Flammable liquid, insoluble in water.
SMALL FIRE: Use DRY chemical powder.
LARGE FIRE: Use water spray or fog.

Special Remarks on Fire Hazards: Not available.

Special Remarks on Explosion Hazards:

Toluene forms explosive reaction with 1,3-dichloro-5,5-dimethyl-2,4-imidazolididione; dinitrogen tetroxide;

concentrated nitric acid, sulfuric acid + nitric acid; N₂O₄; AgClO₄; BrF₃; Uranium hexafluoride; sulfur dichloride. Also forms an explosive mixture with tetranitromethane.

Section 6: Accidental Release Measures

Small Spill: Absorb with an inert material and put the spilled material in an appropriate waste disposal.

Large Spill:

Toxic flammable liquid, insoluble or very slightly soluble in water. Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not get water inside container. Do not touch spilled material. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7: Handling and Storage

Precautions:

Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/ vapor/spray. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents.

Storage:

Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).

Section 8: Exposure Controls/Personal Protection

Engineering Controls:

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal Protection:

Splash goggles. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits:

TWA: 200 STEL: 500 CEIL: 300 (ppm) from OSHA (PEL) [United States]

TWA: 50 (ppm) from ACGIH (TLV) [United States] SKIN

TWA: 100 STEL: 150 from NIOSH [United States]

TWA: 375 STEL: 560 (mg/m³) from NIOSH [United States]

Consult local authorities for acceptable exposure limits.

Section 9: Physical and Chemical Properties

Physical state and appearance: Liquid.

Odor: Sweet, pungent, Benzene-like.

Taste: Not available.

Molecular Weight: 92.14 g/mole

Color: Colorless.

pH (1% soln/water): Not applicable.

Boiling Point: 110.6°C (231.1°F)

Melting Point: -95°C (-139°F)

Critical Temperature: 318.6°C (605.5°F)

Specific Gravity: 0.8636 (Water = 1)

Vapor Pressure: 3.8 kPa (@ 25°C)

Vapor Density: 3.1 (Air = 1)

Volatility: Not available.

Odor Threshold: 1.6 ppm

Water/Oil Dist. Coeff.: The product is more soluble in oil; $\log(\text{oil/water}) = 2.7$

Ionicity (in Water): Not available.

Dispersion Properties: See solubility in water, diethyl ether, acetone.

Solubility:

Soluble in diethyl ether, acetone.

Practically insoluble in cold water.

Soluble in ethanol, benzene, chloroform, glacial acetic acid, carbon disulfide.

Solubility in water: 0.561 g/l @ 25 deg. C.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Heat, ignition sources (flames, sparks, static), incompatible materials

Incompatibility with various substances: Reactive with oxidizing agents.

Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity:

Incompatible with strong oxidizers, silver perchlorate, sodium difluoride, Tetranitromethane, Uranium Hexafluoride.

Frozen Bromine Trifluoride reacts violently with Toluene at -80 deg. C.

Reacts chemically with nitrogen oxides, or halogens to form nitrotoluene, nitrobenzene, and nitrophenol and halogenated products, respectively.

Special Remarks on Corrosivity: Not available.

Polymerization: Will not occur.

Section 11: Toxicological Information

Routes of Entry: Absorbed through skin. Dermal contact. Eye contact. Inhalation. Ingestion.

Toxicity to Animals:

WARNING: THE LC50 VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE.

Acute oral toxicity (LD50): 636 mg/kg [Rat].

Acute dermal toxicity (LD50): 14100 mg/kg [Rabbit].

Acute toxicity of the vapor (LC50): 440 24 hours [Mouse].

Chronic Effects on Humans:

CARCINOGENIC EFFECTS: A4 (Not classifiable for human or animal.) by ACGIH, 3 (Not classifiable for human.) by IARC.

May cause damage to the following organs: blood, kidneys, the nervous system, liver, brain, central nervous system (CNS).

Other Toxic Effects on Humans:

Hazardous in case of skin contact (irritant), of ingestion, of inhalation.

Slightly hazardous in case of skin contact (permeator).

Special Remarks on Toxicity to Animals:

Lowest Published Lethal Dose:

LDL [Human] - Route: Oral; Dose: 50 mg/kg

LCL [Rabbit] - Route: Inhalation; Dose: 55000 ppm/40min

Special Remarks on Chronic Effects on Humans:

Detected in maternal milk in human. Passes through the placental barrier in human. Embryotoxic and/or foetotoxic in animal. May cause adverse reproductive effects and birth defects (teratogenic). May affect genetic material (mutagenic)

Special Remarks on other Toxic Effects on Humans:

Acute Potential Health Effects:

Skin: Causes mild to moderate skin irritation. It can be absorbed to some extent through the skin.

Eyes: Causes mild to moderate eye irritation with a burning sensation. Splash contact with eyes also causes conjunctivitis, blepharospasm, corneal edema, corneal abrasions. This usually resolves in 2 days.

Inhalation: Inhalation of vapor may cause respiratory tract irritation causing coughing and wheezing, and nasal discharge. Inhalation of high concentrations may affect behavior and cause central nervous system effects characterized by nausea, headache, dizziness, tremors, restlessness, lightheadedness, exhilaration, memory loss, insomnia, impaired reaction time, drowsiness, ataxia, hallucinations, somnolence, muscle contraction or spasticity, unconsciousness and coma. Inhalation of high concentration of vapor may also affect the cardiovascular system (rapid heart beat, heart palpitations, increased or decreased blood pressure, dysrhythmia,), respiration (acute pulmonary edema, respiratory depression, apnea, asphyxia), cause vision disturbances and dilated pupils, and cause loss of appetite.

Ingestion: Aspiration hazard. Aspiration of Toluene into the lungs may cause chemical pneumonitis. May cause irritation of the digestive tract with nausea, vomiting, pain. May have effects similar to that of acute inhalation.

Chronic Potential Health Effects:

Inhalation and Ingestion: Prolonged or repeated exposure via inhalation may cause central nervous system and cardiovascular symptoms similar to that of acute inhalation and ingestion as well liver damage/failure, kidney damage/failure (with hematuria, proteinuria, oliguria, renal tubular acidosis), brain damage, weight loss, blood (pigmented or nucleated red blood cells, changes in white blood cell count), bone marrow changes, electrolyte imbalances (Hypokalemia, Hypophosphatemia), severe, muscle weakness and Rhabdomyolysis.

Skin: Repeated or prolonged skin contact may cause defatting dermatitis.

Section 12: Ecological Information**Ecotoxicity:**

Ecotoxicity in water (LC50): 313 mg/l 48 hours [Daphnia (daphnia)]. 17 mg/l 24 hours [Fish (Blue Gill)]. 13 mg/l 96 hours [Fish (Blue Gill)]. 56 mg/l 24 hours [Fish (Fathead minnow)]. 34 mg/l 96 hours [Fish (Fathead minnow)]. 56.8 ppm any hours [Fish (Goldfish)].

BOD5 and COD: Not available.

Products of Biodegradation:

Possibly hazardous short term degradation products are not likely. However, long term degradation products may

arise.

Toxicity of the Products of Biodegradation: The products of degradation are less toxic than the product itself.

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14: Transport Information

DOT Classification: CLASS 3: Flammable liquid.

Identification: : Toluene UNNA: 1294 PG: II

Special Provisions for Transport: Not available.

Section 15: Other Regulatory Information

Federal and State Regulations:

California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute: Toluene

California prop. 65 (no significant risk level): Toluene: 7 mg/day (value)

California prop. 65 (acceptable daily intake level): Toluene: 7 mg/day (value)

California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: Toluene

Connecticut hazardous material survey.: Toluene

Illinois toxic substances disclosure to employee act: Toluene

Illinois chemical safety act: Toluene

New York release reporting list: Toluene

Rhode Island RTK hazardous substances: Toluene

Pennsylvania RTK: Toluene

Florida: Toluene

Minnesota: Toluene

Michigan critical material: Toluene

Massachusetts RTK: Toluene

Massachusetts spill list: Toluene

New Jersey: Toluene

New Jersey spill list: Toluene

Louisiana spill reporting: Toluene

California Director's List of Hazardous Substances.: Toluene

TSCA 8(b) inventory: Toluene

TSCA 8(d) H and S data reporting: Toluene: Effective date: 10/04/82; Sunset Date: 10/0/92

SARA 313 toxic chemical notification and release reporting: Toluene

CERCLA: Hazardous substances.: Toluene: 1000 lbs. (453.6 kg)

Other Regulations:

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications:

WHMIS (Canada):

CLASS B-2: Flammable liquid with a flash point lower than 37.8°C (100°F).

CLASS D-2A: Material causing other toxic effects (VERY TOXIC).

DSCL (EEC):

R11- Highly flammable.
R20- Harmful by inhalation.
S16- Keep away from sources of ignition - No smoking.
S25- Avoid contact with eyes.
S29- Do not empty into drains.
S33- Take precautionary measures against static discharges.

HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 3

Reactivity: 0

Personal Protection: h

National Fire Protection Association (U.S.A.):

Health: 2

Flammability: 3

Reactivity: 0

Specific hazard:

Protective Equipment:

Gloves.
Lab coat.
Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.
Splash goggles.

Section 16: Other Information

References: Not available.

Other Special Considerations: Not available.

Created: 10/10/2005 08:30 PM

Last Updated: 10/10/2005 08:30 PM

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HAZARDOUS MATERIALS INVENTORY FORM

FORM 3

ADD

DELETE

REVISED 1

Page _____ of _____ 2

FACILITY ID#	3 0 0 3 5	38	BUSINESS NAME	IRON GRIP BARBELL CO.	3
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I. FACILITY INFORMATION

CHEMICAL LOCATION	11377 MARKON DR. GARDEN GROVE, CA. 92841					4
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CONFIDENTIAL LOCATION EPCRA	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5	MAP #	1	6	GRID #	D-3	7
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II. CHEMICAL INFORMATION

CHEMICAL NAME	VACUUM OIL	WASTE	<input type="checkbox"/> Yes <input type="checkbox"/> No	8	TRADE SECRET	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	11
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COMMON NAME	VACUUM OIL	9	An EHS Chemical	<input type="checkbox"/> Yes <input type="checkbox"/> No	12
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CAS #	mixture	10	FIRE CODE HAZARD CLASSES (supplied by GGFD)	class 3	13
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TYPE (Check one item only)	<input type="checkbox"/> a. PURE <input checked="" type="checkbox"/> b. MIXTURE <input type="checkbox"/> c. WASTE	14	RADIOACTIVE	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	15	CURIES	16
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PHYSICAL STATE (Check one item only)	<input type="checkbox"/> a. SOLID <input checked="" type="checkbox"/> b. LIQUID <input type="checkbox"/> c. GAS	17	FED HAZARD CATEGORIES	<input checked="" type="checkbox"/> a. FIRE <input type="checkbox"/> b. REACTIVE <input type="checkbox"/> c. PRESSURE RELEASE <input type="checkbox"/> d. ACUTE HEALTH <input type="checkbox"/> e. CHRONIC HEALTH	18
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AVERAGE DAILY AMOUNT	1 GAL	19	MAXIMUM DAILY AMOUNT	10 GAL	20	ANNUAL WASTE AMOUNT	21	STATE WASTE CODE	22
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UNITS	<input checked="" type="checkbox"/> a. GALLONS <input type="checkbox"/> b. CUBIC FEET <input type="checkbox"/> c. POUNDS <input type="checkbox"/> d. TONS	23	DAYS ON SITE	365	24	LARGEST CONTAINER	55 GALLON DRUM	25
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STORAGE CONTAINER (Check all that apply)	<input type="checkbox"/> a. ABOVEGROUND TANK <input type="checkbox"/> b. UNDERGROUND TANK <input type="checkbox"/> c. TANK INSIDE BLDG <input checked="" type="checkbox"/> d. STEEL DRUM <input type="checkbox"/> e. PLASTIC DRUM <input type="checkbox"/> f. NONMETALLIC DRUM <input type="checkbox"/> g. METAL CONTAINER <input type="checkbox"/> h. CARBOY <input type="checkbox"/> i. VAT <input type="checkbox"/> j. FIBER DRUM <input type="checkbox"/> k. BAG(S) <input type="checkbox"/> l. BOX(S) <input type="checkbox"/> m. CYLINDER <input type="checkbox"/> n. GLASS CONTAINER <input type="checkbox"/> o. PLASTIC CONTAINER <input type="checkbox"/> p. IN MACH OR EQUIP <input type="checkbox"/> q. TANK WAGON <input type="checkbox"/> r. RAIL CAR <input type="checkbox"/> s. TOTE BIN <input type="checkbox"/> t. OTHER	26
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STORAGE PRESSURE	<input checked="" type="checkbox"/> a. AMBIENT <input type="checkbox"/> b. ABOVE AMBIENT <input type="checkbox"/> c. BELOW AMBIENT	27
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STORAGE TEMPERATURE	<input checked="" type="checkbox"/> a. AMBIENT <input type="checkbox"/> b. ABOVE AMBIENT <input type="checkbox"/> c. BELOW AMBIENT <input type="checkbox"/> d. CRYOGENIC	28
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%WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1 90-95 ²⁹	HYDROTREATED DISTILLATES	<input type="checkbox"/> Yes <input type="checkbox"/> No	31 64742-54-7
2 5-10 ²⁹	SOLVENT-DEWAXED DISTILLATES	<input type="checkbox"/> Yes <input type="checkbox"/> No	31 64742-55-0
3		<input type="checkbox"/> Yes <input type="checkbox"/> No	31 32
4		<input type="checkbox"/> Yes <input type="checkbox"/> No	31 32
5		<input type="checkbox"/> Yes <input type="checkbox"/> No	31 32

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

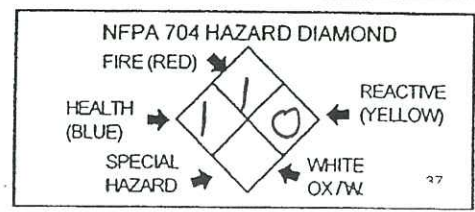
PLACARDING INFORMATION

UNDOT # _____ 33
Refer to shipping papers or MSDS

DOT HAZARD CLASS _____ 34
Refer to shipping papers or MSDS

EPCRA YES NO 35

X _____ 36
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Attn: Irma

MVP Vacuum

Material Safety Data Sheet

Emergency Phone# (800) 424-9300
Information Phone# (562) 802-0025

Fire 1
Health 1 0 Reactivity
0
Special

I. Material Identification

Product Name: MVP SUPERVAC R/P Vacuum Pump Oil

Manufacturer: MVP Vacuum

Address: 16027 Valley View Ave, Santa Fe Springs, Ca. 90670

Preparation Date: 8/30/1993

II. Hazardous Ingredients

Material Or Components	%	Cas #	TLV (ACGIH)	PEL (OSHA)
Solvent-Dewaxed heavy paraffinic distillates (petroleum)		5-10	64742-65-0	5 mg/M3 (mist) 5 mg/M3 (mist)
Distillates (petroleum), hydrotreated heavy paraffinic		90-95	64742-54-7	5 mg/M3 (mist) 5 mg/M3 (mist)

Contains no other ingredients now known to be hazardous as defined by OSHA 29 CFR 1910.1000 (subpart z) and OSHA CFR 29 1910.1200.

III. Physical Properties

Appearance & Odor: Light amber oil, Slight oil odor.

Boiling Point 'F ('C) = >500 >259.97

Melting Point 'F ('C) : NA

Specific Gravity (H2O=1) : 0.88 ± 0.01

Vapor Pressure: Negligible @ 70 F

Vapor Density (Air=1) : NA

Evaporation Rate (BUTYL ACETATE=1) : Negligible

%Volatiles By Volume: Nil

VOC: 000.00 g/L 00.000 lbs/gallon

Solubility in H2O: Nil

pH as is: NA

pH (Dilute) : NA @ 0 %

VOC not yet determined for this product.

IV. Fire And Explosion Hazards

Flashpoint <method used>

>380 'F >193.31 'COC

Flammable Limits

LEL NA UEL NA

Extinguishing Media:

Carbon Dioxide, Dry Chemical, Foam

Special Fire Fighting Procedures:

Treat as mineral oil fire. Wear self contained breathing apparatus when fire fighting in a confined space. Cool fire exposed containers with waterspray to prevent rupture.

Unusual Fire & Explosion Hazards:

None known.

V. Reactivity Data

Stability:

Stable under normal conditions.

Conditions to avoid: None known.

Incompatibilities:

Strong oxidizing agents.

Hazardous Decomposition: Potential combustion products are oxides of carbon.

Hazardous Polymerization: Will not polymerize.

VI. Health Hazard Summary

Routes Of Exposure And Effects Of Overexposure

Eyes:

May cause eye irritation.

Skin Absorption:

No acute effects expected.

Skin Contact:

May cause skin irritation.

Inhalation:

TLV for product not established. Refer to Hazardous Materials List for Ingredient TLV's

Ingestion:

Oral LD50 not established. Do not ingest.

Chronic Effects:

Prolonged or repeated contact with petroleum oil may remove natural oils and fats from the skin.

Threshold Limit Value: Not established for this product.

Contains known Carcinogens: no **NTP:** no **IARC:** no **OSHA:** no

Emergency And First Aid Procedures

Eyes:

In case of contact, flush eyes with plenty of water. Get medical attention if irritation persists.

Skin:

Wash skin with soap and water. If irritation occurs, get medical attention. Wash clothing before reuse.

Inhalation:

If respiratory discomfort or irritation occurs, move the person to fresh air. See a doctor if discomfort or irritation continues.

Ingestion:

Do not induce vomiting; get medical attention immediately.

VII. Control Measures

Respiratory Protection:

Good industrial hygiene practices recommend that engineering controls be used to reduce environmental concentrations to the Threshold Limit Value (TLV) or Permissible Exposure Limit (PEL). If any associated TLV or PEL is exceeded, provide NIOSH approved respiratory protection.

Gloves:

Impervious gloves such as rubber should be used when handling this product.

Eye Protection:

Safety glasses with side shield or chemical goggles.

Other:

Eyewash facility. Appropriate clothing to avoid skin contact.

VIII. Precautions

Containment Procedures:

Recover free liquid or absorb spill with inert material (e.g. dry sand or earth), then place in chemical waste container. Keep product out of streams and waterways by diking or impounding. Advise authorities if product has entered or may enter sewers, watercourses, or extensive land areas.

Waste Disposal Procedures:

Dispose of in accordance with local, state, and federal regulations. Disposal of this material to the land may be banned by federal law (40 CFR 268).

Storage And Handling Procedures:

Avoid contact with skin and eyes. Avoid breathing mists. Do not take internally. Keep container closed when not in use. Bring product to room temperature before use. Do not store near heat, flame, or strong oxidizing agents.

RCRA Hazardous Waste Designation:

This material is regulated as used oil by the EPA. Under the Used Oil Management Standards (40 CFR 279) effective 3/8/93, EPA presumes used oil will be recycled. If it is, no characteristic determination is required provided all parties handling the used oil comply with part 279. These management standards apply to used oil until it is disposed of or sent for disposal. Individual state regulations may differ from the federal regulations. Refer to applicable state and local regulations for proper handling procedures.

CERCLA Reportable Quantity:

This product does not contain any CERCLA regulated materials.

IX. Other Hazard Information

Petroleum Oil: STEL = 10 mg/M³. Using terminology of the International Agency for Research on Cancer (IARC), the petroleum distillates listed in Section II are classified by the supplier as severely processed. Not all those listed in Section II may be present. The supplier has stated that these distillates do not require a carcinogen label as defined by OSHA 29 CFR 1910.1200.

X. Additional Regulatory Information

Occupational Safety and Health Administration (OSHA)

29 CFR 1910.1200 Hazardous Chemical: yes

Superfund Amendment and Reauthorization Act of 1986 (SARA)

Section 302, Extremely Hazardous Substance: no

Section 311, Hazardous Chemical: yes

Immediate: no Delayed: yes Fire: no Sudden Release: no Reactive: no

Section 313, Toxic Chemical: no

Toxic Substances Control Act (TSCA)

This product is a mixture and is NOT listed in the TSCA Inventory. The individual ingredients in the product are listed in the TSCA Inventory.

Department of Transportation (DOT)

Petroleum oil, not regulated in containers less than 3500 gallons.

Hazard class (49 CFR 172.101):

Hazard ID Number:

Freight Class**NMFC 15525D, Petroleum oils, greases & related products, NOI CLASS 65.**

Disclaimer

Information presented herein has been compiled from information provided to us by our suppliers and other sources considered to be dependable and is accurate and reliable to the best of our knowledge and belief but is not guaranteed to be so. Nothing herein is to be construed as recommending any practice or the use of any product in violation of any patent or in violation of any law or regulation. It is the users' responsibility to determine the suitability of any material for a specific purpose and to adopt such safety precautions as may be necessary. We make no warranty as to the results to be obtained in using any material and since conditions of use are not under our control, we must necessarily disclaim all liability with respect to the use of any material supplied by us.



HAZARDOUS MATERIALS INVENTORY FORM

FORM 3

ADD

DELETE

REVISED 1

Page _____ of _____ 2

FACILITY ID#	30035	38	BUSINESS NAME	IRON GRIP BARBELL CO.	3
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I. FACILITY INFORMATION

CHEMICAL LOCATION	11377 MARKON DR. GARDEN GROVE, CA. 92841					4
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CONFIDENTIAL LOCATION EPCRA	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5	MAP #	1	6	GRID #	D-3	7
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II. CHEMICAL INFORMATION

CHEMICAL NAME	POLYDIMETHYLSILOXANE		WASTE	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	8	TRADE SECRET	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	11
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COMMON NAME	MAUCOAT XC MOLD RELEASE		9	An EHS Chemical	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	12
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CAS #	64741-668	10	FIRE CODE HAZARD CLASSES (supplied by GGFD)	Class 3	13
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TYPE (Check one item only)	<input checked="" type="checkbox"/> a. PURE	<input type="checkbox"/> b. MIXTURE	<input type="checkbox"/> c. WASTE	14	RADIOACTIVE	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	15	CURIES	16
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PHYSICAL STATE (Check one item only)	<input type="checkbox"/> a. SOLID	<input checked="" type="checkbox"/> b. LIQUID	<input type="checkbox"/> c. GAS	17	FED HAZARD CATEGORIES	<input checked="" type="checkbox"/> a. FIRE	<input type="checkbox"/> b. REACTIVE	<input type="checkbox"/> c. PRESSURE RELEASE	18
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AVERAGE DAILY AMOUNT	1 Gall	19	MAXIMUM DAILY AMOUNT	1 Gal	20	ANNUAL WASTE AMOUNT	0	21	STATE WASTE CODE	22
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UNITS	<input checked="" type="checkbox"/> a. GALLONS	<input type="checkbox"/> b. CUBIC FEET	23	DAYS ON SITE	365	24	LARGEST CONTAINER	55 GAL DRUM	25
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STORAGE CONTAINER (Check all that apply)	<input type="checkbox"/> a. ABOVEGROUND TANK	<input type="checkbox"/> e. PLASTIC DRUM	<input type="checkbox"/> i. VAT	<input type="checkbox"/> m. CYLINDER	<input type="checkbox"/> q. TANK WAGON	26
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STORAGE PRESSURE	<input checked="" type="checkbox"/> a. AMBIENT	<input type="checkbox"/> b. ABOVE AMBIENT	<input type="checkbox"/> c. BELOW AMBIENT	27
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STORAGE TEMPERATURE	<input checked="" type="checkbox"/> a. AMBIENT	<input type="checkbox"/> b. ABOVE AMBIENT	<input type="checkbox"/> c. BELOW AMBIENT	<input type="checkbox"/> d. CRYOGENIC	28
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%WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
29		<input type="checkbox"/> Yes <input type="checkbox"/> No 31	32
29		<input type="checkbox"/> Yes <input type="checkbox"/> No 31	32
29		<input type="checkbox"/> Yes <input type="checkbox"/> No 31	32
29		<input type="checkbox"/> Yes <input type="checkbox"/> No 31	32
29		<input type="checkbox"/> Yes <input type="checkbox"/> No 31	32

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

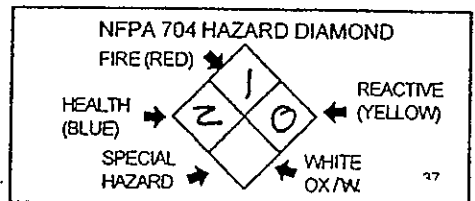
PLACARDING INFORMATION

UNDOT # _____ 33
Refer to shipping papers or MSDS

DOT HAZARD CLASS _____ 34
Refer to shipping papers or MSDS

EPCRA YES NO 35

X _____ 36
If EPCRA, Please Sign Here



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Material Safety Data Sheet

Mavcoat[®] XC Mold Release Coating

Section 1. Chemical Product and Company Identification

Maverix Solutions, Inc., 17291 Irvine Blvd., Suite 256, Tustin, Ca 92780
 Phone: (714) 501-6383 Fax: (714) 838-6654

- 24-hour Emergency Telephone: 1-800-633-8253 (PERS--Professional Emergency Resource Services)
- Date Revised: 6/2/2008
- This MSDS complies with 29 CFR 1910.1200 (The Hazard Communication Standard)
- Physical Form: Liquid

Section 2 - Product Identification

- General or Generic ID: Aqueous fluid
- DOT Proper Shipping Name: None, not regulated under DOT, ICAO/IATA or IMO
- Hazardous Classification: Non-hazardous
- UN/NA Number: Not applicable
- Inhalation Hazard (173.3a (b)): Not applicable

Section 3 - Hazards Identification

- NFPA Codes: Health-2 Flammability-1 Reactivity-0 Corrosive - 0
- This material is considered to be non-hazardous under OSHA criteria.

Section 4 - Physical Data

Specific Gravity (water = 1)	0.953-0.982
Vapor Pressure	< 1
Percent Volatiles	Negligible
Evaporation rate (Ethyl Ether)	Nil
Appearance	Clear
Odor	Minimal to no odor
Boiling Point	Nonvolatile

Vapor Pressure	<1
Solubility in water	Negligible
Flash Point, degrees F	505 (265 deg. C)

Section 5 – Fire and Explosion Information

- This material is a liquid which burns with difficulty, but will support combustion.
- Flash Point (TCC) >500°F
- Explosive Limit: Lower – not determined Upper-N/A – not determined
- Extinguishing Media: Water Spray, Regular foam, dry chemical or carbon dioxide
- Hazardous Decomposition Products: May form toxic materials, carbon dioxide, carbon monoxide, various hydrocarbons, etc.
- Firefighting, Procedures: Wear self-contained breathing apparatus with a full face piece operated in the positive pressure demand mode when fighting fires.
- Special Fire & Explosion Hazards: None known
- NFPA Codes: Health – 2 Flammability – 1 Reactivity – 0 Personal Protection - B

Section 6 – Human Health Hazard Data

- Permissible Exposure Level: No limit
- Threshold Limit Values: No limit
- Effects of Acute Overexposure: Labored breathing.
- Effects of Chronic Overexposure: None known.
- Primary routes of entry: skin contact, skin absorption, swallowing and eyes.

Eye Contact	May cause irritation
Skin Contact	No toxic effects expected.
Ingestion	Will cause gastric distress.
Inhalation	No toxic effects expected.

- This material does not contain any ingredients listed by IARC, NTP or OSHA as carcinogens in amounts exceeding 0.1%
- This product contains methyl polysiloxane, which can generate formaldehyde vapors when exposed to temperatures exceeding 302 °F (150 °C) in the presence of air. Formaldehyde is a potential cancer hazard, causes irritation and sensitization of the skin and respiratory system, causes eye and throat irritation, and is acutely toxic. Safe conditions of use can be ensured by monitoring and controlling vapor concentrations in accordance with 29 CFR 1910.1048

Section 7 - First Aid and Measures

Eye Contact	Wash with copious amounts of water with eyelids open for at least 15 minutes.
Skin Contact	Wash exposed area with soap and water. If symptoms persist, seek medical attention.
Ingestion	Never give an unconscious person anything to drink. If unconscious, treat for

	shock. Notify a physician or the nearest poison control center immediately. If unconscious and vomiting, turn the person on side to avoid choking. If conscious, have the person rinse mouth with cold water and induce vomiting. Allow the victim to drink as much cold water as desired.
Inhalation	Remove to fresh air. Get medical attention if ill effects persist.
Preexisting	Disorders of the following organs (or organ systems) may be aggravated by exposure to this material: skin, kidney.

Section 8 – Chemical Reactivity Data

- Relatively non-reactive

Section 9 - Spill or Leak Procedure

- Steps to be taken in case material is released or spilled: Use liquid absorbent and scoop up with shovel and discard in proper container.
- Waste disposal method: Dispose of in accordance with all local, state and federal regulations.

Section 10 - Protective Equipment & Industrial Hygiene

Engineering Controls

- Local Exhaust: Required
- General Ventilation: Required

INHALATION: If this product is used under conditions which generate airborne contamination, these processing operations should be carried out in open, well-ventilated areas, or in enclosed areas equipped with local exhaust ventilation. If adequate ventilation is not available, employees should be provided with appropriate, approved, air-purifying or supplied-air respirators selected in accordance with NIOSH guidelines.

Personal Protective Equipment for Routine Handling

- Respiratory protection – Use respiratory protection unless adequate local exhaust ventilation is provided or air sampling data show exposures are within recommended exposure guidelines. Industrial hygiene personnel can assist in judging the adequacy of existing engineering controls.
- Skin – Protective gloves are recommended. Wash at mealtime and end of shift.
- Eye – Use protective eye ware.
- Other Protective Equipment: None

Section 11 – Regulatory Information

TSCA – This material or its components are listed on the TSCA Chemical Substance Inventory and is in compliance with all applicable rules and orders.

SARA – This material does not contain any substances on the list of Toxic Chemicals subject to Section 313 of the 1986 SARA Title III.

RCRA Waste Number – not applicable

DOT:

Proper shipping name – none, not regulated

Hazard Class – None, not hazardous

UN/NA Number – not applicable

Label Required – none

RQ name – none

Inhalation hazard - none

Section 12 – Handling and Storage

- Handling: No special precautions.
- Storage: Do not store above 150°F. Keep containers away from sources of ignition. Keep workplace clean

We believe the recommendations and technical information contained herein to be accurate. However, they are given without warranty, expressed or implied, and we assume no responsibility for losses or damages, direct or indirect, as a result of their use. The information contained on this MSDS has been checked and should be accurate. However, it is the responsibility of the user to comply with all federal, state, and local laws and regulations. The environmental information and hazardous materials identification system have been included to provide additional health and hazard classification information. The ratings recommended are based upon the criteria supplied by the developers of these rating systems. Proper personal protective equipment varies widely with conditions of use and anticipated exposure. We recommend that a supervisor or other qualified person determine proper PPE for intended use.



HAZARDOUS MATERIALS INVENTORY FORM

FORM 3

ADD DELETE REVISED 1 Page _____ of _____ 2

FACILITY ID# 3 0 0 3 5 38 BUSINESS NAME IRON GRIP BARBELL CO. 3

I. FACILITY INFORMATION

CHEMICAL LOCATION 11377 MARKON DR. GARDEN GROVE, CA. 92841 4

CONFIDENTIAL LOCATION Yes No 5 MAP # 1 6 GRID # D-3, D-4 7

II. CHEMICAL INFORMATION

CHEMICAL NAME PHENOL-FORMALDEHYDE RESIN WASTE Yes 8 TRADE SECRET Yes No 11

COMMON NAME PHENOLIC RESIN 9 An EHS Chemical Yes No 12

CAS # mixture 10 FIRE CODE HAZARD CLASSES (supplied by GGFD) class 3 13

TYPE (Check one item only) a. PURE b. MIXTURE c. WASTE 14 RADIOACTIVE Yes No 15 CURIES 16

PHYSICAL STATE (Check one item only) a. SOLID b. LIQUID c. GAS 17 FED HAZARD CATEGORIES a. FIRE b. REACTIVE c. PRESSURE RELEASE 18 d. ACUTE HEALTH e. CHRONIC HEALTH

AVERAGE DAILY AMOUNT 10 lbs 19 MAXIMUM DAILY AMOUNT 10 lbs 20 ANNUAL WASTE AMOUNT 21 STATE WASTE CODE 22

UNITS a. GALLONS b. CUBIC FEET 23 DAYS ON SITE 365 24 LARGEST CONTAINER 55 GALLON 25

STORAGE CONTAINER (Check all that apply) d. STEEL DRUM e. PLASTIC DRUM f. NONMETALLIC DRUM g. METAL CONTAINER h. CARBOY i. VAT j. FIBER DRUM k. BAG(S) l. BOX(S) m. CYLINDER n. GLASS CONTAINER o. PLASTIC CONTAINER p. IN MACH OR EQUIP q. TANK WAGON r. RAIL CAR s. TOTE BIN t. OTHER

STORAGE PRESSURE a. AMBIENT b. ABOVE AMBIENT c. BELOW AMBIENT 27

STORAGE TEMPERATURE a. AMBIENT b. ABOVE AMBIENT c. BELOW AMBIENT d. CRYOGENIC 28

%WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
32.0 ²⁹	ETHANOL	<input type="checkbox"/> Yes <input type="checkbox"/> No 31	64-17-5 32
9.0 ²⁹	PHENOL	<input type="checkbox"/> Yes <input type="checkbox"/> No 31	108-95-2 32
4.0 ²⁹	METHANOL	<input type="checkbox"/> Yes <input type="checkbox"/> No 31	67-56-1 32
4.01 ²⁹	FORMALDEHYDE	<input type="checkbox"/> Yes <input type="checkbox"/> No 31	32
29		<input type="checkbox"/> Yes <input type="checkbox"/> No 31	32

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

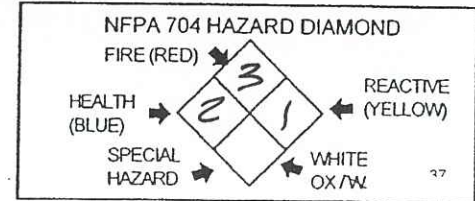
PLACARDING INFORMATION

UNDOT # _____ 33 Refer to shipping papers or MSDS

DOT HAZARD CLASS _____ 34 Refer to shipping papers or MSDS

EPCRA YES NO 35

X _____ 36 If EPCRA, Please Sign Here

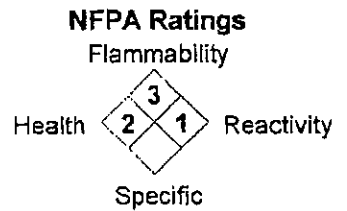


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Georgia-Pacific Resins, Inc.
A wholly owned subsidiary of
Georgia-Pacific Corporation

#17 2/07



Material Safety Data Sheet

GPRI® BLS-2700 Phenolic Resin

Section 1. Chemical Product and Company Identification	
Product / Trade Name	GPRI® BLS-2700 Phenolic Resin
Synonyms	RPPC 2700
Chemical Family	Phenol-Formaldehyde Resin
Chemical Formula	(C ₆ H ₆ O . CH ₂ O) _x
Manufacturer	Georgia-Pacific Resins, Inc. 2883 Miller Road Decatur, GA 30035 (770) 593-6874 (Non-Emergency) (800) 765-7374 (Customer Service)
Emergency Phone (24 hours):	CHEMTREC 1-800-424-9300

Section 2. Composition and Information on Ingredients				
Hazardous Components	CAS #	% by Weight	ACGIH TLV™	OSHA PEL
Ethanol	64-17-5	32.0 max.	TWA: 1000 ppm	TWA: 1000 ppm
Phenol	108-95-2	9.0 max.	TWA: 5 ppm [skin]	TWA: 5 ppm [skin]
Methanol	67-56-1	4.0 max.	TWA: 200 ppm STEL: 250 ppm [skin]	TWA: 200 ppm
Formaldehyde	50-00-0	< 0.1	CEIL: 0.3 ppm	TWA: 0.75 ppm STEL: 2 ppm

[skin] This notation indicates that absorption through skin can contribute significantly to overall exposure. TWAs are 8 hour exposures unless otherwise noted. STELs are 15 minute exposures unless otherwise noted.

Section 3. Hazards Identification									
<p>HMIS</p> <table border="1"> <tr> <td>Health Hazard</td> <td>2</td> </tr> <tr> <td>Fire Hazard</td> <td>3</td> </tr> <tr> <td>Reactivity</td> <td>1</td> </tr> <tr> <td>Personal Protection</td> <td></td> </tr> </table>	Health Hazard	2	Fire Hazard	3	Reactivity	1	Personal Protection		<p>Note: Personal protective equipment (PPE) is related to conditions of use. Determination of PPE is the responsibility of the employer. Refer to <u>Section 8 (Exposure Controls / Personal Protection)</u> of this MSDS for recommendations.</p>
Health Hazard	2								
Fire Hazard	3								
Reactivity	1								
Personal Protection									

Emergency Overview Clear, amber liquid; alcohol-phenolic odor.

WARNING! Flammable liquid. Keep away from heat, sparks, and flames. Vapors can travel to a source of ignition and flash back. Unvented containers may develop pressure on prolonged exposure to heat. Eye irritation or injury may result from exposure to this product.

GPRI® BLS-2700

Potential Health Effects

Eye contact	Contact with liquid or mist can cause severe eye irritation or injury. Vapors released from product can cause severe eye irritation. Symptoms may include redness, watering, itching, or a burning sensation in the eyes.
Skin Contact	Not expected to be a primary skin irritant or toxic by skin contact.
Inhalation	This product is not expected to be toxic by inhalation. However, prolonged inhalation of vapors released from hot or curing product may be irritating to the nose, throat, and lungs. Symptoms may include coughing or shortness of breath, nausea, headaches, dizziness or drowsiness.
Ingestion	Not expected to be orally toxic. In normal industrial use, ingestion is not considered a probable route of exposure.
Chronic	This product contains formaldehyde which may cause cancer based on animal data. Repeated or prolonged exposure to formaldehyde may cause skin sensitization, dermatitis, or other allergic reactions. The degree of sensitivity varies with individuals.
	This product contains ingredients which may affect the following target organs: Respiratory system, eyes, skin, central nervous system, kidneys, liver, blood, gastrointestinal tract

See Section 11 Toxicological Information for additional information.

Section 4. First Aid Measures

Eye contact	Immediately rinse with water. Remove contact lenses. Hold eyelids apart and flush eyes with water for at least 15 minutes. Get immediate medical attention
Skin Contact	Remove contaminated clothing. Wash skin thoroughly with soap and water. Get medical attention if irritation persists. Launder contaminated clothing before reuse.
Inhalation	Remove to fresh air. Rest in half-upright position. Get medical attention if necessary.
Ingestion	If conscious, immediately rinse mouth and give large quantities of water. Get immediate medical attention. Never give anything by mouth to an unconscious person.

Section 5. Fire and Explosion Data

<u>Fire Hazards</u>	Flammable liquid. Keep away from heat, sparks, open flame, or other ignition sources.		
Flash Point	approximately 52°F (11.1°C) [Pensky-Martens Closed Cup]		
Flammable Limits (% by volume)	Ethanol	LOWER: 3.3	UPPER: 19
	Methanol	LOWER: 6	UPPER: 36.5
Extinguishing Media	Use alcohol foam, carbon dioxide, or dry chemical.		
Fire Fighting Instructions	Use self contained breathing apparatus and protection for skin. Use water spray to cool fire exposed containers. Stay away from ends of container.		
Combustion Products	Irritating fumes and toxic gases.		
Special Hazards	<ul style="list-style-type: none"> • CAUTION: Vapors can travel to a source of ignition and flash back. • Hazardous polymerization may take place if exposed to fire conditions. • Unvented containers can build up pressure if exposed to heat (fire) and rupture violently. • Water runoff can cause environmental damage. Dike and collect water used to fight fire. 		

GPRI® BLS-2700

Section 6. Accidental Release Measures

Spill and Leak Procedures	<ul style="list-style-type: none"> • Turn off all sources of heat or ignition. • Stop leak if you can do so without risk. • Ventilate area with explosion-proof equipment. • Use PPE appropriate to spill size and risk of exposure. • Confine spillage and absorb on earth, sand, or other non-combustible absorbent material. • Retain all contaminated water for removal and treatment. DO NOT flush to sewer.
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Section 7. Handling and Storage

Handling	<ul style="list-style-type: none"> • Flammable liquid. Avoid contact with eyes, skin, and clothing. Use proper protective equipment. (see <u>Section 8</u>) • Avoid breathing mist or vapor. Use only in a well ventilated area. • Ground and bond containers when transferring material. Use explosion-proof pumps. • Unvented containers may develop pressure. Open with caution. • Wash thoroughly after handling. • Eyewash stations and safety showers should be easily accessible to areas where product is used.
Storage	<ul style="list-style-type: none"> • Keep away from heat, sparks, open flame, or other sources of ignition. • Do not store portable containers in direct sunlight. • Keep containers closed when not in use. • For maximum storage life, store at temperatures below 60°F (15.6°C). • Store away from incompatible materials. (see <u>Section 10</u>)

Section 8. Exposure Controls / Personal Protection

Personal Protective Equipment (PPE)	<p>Eyes and Face: Face shield with safety glasses or chemical safety goggles.</p> <p>Skin: Rubber or neoprene gloves. Wear additional protective clothing as appropriate to protect skin. Chemical resistant apron or other impervious clothing.</p> <p>Respiratory: If feasible engineering controls do not prevent overexposure, a full-face respirator with cartridges approved by NIOSH/MSHA for formaldehyde, organic vapors, and dusts/mists may be used only when exposure levels are known to be within the unit's capability. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or in any situation where air purifying respirators may not provide adequate protection.</p>
Engineering Controls	Use ventilation as necessary to keep exposure to airborne contaminants below the exposure limits. Use explosion-proof ventilation equipment.

Section 9. Physical and Chemical Properties

Physical appearance	Clear, amber liquid
Odor	alcohol-phenolic
pH (as is)	not applicable
Boiling Point	approximately 199°F (92.8°C)
Melting Point	not applicable
Specific Gravity (25°C)	approximately 1.06
Vapor Pressure (mm Hg)	not available

GPRI® BLS-2700

Vapor Density	not available
% Volatile (w/w)	approximately 44%
Solubility in Water	insoluble

Section 10. Stability and Reactivity Data

Chemical Stability	This product is stable under the recommended storage conditions.
Conditions to Avoid	Avoid storage at temperatures above 60°F (16°C). (see <u>Section 7</u>)
Incompatibility with Other Materials	Avoid contact or contamination with strong oxidizers, acids, alkalis.
Hazardous Decomposition Products	None known.
Hazardous Polymerization	Hazardous polymerization will not occur.
Special Remarks	Elevated storage temperatures will shorten product storage life. Product may darken with time.

Section 11. Toxicological Information

Eye	A similar product was a severe eye irritant when tested as described in <u>29 CFR 1910.1200</u> , Appendix A (OSHA Hazard Communication Standard).
Dermal	A similar product was not a primary skin irritant and was not dermally toxic when tested as described in <u>29 CFR 1910.1200</u> , Appendix A (OSHA HCS).
Inhalation	A similar product was not toxic by inhalation when tested as described in <u>29 CFR 1910.1200</u> , Appendix A (OSHA HCS).
Oral	A similar product was not orally toxic when tested as described in <u>29 CFR 1910.1200</u> , Appendix A (OSHA HCS).
Subchronic Effects	Exposure to gaseous formaldehyde may cause temporary irritation of the nose and throat and may lead to respiratory disorders. However, in a thorough review of sensory/respiratory irritation studies of formaldehyde from the standpoint of occupational exposure, an expert panel has observed that exposure to concentrations of 0.3 ppm or lower failed to produce irritation. No irritation will usually be reported at 0.5 ppm, especially if persons are exposed only 8 hours per day. With regard to respiratory disorders, studies have concluded the threshold for long-term exposures causing chronic pulmonary effects is between 0.4 and 3 ppm and chronic obstructive pulmonary disease is 2 ppm. Additionally, persons with asthma responded no differently than healthy individuals at concentrations as high as 3 ppm. Some reports, however, suggest formaldehyde may cause asthma and that pre-existing respiratory disorders may be aggravated by exposure.
Chronic Effects	
Carcinogenicity	Epidemiological studies of workers exposed to formaldehyde have failed to consistently identify an association between formaldehyde exposure and cancer. In animal studies, rats and mice exposed to high levels of formaldehyde developed nasal cancer while hamsters did not. These exposure levels are far above those expected to be found in the workplace. These animal studies provide an inference of carcinogenic hazard for humans. Although human tissue may be inherently susceptible to formaldehyde carcinogenicity, this effect may require exposure to concentrations that humans could not tolerate. Formaldehyde is listed by the International Agency for Research on Cancer (IARC) as a probable human carcinogen (Group 2A). The National Toxicology Program has included formaldehyde in its Annual Report on Carcinogens. OSHA regulates formaldehyde as a potential carcinogen for

GPRI® BLS-2700

Target Organs	exposures at or exceeding 0.5 ppm. See <u>Section 3.</u>
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Section 12: Ecological Information

Ecotoxicity	This product is biodegradable under aerobic and anaerobic conditions.
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Section 13: Disposal Considerations

Waste Disposal	Dispose of absorbed material in accordance with all federal, state, and local regulations. Dispose of contaminated water in a contained waste treatment system.
RCRA	This product has a flash point less than 140°F. Upon disposal, it would be considered a hazardous waste exhibiting the characteristic of ignitability (Hazardous Waste No. D001). Note: If this product is altered, it is the responsibility of the user to determine whether the material meets the criteria for hazardous waste at the time of disposal.

Section 14: Transportation Information

DOT	Regulated as indicated below.
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Shipping Description	Rail Cars & Tank Trucks	Tote-bin Quantities or Less
Propper Shipping Name	Resin solution	Resin solution
Hazard Class	3	3
Identification Number	UN 1866	UN 1866
Packing Group	II	II
Reportable Quantities	RQ (Phenol)	Not applicable.
Placards / Labels	Placards: Flammable.	Labels: Flammable liquid
Special Provisions for Transport	None.	When shipping by air, consult the IATA regulations.

Section 15: Regulatory Information

Federal Regulations	<i>The following regulations may have reporting requirements for the components listed. See "Key to Abbreviations and Acronyms" under Section 16 for definitions.</i>	
CERCLA / SARA Emergency Reporting	A spill or release of this material may trigger the emergency release reporting requirements under CERCLA (40 CFR Part 300) and/or SARA Title III (40 CFR Part 355). State or local reporting requirements may differ from federal requirements. Consult counsel for further guidance on your responsibilities under these laws. Phenol, Methanol, Formaldehyde	
SARA Title III Section 313 Supplier Notification	This product is known to contain the following chemicals which are listed in 40 CFR 372.65 as toxic chemicals requiring notification. This information must be included in all MSDS's that are copied and distributed for this product.	
	<u>Component</u>	<u>CAS #</u>
	Phenol	108-95-2
	Methanol	67-56-1
		<u>% by Weight</u>
		9.0 max.
		4.0 max.

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CWA Section 307	The following chemicals are listed under Section 307 as toxic pollutants <u>not</u> eligible for waiver from best available technology economically achievable (BAT) effluent limitations. Phenol
CWA Section 311	The following chemicals are listed under Section 311 as hazardous substances requiring the submission of a National Pollutant Discharge Elimination System (NPDES) permit application to EPA. Phenol, Formaldehyde
TSCA	All components of this product are listed on the Toxic Substances Control Act Inventory or are excluded from listing requirements.
Other Regulations	See the OSHA Formaldehyde Standard <u>29 CFR 1910.1048</u> for worker training, workplace monitoring, and medical surveillance requirements. <u>California Safe Drinking Water and Toxic Enforcement Act (Proposition 65):</u> This product contains the following substance(s) known to the State of California to cause cancer: Formaldehyde <u>Canada:</u> All components of this product are listed on the Canadian Domestic Substances List (DSL) or otherwise comply with CEPA new substance notification requirements.

Section 16: Other Information

FDA Status	<u>21 CFR 175.300</u> May be used as a resinous and polymeric coating used as the food-contact surface of articles intended for use in producing, manufacturing, packing, processing, preparing, treating, packaging, transporting, or holding food, subject to the provisions of this section.
Other Special Considerations	CAUTION: Empty containers may contain product residue. Continue to observe recommended safety precautions when handling empty containers.
Supersedes Date	09/17/1999
Section(s) Changed Since Last Revision	2. Composition and Information on Ingredients
Key to Abbreviations and Acronyms	<ul style="list-style-type: none"> ACGIH - American Conference of Governmental Industrial Hygienists ANSI - American National Standards Institute CEIL - Ceiling value CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act CFR - Code of Federal Regulations CWA - Clean Water Act DOT - Department of Transportation FDA - Food and Drug Administration HCS - Hazard Communication Standard HMIS - Hazardous Materials Information System IARC - International Agency for Research on Cancer LC₅₀ - The concentration of a material expected to kill 50% of an animal test group. LC_{Lo} - Lowest lethal concentration of a substance LD₅₀ - The dose of a material expected to kill 50% of an animal test group. LD_{Lo} - Lowest lethal dose of a material MSHA - Mine Safety and Health Administration N.O.S. - Not Otherwise Specified NFPA - National Fire Protection Association NIOSH - National Institute for Occupational Safety and Health NTP - National Toxicology Program OSHA - Occupational Safety and Health Administration PEL - Permissible Exposure Limit (OSHA)

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RCRA	- Resource Conservation and Recovery Act
RQ	- Reportable Quantity
SARA	- Superfund Amendments and Reauthorization Act
STEL	- Short Term Exposure Limit
TLV	- Threshold Limit Value (recommended by ACGIH)
TSCA	- Toxic Substances Control Act
TWA	- Time Weighted Average

IMPORTANT:

This MSDS was prepared and is to be used only for this product in its present form. If this material is altered or used as a component in another material, the information on this MSDS may not be applicable. This document is generated for the purpose of distributing health, safety, and environmental data. It is not a specification sheet nor should any displayed data be construed as a specification. Some of the information presented and conclusions drawn herein are from sources other than direct test data on the product.

This information and the data herein are believed to be accurate and have been compiled from sources believed to be reliable. It is offered for your consideration, investigation, and verification. Buyer assumes all risk of use, storage, and handling of the product in compliance with applicable federal, state, and local laws and regulations.

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HAZARDOUS MATERIALS INVENTORY FORM

FORM 3

ADD

DELETE

REVISED 1

Page _____ of _____ 2

FACILITY ID# 30035 38 BUSINESS NAME IRON GRIP BARBELL CO. 3

I. FACILITY INFORMATION

CHEMICAL LOCATION 11377 MARKON DR. GARDEN GROVE, CA. 92841 4

CONFIDENTIAL LOCATION EPCRA Yes No 5 MAP # 1 6 GRID # D-5 7

II. CHEMICAL INFORMATION

CHEMICAL NAME EMULSIFYING OIL WASTE Yes 8 TRADE SECRET Yes No 11
* If EPCRA see instructions

COMMON NAME BLASCO BL40 SW 9 An EHS Chemical Yes No 12
* If EHS is "Yes", all amounts must be LBS

CAS # PROPRIETARY 10 FIRE CODE HAZARD CLASSES (supplied by GGFD) Class 3 13

TYPE (Check one item only) a. PURE b. MIXTURE c. WASTE 14 RADIOACTIVE Yes No 15 CURIES 16

PHYSICAL STATE (Check one item only) a. SOLID b. LIQUID c. GAS 17 FED HAZARD CATEGORIES a. FIRE b. REACTIVE c. PRESSURE RELEASE 18
 d. ACUTE HEALTH e. CHRONIC HEALTH

AVERAGE DAILY AMOUNT 10 Gallons 19 MAXIMUM DAILY AMOUNT 10 Gallons 20 ANNUAL WASTE AMOUNT 4000 lbs 21 STATE WASTE CODE 22

UNITS a. GALLONS b. CUBIC FEET 23 DAYS ON SITE 365 24 LARGEST CONTAINER 55 Gallon Drum 25
 c. POUNDS d. TONS
* If EHS, amount must be in pounds.

STORAGE CONTAINER (Check all that apply) a. ABOVEGROUND TANK e. PLASTIC DRUM i. VAT m. CYLINDER q. TANK WAGON 26
 b. UNDERGROUND TANK f. NONMETALLIC DRUM j. FIBER DRUM n. GLASS CONTAINER r. RAIL CAR
 c. TANK INSIDE BLDG g. METAL CONTAINER k. BAG(S) o. PLASTIC CONTAINER s. TOTE BIN
 d. STEEL DRUM h. CARBOY l. BOX(S) p. IN MACH OR EQUIP t. OTHER _____

STORAGE PRESSURE a. AMBIENT b. ABOVE AMBIENT c. BELOW AMBIENT 27

STORAGE TEMPERATURE a. AMBIENT b. ABOVE AMBIENT c. BELOW AMBIENT d. CRYOGENIC 28

%WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1 <u>45</u> 29	<u>MINERAL OIL</u> 30	<input type="checkbox"/> Yes <input type="checkbox"/> No 31	<u>64742-52-5</u> 32
2 <u>50</u> 29	<u>EMULSIFIERS</u> 30	<input type="checkbox"/> Yes <input type="checkbox"/> No 31	<u>68608-26-4</u> 32
3 29	30	<input type="checkbox"/> Yes <input type="checkbox"/> No 31	32
4 29	30	<input type="checkbox"/> Yes <input type="checkbox"/> No 31	32
5 29	30	<input type="checkbox"/> Yes <input type="checkbox"/> No 31	32

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

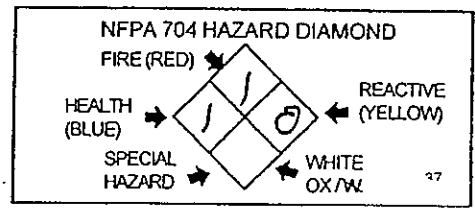
PLACARDING INFORMATION

UNDOT # _____ 33
Refer to shipping papers or MSDS

DOT HAZARD CLASS _____ 34
Refer to shipping papers or MSDS

EPCRA YES NO 35

X _____ 36
If EPCRA, Please Sign Here



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MSDS Blasocut

PRODUCT IDENTIFICATION

Manufacturer: Blaser Swissslube, Inc.
31 Hatfield Lane
Goshen, NY 10924
USA

Emergency phone number USA: (845) 294-3200

Product name: Blasocut BC40SW Art. No. 40018
Blasocut BC20SW Art. No. 40017

Product type: Water-miscible mineral oil based metal working fluid

Prepared by: OH & S coordinator

Date of issue: February 14, 2005

Supersedes: Edition 2 of May 9, 2003

HMIS ¹	
Health	0
Fire	1
Reactivity	0

PRODUCT COMPOSITION

Blasocut BC40SW and BC20SW is a mixture of:

Ingredient	%	CAS No:	Exposure Limits:
Severely hydrotreated mineral oil	45 - 65	64742-52-5	OSHA: 5mg/m ³
Emulsifiers	30 - 50	68608-26-4 67701-22-8 68154-86-9	
Polar additives	1 - 5	8019-28-2 61788-66-7	
Chlorinated paraffin (C ₁₆₋₂₀ , less than 50% chlorine)	5 - 15	61788-76-9	
Stabilizers and inhibitors:	1 - 5		

Corrosion and fungi inhibitors; Na-benzoate; 2-propanol, 1-phenoxy; Ca-acetate; alpha-Tocopherol; citric acid; tartaric acid; ascorbic acid; ascorbylpalmitate; oleylscarosine; 1-hydroxyethyl-2-oleyl-imidazoline, glycerin and odorant

Blasocut does not contain as an ingredient: active sulfur, phenols, nitrites, formaldehyde or formaldehyde releasing substances, heavy metals (i.e. lead, mercury etc.), arsenic, PCB, PCT, TCDD or other dioxin related substances. Benzo(a)pyrene content less than 10 ppm (GS-MS method).

EMERGENCY & FIRST AID PROCEDURES

Skin contact: Wash with plenty of soap and fresh water (good personal hygiene practices are sufficient). Remove any contaminated clothing and launder before reuse.

Eye contact: Rinse with plenty of fresh water for 20 minutes. Consult physician if necessary.

Inhalation: Remove to fresh air.

Ingestion: Do not induce vomiting, pulmonary aspiration hazard. Consult a physician without delay. If involuntary vomiting occurs, ensure mouth is below hip level. Get medical attention.

FIRE & EXPLOSION HAZARD DATA

Flash point (COC): 240°F (116°C)

Auto ignition temperature: Not determined

Explosion limits: Not applicable

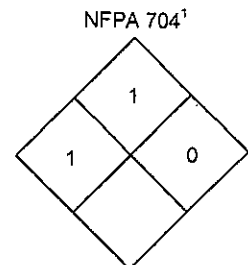
Hazardous combustion products: Oxides of carbon, nitrogen and traces of oxides of sulfur and chlorine, HCl

Products formed under abnormal conditions: Thermal decomposition of the concentrate above 176°F may produce trace amounts of HCl.

Fire fighting media: CO₂, dry chemical, foam

Special fire fighting procedures: Wear self-contained breathing apparatus when fighting fires in confined spaces. Cool exposed containers with water mist to prevent pressure build-up.

Unusual fire or explosion hazards: None



¹ See last page for explanation

MSDS Blasocut

PRECAUTIONS FOR SAFE HANDLING & USE

Steps to be taken in case material is released or spilled:	As with any other industrial lubricating oil, use oil-binding agents. Spills or leaks may cause slippery conditions. Prevent material from getting into storm sewers or surface waters.
Waste disposal methods:	Split emulsion with absorbing agents, salts or ultra-filtration. Dispose according to all applicable federal, state and local regulations.
Precautions to be taken in handling/storing:	Avoid direct solar irradiation of concentrate containers.
Other precautions:	Do not store with strong oxidizers.

CONTROL MEASURES

Respiratory protection:	Not generally required.
Ventilation:	Ventilation sufficient to comply with recommended NIOSH exposure limit for metalworking fluids is suggested.
Protective gloves:	Not generally required.
Eye protection:	Industrial safety glasses are recommended.
Other protective equipment or clothing:	Standard work clothing and shoes.
Work/hygienic practices:	Thorough personal hygiene and clean working practices are sufficient.

CHEMICAL & PHYSICAL PROPERTIES OF THE COMPLETE PRODUCT

Volatiles in %:	Nil
Vapor pressure:	Not volatile
Boiling point:	Not applicable
Pour point:	< -22°F (< -30°C)
Solubility in water:	Emulsifies
Specific gravity:	40018: 0.98 g/cm ³ 40017: 0.97g/cm ³
pH @ 5% after 24 hrs:	8.9 - 9.2
Viscosity:	40018: 55 mm ² /s @ 104°F (40°C) 40017: 53mm ² /s @ 104°F (40°C)
Appearance and odor:	Light brown liquid / pleasant odor (almonds)

REACTIVITY DATA

Stability:	Stable
Conditions to avoid:	Avoid direct solar irradiation of concentrate containers. Good and safe housekeeping procedures suggest that all combustible materials be stored away from strong oxidizers.
Incompatibility (materials to avoid):	<u>Concentrate:</u> Strong oxidizers <u>End use dilutions:</u> Magnesium
Hazardous decomposition or byproducts:	Thermal decomposition (concentrate) above 176°F (80°C); Trace amounts of HCl
Hazardous polymerization or byproducts:	Will not occur

MSDS Blasocut

HEALTH HAZARD DATA

LD₅₀ of concentrate: > 5 g/kg (calculated)
Health hazards (acute/chronic): None
Skin sensitizing: Not expected to be sensitizing
Eye irritation: Not expected to be irritating
Carcinogenicity: None of the ingredients are listed in OSHA, NTP or IARC
Routes of entry:
 ♦ Inhalation: Unlikely
 ♦ Skin: No
 ♦ Ingestion: Accidental only
Signs and symptoms of exposure: None established
Medical conditions generally aggravated by exposure: Not established
OSHA regulated: No
Exposure limits: NIOSH Recommended exposure limit for Metalworking fluids: 0.5mg/ m³
 OSHA 29 CFR 1910.1000 for oil mist in air: 5 mg/m³
 ACGIH: TLV for oil mist in air: 5 mg/m³

The Mineral oil used in Blasocut passes IP346 for DMSO extractable PNA-Benzo(a)pyrene content less than 10 ppm (GC-MS method).

ENVIRONMENTAL, REGULATORY AND SUPPLEMENTAL INFORMATION

NFPA Storage: III B

SARA Title III information:

- ♦ Immediate health (acute): No
- ♦ Reactive hazard: No
- ♦ Fire hazard: No
- ♦ Delayed health (chronic): No
- ♦ Sudden pressure release: No

Blasocut does not contain any ingredients listed on the SARA Title III, Section 313 list or CERCLA List of Chemicals.

RCRA / Hazardous Waste: Blasocut, as sold, does not meet the criteria of a hazardous waste as defined under 40CFR 261, in that it does not exhibit the characteristics of a hazardous waste of subpart C, nor is it listed as a hazardous waste under subpart D. It is the end-user's responsibility to determine the regulatory status of the waste at the time of disposal and dispose of according to all applicable federal, state and local regulations

TSCA: All ingredients of Blasocut are listed on the TSCA Chemical Substances Inventory.

Canadian DSL / NDSL information: All ingredients of Blasocut are listed on Canadian DSL.

Clean Air Act: Blasocut does not contain nor is it manufactured with ozone depleting substances as defined in the Federal Clean Air Act Amendments of 1990, sections 602 and 611.

DOT: Blasocut is not considered hazardous under current DOT regulations.

Spills: This product is classified as oil. Spills into or leading to surface waters that cause a sheen should be reported to the National Response Center at 1-800-424-8802.

HMIS Ratings	0	1	2	3	4
Health, Fire, Reactivity	Minimal	Slight	Moderate	Serious	Extreme
NFPA 704 Ratings (Under fire conditions)					
Health Hazard	Normal Material	Slightly Hazardous	Hazardous	Extreme danger	Deadly
Fire (Flash Point)	Will not Burn	>200°F	100-200°F	73-100°F	<73°F
Reactivity	Stable	Unstable if heated	Violent Chemical change	Shock and Heat may detonate	May detonate



HAZARDOUS MATERIALS INVENTORY FORM

FORM 3

ADD DELETE REVISED 1 Page _____ of _____ 2

FACILITY ID#	30035	38	BUSINESS NAME	IRON GRIP BARBELL CO.	3
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I. FACILITY INFORMATION

CHEMICAL LOCATION	11377 MARKON DR. GARDEN GROVE, CA. 92841					4		
CONFIDENTIAL LOCATION EPCRA	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5	MAP #	1	6	GRID #	I-7	7

II. CHEMICAL INFORMATION

CHEMICAL NAME	ISOPROPANOL		WASTE	<input type="checkbox"/> Yes <input type="checkbox"/> No	8	TRADE SECRET	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	11
COMMON NAME	0.1 HYDROCHLORIC ACID IN ISOPROPANOL		* If EPCRA see instructions		9	An EHS Chemical	<input type="checkbox"/> Yes <input type="checkbox"/> No	12
CAS #	10	FIRE CODE HAZARD CLASSES (supplied by GGFD)		13				

TYPE (Check one item only)	<input type="checkbox"/> a. PURE <input checked="" type="checkbox"/> b. MIXTURE <input type="checkbox"/> c. WASTE	14	RADIOACTIVE	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	15	CURIES	16
PHYSICAL STATE (Check one item only)	<input type="checkbox"/> a. SOLID <input checked="" type="checkbox"/> b. LIQUID <input type="checkbox"/> c. GAS	17	FED-HAZARD CATEGORIES	<input type="checkbox"/> a. FIRE <input type="checkbox"/> b. REACTIVE <input type="checkbox"/> c. PRESSURE RELEASE <input type="checkbox"/> d. ACUTE HEALTH <input type="checkbox"/> e. CHRONIC HEALTH		18	

AVERAGE DAILY AMOUNT	8 OUNCES	19	MAXIMUM DAILY AMOUNT	8 OZ.	20	ANNUAL WASTE AMOUNT	21	STATE WASTE CODE	22
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UNITS	<input checked="" type="checkbox"/> a. GALLONS <input type="checkbox"/> b. CUBIC FEET <input type="checkbox"/> c. POUNDS <input type="checkbox"/> d. TONS	23	DAYS ON SITE	365	24	LARGEST CONTAINER	2 LTR.	25
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STORAGE CONTAINER (Check all that apply)	<input type="checkbox"/> a. ABOVEGROUND TANK <input type="checkbox"/> e. PLASTIC DRUM <input type="checkbox"/> i. VAT <input type="checkbox"/> m. CYLINDER <input type="checkbox"/> q. TANK WAGON <input type="checkbox"/> b. UNDERGROUND TANK <input type="checkbox"/> f. NONMETALLIC DRUM <input type="checkbox"/> j. FIBER DRUM <input checked="" type="checkbox"/> n. GLASS CONTAINER <input type="checkbox"/> r. RAIL CAR <input type="checkbox"/> c. TANK INSIDE BLDG <input type="checkbox"/> g. METAL CONTAINER <input type="checkbox"/> k. BAG(S) <input type="checkbox"/> o. PLASTIC CONTAINER <input type="checkbox"/> s. TOTE BIN <input type="checkbox"/> d. STEEL DRUM <input type="checkbox"/> h. CARBOY <input type="checkbox"/> l. BOX(S) <input type="checkbox"/> p. IN MACH OR EQUIP <input type="checkbox"/> t. OTHER		26
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STORAGE PRESSURE	<input type="checkbox"/> a. AMBIENT <input type="checkbox"/> b. ABOVE AMBIENT <input type="checkbox"/> c. BELOW AMBIENT	27
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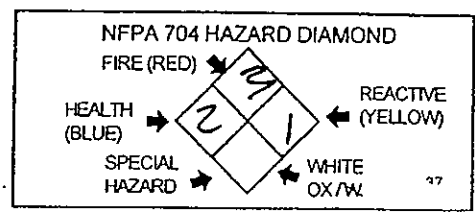
STORAGE TEMPERATURE	<input type="checkbox"/> a. AMBIENT <input type="checkbox"/> b. ABOVE AMBIENT <input type="checkbox"/> c. BELOW AMBIENT <input type="checkbox"/> d. CRYOGENIC	28
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%WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1 99 29	ISOPROPANOL	<input type="checkbox"/> Yes <input type="checkbox"/> No 31	67-63-0 32
2 1 29	HYDROGEN CHLORIDE	<input type="checkbox"/> Yes <input type="checkbox"/> No 31	7647-01-0 32
3 29		<input type="checkbox"/> Yes <input type="checkbox"/> No 31	32
4 29		<input type="checkbox"/> Yes <input type="checkbox"/> No 31	32
5 29		<input type="checkbox"/> Yes <input type="checkbox"/> No 31	32

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

PLACARDING INFORMATION

UNDOT #	_____	33
Refer to shipping papers or MSDS		
DOT HAZARD CLASS	_____	34
Refer to shipping papers or MSDS		
EPCRA	<input type="checkbox"/> YES <input type="checkbox"/> NO	35
X	_____	36
If EPCRA, Please Sign Here		



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Manufactured by:
 LabChem Inc
 200 William Pitt Way, Pittsburgh, PA 15238
 412-826-5230 Fax 412-826-5234

Date prepared on: 09/13/07
 Last revised on: 09/13/07

Section I: Product Identification

CATALOG NUMBER: 19-09-030-2, 19-09-031-1	PRODUCT NAME: 0.1 N Hydrochloric Acid in Isopropanol
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Section II: Hazardous Ingredients/Identity Information

Chemical Name	CAS Reg. No.	OSHA PEL (TWA)	% Composition*
Hydrogen Chloride as Hydrochloric Acid	7647-01-0	Cl 7 mg/m ³	0.4%
Isopropanol	67-63-0	TWA 400 ppm	>99%

* components are calculated on a weight /weight basis.

Section III – Physical/Chemical Characteristics of Hazardous Ingredients

Hydrogen Chloride as Hydrochloric Acid

BOILING POINT: 85-110° C	SPECIFIC GRAVITY: 1.0-1.2	
VAPOR PRESSURE: 5.7 mm Hg @ 0° C	SOLUBILITY IN WATER: Miscible	APPEARANCE/ODOR: Clear, colorless liquid

Isopropanol-

BOILING POINT: 82° C	SPECIFIC GRAVITY: 0.785	
VAPOR PRESSURE: 33 mm Hg @ 20° C	SOLUBILITY IN WATER: Miscible	APPEARANCE/ODOR: Clear, colorless liquid

Section IV – Fire and Explosion Hazard Data

FLASH POINT (Method used): 11° C (closed cup)	AUTOIGNITION TEMPERATURE: >350° C	FLAMMABLE LIMITS	LEL 2.0%	UEL 12.7%
EXTINGUISHING MEDIA: Use dry chemical, carbon dioxide, water spray, fog or alcohol-resistant foam.				
SPECIAL FIRE FIGHTING PROCEDURES: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH, and full protective gear. Use water spray to keep exposed containers cool.				
UNUSUAL FIRE AND EXPLOSION HAZARDS: Do not use streams of water. Material is lighter than water, and using streams of water may spread the fire. Vapors are heavier than air and may travel to an ignition source and flash back, or collect in low-lying areas. May form explosive peroxides.				

Section V – Reactivity Data

STABILITY:	Unstable <input checked="" type="checkbox"/>	Stable <input type="checkbox"/>	Conditions to Avoid: Under normal storage conditions, peroxidizable compounds can form and accumulate peroxides which may explode when subjected to heat and shock.
INCOMPATIBILITY (Materials to avoid): Reacts with metals to form corresponding chloride salts. Avoid strong oxidizers, strong bases, amines, ammonia, ethylene oxide, chlorine, acetaldehyde.			
HAZARDOUS DECOMPOSITION PRODUCTS: Hydrogen chloride, carbon monoxide, carbon dioxide.			
HAZARDOUS POLYMERIZATION:	May Occur <input type="checkbox"/>	Will Not Occur <input checked="" type="checkbox"/>	Conditions to Avoid: None

Section VI – Health Hazard Data

ROUTES OF ENTRY	Inhalation? Yes	Skin? Yes	Ingestion? Yes
HEALTH HAZARDS (Acute and Chronic): ACUTE – Eye: causes severe eye burns. Skin: Causes skin burns. May cause deep, penetrating ulcers of the skin. May be absorbed through the skin. Ingestion: Causes gastrointestinal tract burns. Causes severe pain, nausea, vomiting, diarrhea, and shock. Causes central nervous system effects, characterized by excitement, headache, dizziness, drowsiness, and nausea. Advanced stages may cause collapse, unconsciousness, coma, and death. Inhalation: Irritation may lead to chemical pneumonitis and pulmonary edema. Causes severe irritation of upper respiratory tract with coughing, burns, breathing difficulty, and possible coma. Causes central nervous system depression. Aspiration may cause chemical pneumonitis. CHRONIC – Prolonged or repeated skin contact may cause defatting and dermatitis.			
COMPONENTS LISTED AS CARCINOGENS OR POTENTIAL CARCINOGENS: None			
SIGNS AND SYMPTOMS OF EXPOSURE: Irritation and/or burns of eyes, skin, digestive tract, and upper respiratory tract, nausea, vomiting, headache, dizziness, drowsiness, incoordination.			
MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: Skin conditions, respiratory conditions.			
EMERGENCY AND FIRST AID PROCEDURES: Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower lids. Get medical aid immediately. Skin: Get medical aid immediately. Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Discard contaminated clothing in a manner which limits further exposure. Ingestion: Do NOT induce vomiting. Aspiration hazard. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately. Inhalation: Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid. Notes to Physician: Treat symptomatically and supportively.			

Section VII – Precautions for Safe Handling and Use

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Absorb with inert material, then place in a chemical waste container.
WASTE DISPOSAL METHOD: Dispose of in a manner consistent with federal, state and local regulations.
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Store at room temperature, capped. Store away from heat and ignition sources.
OTHER PRECAUTIONS* Use proper personal protective equipment.

Section VIII – Control Measures

RESPIRATORY PROTECTION (Please specify): Follow OSHA respirator regulations found in 29 CFR 1010.134 when necessary.	
VENTILATION: Provide local exhaust or general dilution ventilation.	
PROTECTIVE GLOVES: Wear appropriate gloves.	EYE PROTECTION: Wear appropriate protective glasses or chemical safety goggles.
OTHER PROTECTIVE EQUIPMENT: None	
EMERGENCY WASH FACILITIES: Provide an eye-wash fountain in work area.	

Section IX – WHMIS Class: B2, D2A, E – Flammable Liquid, Mutagen, Corrosive

The information stated in this Material Safety Data Sheet (MSDS) is believed to be correct on the date of publication and must not be considered all conclusive. The information has been obtained only by a search of available literature and is only a guide for handling the chemicals. Persons not specifically and properly trained should not handle this chemical or its container. This MSDS is provided without warranty expressed or implied, including merchantability or fitness for any particular purpose.

This product is furnished for laboratory use ONLY! Our standards may not be used as drugs, cosmetics, agricultural or pesticide products, food additives or as household chemicals.

* Various Government agencies (i.e., Department of Transportation, Occupational Safety and Health Administration, Environmental Protection Agency, and others) may have specific regulations concerning the transportation, handling, storage or use of this product which may not be contained herein. The customer or user of this product should be familiar with these regulations.



HAZARDOUS MATERIALS INVENTORY FORM

FORM 3

ADD DELETE REVISED 1 Page _____ of _____ 2

FACILITY ID#	3 0 0 3 5	38	BUSINESS NAME	IRON GRIP BARBELL CO.	3
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I. FACILITY INFORMATION

CHEMICAL LOCATION	11377 MARKON DR. GARDEN GROVE, CA. 92841				4
CONFIDENTIAL LOCATION EPCRA	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5	MAP #	1	6
			GRID #	I-7	7

II. CHEMICAL INFORMATION

CHEMICAL NAME	HYDRANAL COMPOSITE 5	WASTE	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	8	TRADE SECRET	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	11
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COMMON NAME	HYDRANAL COMPOSITE 5	9	An EHS Chemical	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	12
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CAS #	NONE	10	FIRE CODE HAZARD CLASSES (supplied by GGFD)		13
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TYPE (Check one item only)	<input type="checkbox"/> a. PURE <input checked="" type="checkbox"/> b. MIXTURE <input type="checkbox"/> c. WASTE	14	RADIOACTIVE	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	15	CURIES	16
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PHYSICAL STATE (Check one item only)	<input type="checkbox"/> a. SOLID <input checked="" type="checkbox"/> b. LIQUID <input type="checkbox"/> c. GAS	17	FED HAZARD CATEGORIES	<input checked="" type="checkbox"/> a. FIRE <input type="checkbox"/> b. REACTIVE <input type="checkbox"/> c. PRESSURE RELEASE <input type="checkbox"/> d. ACUTE HEALTH <input type="checkbox"/> e. CHRONIC HEALTH	18
--------------------------------------	---	----	-----------------------	---	----

AVERAGE DAILY AMOUNT	.2 GAL	19	MAXIMUM DAILY AMOUNT	.2 GAL	20	ANNUAL WASTE AMOUNT	21	STATE WASTE CODE	22
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UNITS	<input checked="" type="checkbox"/> a. GALLONS <input type="checkbox"/> b. CUBIC FEET <input type="checkbox"/> c. POUNDS <input type="checkbox"/> d. TONS	23	DAYS ON SITE	365	24	LARGEST CONTAINER	2 LTR (16AL)	25
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STORAGE CONTAINER (Check all that apply)	<input type="checkbox"/> a. ABOVEGROUND TANK <input type="checkbox"/> b. UNDERGROUND TANK <input type="checkbox"/> c. TANK INSIDE BLDG <input type="checkbox"/> d. STEEL DRUM <input type="checkbox"/> e. PLASTIC DRUM <input type="checkbox"/> f. NONMETALLIC DRUM <input type="checkbox"/> g. METAL CONTAINER <input type="checkbox"/> h. CARBOY <input type="checkbox"/> i. VAT <input type="checkbox"/> j. FIBER DRUM <input type="checkbox"/> k. BAG(S) <input type="checkbox"/> l. BOX(S) <input checked="" type="checkbox"/> n. GLASS CONTAINER <input type="checkbox"/> o. PLASTIC CONTAINER <input type="checkbox"/> p. IN MACH OR EQUIP <input type="checkbox"/> m. CYLINDER <input type="checkbox"/> q. TANK WAGON <input type="checkbox"/> r. RAIL CAR <input type="checkbox"/> s. TOTE BIN <input type="checkbox"/> t. OTHER	26
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STORAGE PRESSURE	<input type="checkbox"/> a. AMBIENT <input type="checkbox"/> b. ABOVE AMBIENT <input type="checkbox"/> c. BELOW AMBIENT	27
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STORAGE TEMPERATURE	<input type="checkbox"/> a. AMBIENT <input type="checkbox"/> b. ABOVE AMBIENT <input type="checkbox"/> c. BELOW AMBIENT <input type="checkbox"/> d. CRYOGENIC	28
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%WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1	29	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	31
2	29	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	31
3	29	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	31
4	29	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	31
5	29	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	31

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

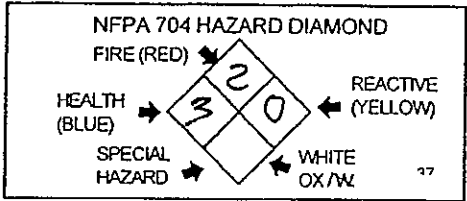
PLACARDING INFORMATION

UNDOT # _____ 33
Refer to shipping papers or MSDS

DOT HAZARD CLASS _____ 34
Refer to shipping papers or MSDS

EPCRA YES NO 35

X _____ 36
If EPCRA, Please Sign Here



MAKE AS MANY COPIES OF CHEMICAL INVENTORY FORM AS NEEDED

MATERIAL SAFETY DATA SHEET

Date Printed: 09/30/2008
Date Updated: 11/08/2006
Version 1.11

Section 1 - Product and Company Information

Product Name HYDRANAL-COMPOSITE 5 ONE-COMPONENT
REAGENT VOLUMETRIC KF TITRATION
Product Number 34805
Brand FLUKA
Company Sigma-Aldrich
Address 3050 Spruce Street
SAINT LOUIS MO 63103 US
Technical Phone: 800-325-5832
Fax: 800-325-5052
Emergency Phone: 314-776-6555

Section 2 - Composition/Information on Ingredient

Substance Name	CAS #		SARA 313
HYDRANAL-COMPOSITE 5, ONE COMPONENT REAGENT	None		Yes
Ingredient Name	CAS #	Percent	SARA 313
Information regarding the specific chemical identity of this material is being withheld as a trade secret of the manufacturer.	None		
IMIDAZOLE	288-32-4	6	No
SULFUR DIOXIDE	7446-09-5	>= 5 <= 15	Yes
IODINE	7553-56-2	>= 5 <= 15	No
2-METHYLIMIDAZOLE	693-98-1	>= 5 <= 15	No

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

May cause sensitization by skin contact.
Combustible. Target organ(s): Liver. Blood.

HMIS RATING

HEALTH: 3
FLAMMABILITY: 2
REACTIVITY: 0

NFPA RATING

HEALTH: 3
FLAMMABILITY: 2
REACTIVITY: 0

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

ORAL EXPOSURE

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

INHALATION EXPOSURE

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

DERMAL EXPOSURE

In case of contact, immediately wash skin with soap and copious amounts of water.

EYE EXPOSURE

In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes.

Section 5 - Fire Fighting Measures

FLASH POINT

194 °F 90 °C Method: closed cup

AUTOIGNITION TEMP

N/A

FLAMMABILITY

N/A

EXTINGUISHING MEDIA

Suitable: For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Specific Hazard(s): Combustible liquid. Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP

Cover with dry-lime, sand, or soda ash. Place in covered containers using non-sparking tools and transport outdoors. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

HANDLING

User Exposure: Avoid breathing vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

STORAGE

Suitable: Keep tightly closed. Keep away from heat and open flame.

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS

Safety shower and eye bath. Mechanical exhaust required.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator.

Hand: Compatible chemical-resistant gloves.

Eye: Chemical safety goggles.

GENERAL HYGIENE MEASURES

Wash contaminated clothing before reuse. Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties

Appearance	Physical State: Liquid	
Property	Value	At Temperature or Pressure
Molecular Weight	N/A	
pH	4.5 - 5.5	20 °C
BP/BP Range	194 °C	
MP/MP Range	N/A	
Freezing Point	N/A	
Vapor Pressure	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
SG/Density	1.17 g/cm ³	
Bulk Density	N/A	
Odor Threshold	N/A	
Volatile%	N/A	
VOC Content	N/A	
Water Content	N/A	
Solvent Content	N/A	
Evaporation Rate	N/A	
Viscosity	N/A	
Surface Tension	N/A	
Partition Coefficient	N/A	
Decomposition Temp.	N/A	
Flash Point	194 °F 90 °C	Method: closed cup
Explosion Limits	N/A	
Flammability	N/A	
Autoignition Temp	N/A	
Refractive Index	N/A	
Optical Rotation	N/A	
Miscellaneous Data	N/A	
Solubility	Solubility in Water: Miscible.	

N/A = not available

Section 10 - Stability and Reactivity

STABILITY

Stable: Stable.

Materials to Avoid: Strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide, Nitrogen oxides, Sulfur oxides, Hydrogen iodide, Iodine.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

Section 11 - Toxicological Information

ROUTE OF EXPOSURE

Skin Contact: May cause skin irritation.

Skin Absorption: May be harmful if absorbed through the skin.

Eye Contact: May cause eye irritation.

Inhalation: Material may be irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled.

Ingestion: May be harmful if swallowed.

SENSITIZATION

Skin: May cause allergic skin reaction.

TARGET ORGAN(S) OR SYSTEM(S)

Kidneys. Central nervous system. Reproductive system. Skin.

Eyes. Endocrine system. Thyroid. Liver.

SIGNS AND SYMPTOMS OF EXPOSURE

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

TOXICITY DATA

Oral

Rat

> 2,000 mg/kg

LD50

Skin

Rat

> 2,000 mg/kg

LD50

IRRITATION DATA

Skin

Rabbit

Remarks: No irritation effect

Eyes

Rabbit

Remarks: No irritation effect

CHRONIC EXPOSURE - TERATOGEN

Result: Exposure to excessive amounts of iodine during pregnancy is capable of producing fetal hypothyroidism. Iodine-containing drugs have been associated with fetal goiter.

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

Contact a licensed professional waste disposal service to dispose of this material. This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT

Proper Shipping Name: Combustible liquid, n.o.s.
UN#: NA1993
Class: COMBUSTIBLE LIQUID
Packing Group: Packing Group III
Hazard Label: None
PIH: Not PIH

IATA

Non-Hazardous for Air Transport: Non-hazardous for air transport.

Section 15 - Regulatory Information

US CLASSIFICATION AND LABEL TEXT

Risk Statements: May cause sensitization by skin contact.
Safety Statements: Wear suitable protective clothing and gloves.
US Statements: Combustible. Target organ(s): Liver. Blood.

UNITED STATES REGULATORY INFORMATION

SARA LISTED: Yes
NOTES: This product is or contains a component that is subject to SARA313 reporting requirements.

CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.
DSL: Yes
NDSL: No

Section 16 - Other Information

DISCLAIMER

For R&D use only. Not for drug, household or other uses.

WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2008 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.



HAZARDOUS MATERIALS INVENTORY FORM

FORM 3

ADD DELETE REVISED 1 Page _____ of _____ 2

FACILITY ID#	3 0 0 3 5	38	BUSINESS NAME	IRON GRIP BARBELL CO.	3
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I. FACILITY INFORMATION

CHEMICAL LOCATION	11377 MARKON DR. GARDEN GROVE, CA. 92841					4		
CONFIDENTIAL LOCATION EPCRA	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5	MAP #	1	6	GRID #	I-2	7

II. CHEMICAL INFORMATION

CHEMICAL NAME	PROPYLENE CARBONATE		WASTE	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6	TRADE SECRET	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	11
COMMON NAME	HYDRANAL WATER STD 10.0		* If EPCRA see instructions		9	An EHS Chemical	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	12
CAS #	10	FIRE CODE HAZARD CLASSES (supplied by GGFD)	13					

TYPE (Check one item only)	<input type="checkbox"/> a. PURE <input checked="" type="checkbox"/> b. MIXTURE <input type="checkbox"/> c. WASTE	14	RADIOACTIVE	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	15	CURIES	16
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PHYSICAL STATE (Check one item only)	<input type="checkbox"/> a. SOLID <input checked="" type="checkbox"/> b. LIQUID <input type="checkbox"/> c. GAS	17	FED HAZARD CATEGORIES	<input checked="" type="checkbox"/> a. FIRE <input type="checkbox"/> b. REACTIVE <input type="checkbox"/> c. PRESSURE RELEASE <input type="checkbox"/> d. ACUTE HEALTH <input type="checkbox"/> e. CHRONIC HEALTH	18
--------------------------------------	---	----	-----------------------	---	----

AVERAGE DAILY AMOUNT	1.2 GAL	19	MAXIMUM DAILY AMOUNT	1.2 GAL	20	ANNUAL WASTE AMOUNT	21	STATE WASTE CODE	22
----------------------	---------	----	----------------------	---------	----	---------------------	----	------------------	----

UNITS	<input type="checkbox"/> a. GALLONS <input type="checkbox"/> b. CUBIC FEET <input type="checkbox"/> c. POUNDS <input type="checkbox"/> d. TONS	23	DAYS ON SITE	365	24	LARGEST CONTAINER	1 GAL.	25
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STORAGE CONTAINER (Check all that apply)	<input type="checkbox"/> a. ABOVEGROUND TANK <input type="checkbox"/> b. UNDERGROUND TANK <input type="checkbox"/> c. TANK INSIDE BLDG <input type="checkbox"/> d. STEEL DRUM	<input type="checkbox"/> e. PLASTIC DRUM <input type="checkbox"/> f. NONMETALLIC DRUM <input type="checkbox"/> g. METAL CONTAINER <input type="checkbox"/> h. CARBOY	<input type="checkbox"/> i. VAT <input type="checkbox"/> j. FIBER DRUM <input type="checkbox"/> k. BAG(S) <input type="checkbox"/> l. BOX(S)	<input type="checkbox"/> m. CYLINDER <input checked="" type="checkbox"/> n. GLASS CONTAINER <input type="checkbox"/> o. PLASTIC CONTAINER <input type="checkbox"/> p. IN MACH OR EQUIP	<input type="checkbox"/> q. TANK WAGON <input type="checkbox"/> r. RAIL CAR <input type="checkbox"/> s. TOTE BIN <input type="checkbox"/> t. OTHER	26
--	---	--	--	--	--	----

STORAGE PRESSURE	<input checked="" type="checkbox"/> a. AMBIENT <input type="checkbox"/> b. ABOVE AMBIENT <input type="checkbox"/> c. BELOW AMBIENT	27
------------------	--	----

STORAGE TEMPERATURE	<input checked="" type="checkbox"/> a. AMBIENT <input type="checkbox"/> b. ABOVE AMBIENT <input type="checkbox"/> c. BELOW AMBIENT <input type="checkbox"/> d. CRYOGENIC	28
---------------------	--	----

%WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	GAS #
30	XYLENE	<input type="checkbox"/> Yes <input type="checkbox"/> No	1330-20-7
25	n-BUTANOL	<input type="checkbox"/> Yes <input type="checkbox"/> No	71-36-3
45	PROPYLENE CARBONATE	<input type="checkbox"/> Yes <input type="checkbox"/> No	108-32-7
		<input type="checkbox"/> Yes <input type="checkbox"/> No	
		<input type="checkbox"/> Yes <input type="checkbox"/> No	

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

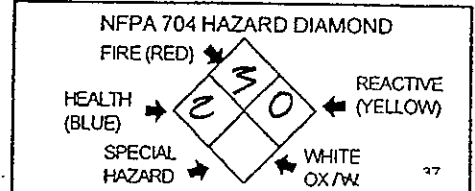
PLACARDING INFORMATION

UNDOT # _____ 33
Refer to shipping papers or MSDS

DOT HAZARD CLASS _____ 34
Refer to shipping papers or MSDS

EPCRA YES NO 35

X _____ 36
If EPCRA, Please Sign Here



MAKE AS MANY COPIES OF CHEMICAL INVENTORY FORM AS NEEDED

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : HYDRANAL®-Water Standard 10.0

Product Number : 34849
Brand : Fluka

Company : Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO 63103
USA

Telephone : +1 800-325-5832
Fax : +1 800-325-5052
Emergency Phone # : (314) 776-6555

2. COMPOSITION/INFORMATION ON INGREDIENTS

CAS-No.	EC-No.	Index-No.	Concentration
Xylene			
1330-20-7	215-535-7	601-022-00-9	>= 10 - <= 30 %
n-Butanol			
71-36-3	200-751-6	603-004-00-6	>= 10 - <= 25 %
Propylene carbonate			
108-32-7	203-572-1	607-194-00-1	>= 30 - <= 60 %

3. HAZARDS IDENTIFICATION**Emergency Overview****OSHA Hazards**

Flammable Liquid, Target Organ Effect, Harmful by ingestion., Harmful by skin absorption., Irritant

Target Organs

Eyes, ears, Heart, Bone marrow, Blood, Nerves., Liver, Kidney

HMIS Classification

Health Hazard: 2
Chronic Health Hazard: *
Flammability: 3
Physical hazards: 0

NFPA Rating

Health Hazard: 2
Fire: 3
Reactivity Hazard: 0

Potential Health Effects

Inhalation
Skin
Eyes
Ingestion

May be harmful if inhaled. Causes respiratory tract irritation.
Harmful if absorbed through skin. Causes skin irritation.
Causes eye irritation.
Harmful if swallowed.

4. FIRST AID MEASURES

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE-FIGHTING MEASURES

Flammable properties

Flash point 30 °C (86 °F) - closed cup

Ignition temperature no data available

Suitable extinguishing media

For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

Further information

Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

Environmental precautions

Do not let product enter drains.

Methods for cleaning up

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

Storage

Keep container tightly closed in a dry and well-ventilated place. Store in cool place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Components with workplace control parameters**

Components	CAS-No.	Value	Control parameters	Update	Basis
Xylene	1330-20-7	TWA	100 ppm 435 mg/m ³	1993-06-30	US. Department of Labor - Occupational Safety and Health Administration (OSHA) Permissible Exposure Limits (PEL) 29 CFR 1910.1000 Air Contaminants.
		TWA	100 ppm 435 mg/m ³	1989-03-01	US. Department of Labor - Occupational Safety and Health Administration (OSHA) 29 CFR 1910.1000 Z-1-A
		STEL	150 ppm 655 mg/m ³	1989-03-01	US. Department of Labor - Occupational Safety and Health Administration (OSHA) 29 CFR 1910.1000 Z-1-A
		TWA	100 ppm 434 mg/m ³	1996-05-18	US. American Conference of Governmental and Industrial Hygienists Threshold Limit Values for Chemical Substances in the Work Environment; Annual Reports for the Year 2004: Committees on Threshold Limit Values (TLVs) and Biological Exposure Indices (BEIs)
Remarks	The agent (mixture, or exposure circumstance) is not classifiable as to its carcinogenicity to humans. Substances for which there is a Biological Exposure Index or Indices. Refers to Appendix A – Carcinogens. 1996 Adoption				
		STEL	150 ppm 651 mg/m ³	1996-05-18	US. American Conference of Governmental and Industrial Hygienists Threshold Limit Values for Chemical Substances in the Work Environment; Annual Reports for the Year 2004: Committees on Threshold Limit Values (TLVs) and Biological

					Exposure Indices (BEIs)
The agent (mixture , or exposure circumstance) is not classifiable as to its carcinogenicity to humans . Substances for which there is a Biological Exposure Index or Indices. 1996 Adoption Refers to Appendix A -- Carcinogens.					
n-Butanol	71-36-3	TWA	20 ppm	2002-01-01	US. American Conference of Governmental and Industrial Hygienists Threshold Limit Values for Chemical Substances in the Work Environment; Annual Reports for the Year 2004:Committees on Threshold Limit Values (TLVs) and Biological Exposure Indices (BEIs)
Remarks	2002 Adoption.				
		CEIL	50 ppm 150 mg/m3	1989-03-01	US. Department of Labor - Occupational Safety and Health Administration (OSHA) 29 CFR 1910.1000 Z-1-A
Skin contact does contribute to exposure.					
		TWA	100 ppm 300 mg/m3	1993-06-30	US. Department of Labor - Occupational Safety and Health Administration (OSHA) Permissible Exposure Limits (PEL) 29 CFR 1910.1000 Air Contaminants.

Personal protective equipment

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

Handle with gloves.

Eye protection

Safety glasses

Skin and body protection

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form liquid

Safety data

pH no data available
Melting point no data available
Boiling point no data available
Flash point 30 °C (86 °F) - closed cup
Ignition temperature no data available
Lower explosion limit no data available
Upper explosion limit no data available
Water solubility no data available

10. STABILITY AND REACTIVITY

Storage stability

Stable under recommended storage conditions.

Conditions to avoid

Heat, flames and sparks.

Materials to avoid

Strong oxidizing agents

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

Hazardous reactions

Vapours may form explosive mixture with air.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

no data available

Irritation and corrosion

no data available

Sensitisation

no data available

Chronic exposure

IARC: Group 3 - Not classifiable as to carcinogenicity to humans (Xylene)

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Potential Health Effects

Inhalation
Skin
Eyes
Ingestion
Target Organs

May be harmful if inhaled. Causes respiratory tract irritation.
Harmful if absorbed through skin. Causes skin irritation.
Causes eye irritation.
Harmful if swallowed.
Eyes, ears, Heart, Bone marrow, Blood, Nerves., Liver, Kidney,

12. ECOLOGICAL INFORMATION

Elimination information (persistence and degradability)

no data available

Ecotoxicity effects

no data available

Further information on ecology

no data available

13. DISPOSAL CONSIDERATIONS

Product

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)

UN-Number: 1993 Class: 3 Packing group: III
Proper shipping name: Flammable liquids, n.o.s.
Marine pollutant: No
Poison Inhalation Hazard: No

IMDG

UN-Number: 1993 Class: 3 Packing group: III EMS-No: F-E, S-E
Proper shipping name: FLAMMABLE LIQUID, N.O.S.
Marine pollutant: No

IATA

UN-Number: 1993 Class: 3 Packing group: III
Proper shipping name: Flammable liquid n.o.s.

15. REGULATORY INFORMATION

OSHA Hazards

Flammable Liquid, Target Organ Effect, Harmful by ingestion., Harmful by skin absorption., Irritant

DSL Status

All components of this product are on the Canadian DSL list.

SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

CAS-No.

Revision Date

Xylene
n-Butanol

1330-20-7
71-36-3

1990-01-01
1987-01-01

SARA 311/312 Hazards

Fire Hazard, Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

Xylene
n-Butanol

CAS-No.
1330-20-7
71-36-3

Revision Date
1990-01-01
1987-01-01

Pennsylvania Right To Know Components

Propylene carbonate
Xylene
n-Butanol

CAS-No.
108-32-7
1330-20-7
71-36-3

Revision Date
1990-01-01
1987-01-01

New Jersey Right To Know Components

Propylene carbonate
Xylene
n-Butanol

CAS-No.
108-32-7
1330-20-7
71-36-3

Revision Date
1990-01-01
1987-01-01

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth, or any other reproductive defects.

16. OTHER INFORMATION

Further information

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HAZARDOUS MATERIALS INVENTORY FORM

FORM 3

ADD

DELETE

REVISED 1

Page _____ of _____ 2

FACILITY ID#	3 0 0 3 5	BUSINESS NAME	IRON GRIP BARBELL CO.
--------------	-----------	---------------	-----------------------

I. FACILITY INFORMATION

CHEMICAL LOCATION	11377 MARKON DR. GARDEN GROVE, CA. 92841		
CONFIDENTIAL LOCATION EPCRA	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	MAP #	1
GRID #	F-7		

II. CHEMICAL INFORMATION

CHEMICAL NAME	METHANOL	WASTE	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	TRADE SECRET	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
COMMON NAME	HYDRANOL WATER IN METHANOL STD		*If EPCRA see instructions		
CAS #	67-561	FIRE CODE HAZARD CLASSES (supplied by GGFD)			

TYPE (Check one item only)	<input checked="" type="checkbox"/> a. PURE <input type="checkbox"/> b. MIXTURE <input type="checkbox"/> c. WASTE	RADIOACTIVE	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	CURIES	
----------------------------	---	-------------	---	--------	--

PHYSICAL STATE (Check one item only)	<input type="checkbox"/> a. SOLID <input checked="" type="checkbox"/> b. LIQUID <input type="checkbox"/> c. GAS	FED-HAZARD CATEGORIES	<input checked="" type="checkbox"/> a. FIRE <input type="checkbox"/> b. REACTIVE <input type="checkbox"/> c. PRESSURE RELEASE <input type="checkbox"/> d. ACUTE HEALTH <input type="checkbox"/> e. CHRONIC HEALTH
--------------------------------------	---	-----------------------	---

AVERAGE DAILY AMOUNT	1.2 GAL	MAXIMUM DAILY AMOUNT	.2 GAL	ANNUAL WASTE AMOUNT		STATE WASTE CODE	
----------------------	---------	----------------------	--------	---------------------	--	------------------	--

UNITS	<input checked="" type="checkbox"/> a. GALLONS <input type="checkbox"/> b. CUBIC FEET <input type="checkbox"/> c. POUNDS <input type="checkbox"/> d. TONS	DAYS ON SITE	365	LARGEST CONTAINER	1 GALLON
-------	---	--------------	-----	-------------------	----------

STORAGE CONTAINER (Check all that apply)	<input checked="" type="checkbox"/> a. ABOVEGROUND TANK <input type="checkbox"/> b. UNDERGROUND TANK <input type="checkbox"/> c. TANK INSIDE BLDG <input type="checkbox"/> d. STEEL DRUM	<input type="checkbox"/> e. PLASTIC DRUM <input type="checkbox"/> f. NONMETALLIC DRUM <input type="checkbox"/> g. METAL CONTAINER <input type="checkbox"/> h. CARBOY	<input type="checkbox"/> i. VAT <input type="checkbox"/> j. FIBER DRUM <input type="checkbox"/> k. BAG(S) <input type="checkbox"/> l. BOX(S)	<input type="checkbox"/> m. CYLINDER <input checked="" type="checkbox"/> n. GLASS CONTAINER <input type="checkbox"/> o. PLASTIC CONTAINER <input type="checkbox"/> p. IN MACH OR EQUIP	<input type="checkbox"/> q. TANK WAGON <input type="checkbox"/> r. RAIL CAR <input type="checkbox"/> s. TOTE BIN <input type="checkbox"/> t. OTHER
--	--	--	--	--	--

STORAGE PRESSURE	<input checked="" type="checkbox"/> a. AMBIENT <input type="checkbox"/> b. ABOVE AMBIENT <input type="checkbox"/> c. BELOW AMBIENT
------------------	--

STORAGE TEMPERATURE	<input checked="" type="checkbox"/> a. AMBIENT <input type="checkbox"/> b. ABOVE AMBIENT <input type="checkbox"/> c. BELOW AMBIENT <input type="checkbox"/> d. CRYOGENIC
---------------------	--

%WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1	29	<input type="checkbox"/> Yes <input type="checkbox"/> No	30
2	29	<input type="checkbox"/> Yes <input type="checkbox"/> No	30
3	29	<input type="checkbox"/> Yes <input type="checkbox"/> No	30
4	29	<input type="checkbox"/> Yes <input type="checkbox"/> No	30
5	29	<input type="checkbox"/> Yes <input type="checkbox"/> No	30

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

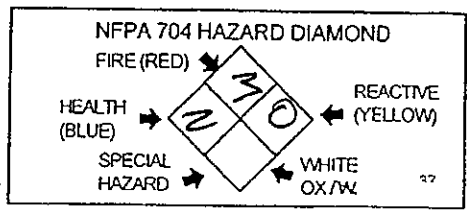
PLACARDING INFORMATION

UNDOT # _____ 33
Refer to shipping papers or MSDS

DOT HAZARD CLASS _____ 34
Refer to shipping papers or MSDS

EPCRA YES NO 35

X _____ 36
If EPCRA, Please Sign Here



MAKE AS MANY COPIES OF CHEMICAL INVENTORY FORM AS NEEDED

SIGMA-ALDRICH

MATERIAL SAFETY DATA SHEET

Date Printed: 09/30/2008

Date Updated: 03/21/2008

Version 1.17

Section 1 - Product and Company Information

Product Name HYDRANAL-WATER-IN-METHANOL STANDARD
5.00 , WATER CONTENT 5.00 MG WATER/ML
Product Number 34802
Brand FLUKA
Company Sigma-Aldrich
Address 3050 Spruce Street
SAINT LOUIS MO 63103 US
Technical Phone: 800-325-5832
Fax: 800-325-5052
Emergency Phone: 314-776-6555

Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313
METHANOL	67-56-1	Yes

Formula CH4O
Synonyms Alcool methylique (French) * Alcool metilico (Italian) * Bieleski's solution * Carbinol * Colonial Spirit * Columbian Spirit * Metanolo (Italian) * Methanol (ACGIH) * Methyl alcohol (DOT:OSHA) * Methylol * Methylalkohol (German) * Methyl hydrate * Methyl hydroxide * Metylowy alkohol (Polish) * Monohydroxymethane * Pyroxylic Spirit * RCRA waste number U154 * Wood alcohol * Wood naphtha * Wood Spirit * METHYL ALCOHOL * WOOD ALCOHOL
RTECS Number: PC1400000

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Flammable (USA) Highly Flammable (EU). Toxic.
Toxic by inhalation, in contact with skin and if swallowed. Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed. Irritating to eyes and skin.
Target organ(s): Eyes. Kidneys.

HMIS RATING

HEALTH: 2*
FLAMMABILITY: 3
REACTIVITY: 0

NFPA RATING

HEALTH: 2
FLAMMABILITY: 3
REACTIVITY: 0

*additional chronic hazards present.

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

ORAL EXPOSURE

If swallowed, wash out mouth with water provided person is conscious. Call a physician immediately.

INHALATION EXPOSURE

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

DERMAL EXPOSURE

In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

EYE EXPOSURE

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

FLAMMABLE HAZARDS

Flammable Hazards: Yes

EXPLOSION HAZARDS

Vapor may travel considerable distance to source of ignition and flash back. Container explosion may occur under fire conditions.

FLASH POINT

52 °F 11 °C Method: closed cup

EXPLOSION LIMITS

Lower: 6 % Upper: 36 %

AUTOIGNITION TEMP

385 °C

FLAMMABILITY

N/A

EXTINGUISHING MEDIA

Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Specific Hazard(s): Flammable liquid. Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area. Shut off all sources of ignition.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

Molecular Weight	32.04 AMU	
pH	N/A	
BP/BP Range	64.7 - 64.8 °C	760 mmHg
MP/MP Range	- 98.0 °C	
Freezing Point	N/A	
Vapor Pressure	97.68 mmHg	20 °C
Vapor Density	0.79 g/l	
Saturated Vapor Conc.	N/A	
SG/Density	0.791 g/cm3	
Bulk Density	N/A	
Odor Threshold	N/A	
Volatile%	100 %	
VOC Content	100 %	
Water Content	N/A	
Solvent Content	N/A	
Evaporation Rate	N/A	
Viscosity	N/A	
Surface Tension	N/A	
Partition Coefficient	Log Kow: - 0.770	
Decomposition Temp.	N/A	
Flash Point	52 °F 11 °C	Method: closed cup
Explosion Limits	Lower: 6 % Upper: 36 %	
Flammability	N/A	
Autoignition Temp	385 °C	
Refractive Index	1.329	
Optical Rotation	N/A	
Miscellaneous Data	N/A	
Solubility	Solubility in Water: Miscible.	

N/A = not available

Section 10 - Stability and Reactivity

STABILITY

Stable: Stable.

Materials to Avoid: Acids, Acid chlorides, Acid anhydrides, Oxidizing agents, Alkali metals, Reducing agents.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

Section 11 - Toxicological Information

ROUTE OF EXPOSURE

Skin Contact: Causes skin irritation.

Skin Absorption: Toxic if absorbed through skin.

Eye Contact: Causes eye irritation.

Inhalation: Material may be irritating to mucous membranes and upper respiratory tract. Toxic if inhaled.

Ingestion: Toxic if swallowed.

TARGET ORGAN(S) OR SYSTEM(S)

Eyes. Kidneys. Liver. Heart. Central nervous system.

SIGNS AND SYMPTOMS OF EXPOSURE

Nausea, headache, and vomiting. Gastrointestinal disturbances.

Dizziness. Weakness. Confusion. Drowsiness. Unconsciousness. May

cause convulsions. Ingestion can cause: Methyl alcohol may be fatal or cause blindness if swallowed. Cannot be made non-poisonous.

TOXICITY DATA

Oral

Man

6422 mg/kg

LDLO

Remarks: Gastrointestinal:Nausea or vomiting. Lungs, Thorax, or Respiration:Dyspnea. Brain and Coverings:Changes in circulation (hemorrhage,thrombosis, etc.).

Oral

Human

428 mg/kg

LDLO

Remarks: Behavioral:Headache. Lungs, Thorax, or Respiration:Other changes.

Oral

Human

143 mg/kg

LDLO

Remarks: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Eye:Optic nerve neuropathy. Lungs, Thorax, or Respiration:Dyspnea. Gastrointestinal:Nausea or vomiting.

Oral

Rat

5628 mg/kg

LD50

Inhalation

Rat

64,000 ppm

LC50

Intraperitoneal

Rat

7529 MG/KG

LD50

Intravenous

Rat

2131 MG/KG

LD50

Oral

Mouse

7300 mg/kg

LD50

Intraperitoneal

Mouse

10765 MG/KG

LD50

Subcutaneous

Mouse

9800 MG/KG

LD50

Intravenous
Mouse
4710 MG/KG
LD50

Oral
Monkey
7000 mg/kg
LD50

Remarks: Behavioral:Coma. Behavioral:Ataxia. Behavioral:Muscle weakness.

Oral
Rabbit
14200 mg/kg
LD50

Skin
Rabbit
15800 mg/kg
LD50

Intraperitoneal
Rabbit
1826 MG/KG
LD50

Intravenous
Rabbit
8907 MG/KG
LD50

Intraperitoneal
Guinea pig
3556 MG/KG
LD50

Intraperitoneal
Hamster
8555 MG/KG
LD50

IRRITATION DATA

Skin
Rabbit
20 mg
24H
Remarks: Moderate irritation effect

Eyes
Rabbit
40 mg
Remarks: Moderate irritation effect

Eyes
Rabbit
100 mg
24H
Remarks: Moderate irritation effect

CHRONIC EXPOSURE - TERATOGEN

Species: Rat
Dose: 35295 MG/KG
Route of Application: Oral
Exposure Time: (1-15D PREG)
Result: Effects on Newborn: Biochemical and metabolic. Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

Species: Rat
Dose: 20000 PPM/7H
Route of Application: Inhalation
Exposure Time: (1-22D PREG)
Result: Specific Developmental Abnormalities: Urogenital system. Specific Developmental Abnormalities: Cardiovascular (circulatory) system. Specific Developmental Abnormalities: Musculoskeletal system.

Species: Rat
Dose: 20000 PPM/7H
Route of Application: Inhalation
Exposure Time: (7-15D PREG)
Result: Specific Developmental Abnormalities: Endocrine system. Specific Developmental Abnormalities: Musculoskeletal system.

Species: Rat
Dose: 10000 PPM/7H
Route of Application: Inhalation
Exposure Time: (7-15D PREG)
Result: Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

Species: Rat
Dose: 5200 UL/KG
Route of Application: Oral
Exposure Time: (10D PREG)
Result: Specific Developmental Abnormalities: Urogenital system. Specific Developmental Abnormalities: Eye, ear. Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

Species: Mouse
Dose: 40 GM/KG
Route of Application: Oral
Exposure Time: (6-15D PREG)
Result: Specific Developmental Abnormalities: Craniofacial (including nose and tongue). Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

Species: Mouse
Dose: 4 GM/KG
Route of Application: Oral
Exposure Time: (7D PREG)
Result: Specific Developmental Abnormalities: Musculoskeletal system. Specific Developmental Abnormalities: Craniofacial (including nose and tongue).

Species: Mouse
Dose: 1500 PPM/6H
Route of Application: Inhalation

Exposure Time: (7-9D PREG)
Result: Specific Developmental Abnormalities: Central nervous system.

Species: Mouse
Dose: 5000 PPM/7H
Route of Application: Inhalation
Exposure Time: (6-15D PREG)
Result: Specific Developmental Abnormalities: Craniofacial (including nose and tongue). Specific Developmental Abnormalities: Central nervous system.

Species: Mouse
Dose: 2000 PPM/7H
Route of Application: Inhalation
Exposure Time: (6-15D PREG)
Result: Specific Developmental Abnormalities: Musculoskeletal system.

CHRONIC EXPOSURE - MUTAGEN

Species: Human
Dose: 300 MMOL/L
Cell Type: lymphocyte
Mutation test: DNA inhibition

Species: Rat
Route: Oral
Dose: 10 UMOL/KG
Mutation test: DNA damage

Species: Mouse
Dose: 7900 MG/L (+S9)
Cell Type: lymphocyte
Mutation test: Mutation in microorganisms

Species: Mouse
Route: Oral
Dose: 1 GM/KG
Mutation test: Cytogenetic analysis

Species: Mouse
Route: Intraperitoneal
Dose: 75 MG/KG
Mutation test: Cytogenetic analysis

CHRONIC EXPOSURE - REPRODUCTIVE HAZARD

Species: Rat
Dose: 7500 MG/KG
Route of Application: Oral
Exposure Time: (17-19D PREG)
Result: Effects on Newborn: Behavioral.

Species: Rat
Dose: 35295 MG/KG
Route of Application: Oral
Exposure Time: (1-15D PREG)
Result: Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).
Effects on Fertility: Pre-implantation mortality (e.g., reduction in number of implants per female; total number of

implants per corpora lutea). Effects on Fertility: Female fertility index (e.g., # females pregnant per # sperm positive females; # females pregnant per # females mated).

Species: Rat
Dose: 20 GM/KG
Route of Application: Oral
Exposure Time: (6-15D PREG)
Result: Effects on Fertility: Litter size (e.g.; # fetuses per litter; measured before birth). Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).

Species: Rat
Dose: 200 PPM/20H
Route of Application: Oral
Exposure Time: (78W MALE)
Result: Paternal Effects: Testes, epididymis, sperm duct.

Species: Mouse
Dose: 7500 PPM/7H
Route of Application: Inhalation
Exposure Time: (6-15D PREG)
Result: Effects on Embryo or Fetus: Fetal death. Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).

Species: Mouse
Dose: 15000 PPM
Route of Application: Inhalation
Exposure Time: (7-9D PREG)
Result: Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).

Species: Mouse
Dose: 5 GM/KG
Route of Application: Intraperitoneal
Exposure Time: (5D MALE)
Result: Paternal Effects: Spermatogenesis (including genetic material, sperm morphology, motility, and count).

Section 12 - Ecological Information

ACUTE ECOTOXICITY TESTS

Test Type: LC50 Fish
Species: Onchorhynchus mykiss (Rainbow trout)
Time: 96 h
Value: 19,000 mg/l

Test Type: LC50 Fish
Species: Cyprinus carpio
Time: 48 h
Value: 36,000 mg/l

Test Type: EC50 Daphnia
Species: Daphnia magna
Time: 48 h
Value: 24,500 mg/l

Test Type: EC100 Daphnia
Species: Daphnia magna
Time: 24 h
Value: 10,000 mg/l

Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

Contact a licensed professional waste disposal service to dispose of this material. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT

Proper Shipping Name: Methanol
UN#: 1230
Class: 3
Packing Group: Packing Group II
Hazard Label: Flammable liquid
PIH: Not PIH

IATA

Proper Shipping Name: Methanol
IATA UN Number: 1230
Hazard Class: 3
Packing Group: II

Section 15 - Regulatory Information

EU DIRECTIVES CLASSIFICATION

Symbol of Danger: F-T
Indication of Danger: Highly Flammable. Toxic.
R: 11-23/24/25-39/23/24/25
Risk Statements: Highly flammable. Toxic by inhalation, in contact with skin and if swallowed. Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.
S: 7-16-36/37-45
Safety Statements: Keep container tightly closed. Keep away from sources of ignition - no smoking. Wear suitable protective clothing and gloves. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Flammable (USA) Highly Flammable (EU).
Toxic.
Risk Statements: Toxic by inhalation, in contact with skin and if swallowed. Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.
Irritating to eyes and skin.
Safety Statements: Keep container tightly closed. Keep away from sources of ignition - no smoking. Take precautionary measures against static discharges. Avoid contact with skin. Wear suitable protective clothing and gloves. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
US Statements: Target organ(s): Eyes. Kidneys.

UNITED STATES REGULATORY INFORMATION

SARA LISTED: Yes
DEMINIMIS: 1 %
NOTES: This product is subject to SARA section 313 reporting requirements.
TSCA INVENTORY ITEM: Yes

CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: Yes

NDSL: No

Section 16 - Other Information

DISCLAIMER

For R&D use only. Not for drug, household or other uses.

WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2008 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.



GARDEN GROVE FIRE DEPARTMENT

Life Safety & Hazardous Materials Disclosure Program

11301 Acacia Parkway, Garden Grove, CA 92842
Bus 714-741-5600 Fax 714-741-5640

File # 358
Fire District 2114
Inspector FPB Shift N
Next Insp 5 / 2013

Occupant or DBA	ELASCO INC.		Business Tel	714 891-1795
Address	11377 MARKON Dr	Suite A	Zip	92841
Business Owner	Henry Larrucea		Tel	714 330-0726
Emergency Contact	DAVE SCHINDLER Ruben Gardanez 714-492-4109		Tel	714-348-9744
Group	F1	Load	Sprinklers F/P/N	F 5 yr. Cert. 5 / 2010 Haz Mat <input checked="" type="checkbox"/>

Fire Permits 801031 HAZARDOUS MATERIALS - use, handling or storage, 621021 INDUSTRIAL OVENS / DRYING, 811031 HIGH-PILED COMBUSTIBLE STOCK. 491011 HOT WORK - welding and cutting / open flame.

An inspection at the above location/occupancy revealed the following violation(s) :

ASSEMBLY OCCUPANCIES

- Post maximum occupancy load sign (CFC 1004.3)
- Remove combustible decorative material (CFC 807.1.2)
- Remove storage under stairway (CFC 315.2.4)

SIGNS

- Provide address visible from the street (CFC 505.1)
- Provide hazardous materials warning signs (CFC 2703.5)

EXITS

- Provide/maintain approved panic hardware (CFC 1008.1.10)
- Remove locks, chains, bolts or bars from exit door (CFC 1008.1.9)
- Remove exit obstruction (CFC 1003.6)
- Provide/maintain illuminated exit sign(s) (CFC 1011.1)

ACCESS

- Provide outside Knox Box (CFC 506.1)
- Remove obstructions to fire apparatus access (CFC 503.4)

FIRE PROTECTION EQUIPMENT AND SYSTEMS

- Provide ___ extinguishers ___2A10BC ___40BC ___K (CFC 906.1)
- Service and tag extinguisher(s) (CFC 901.6)
- Hang extinguisher(s) 3.5'-5' from floor (CFC 906.9)
- Clean filters, ducts, hood above cooking surface (CFC 904.1)
- Service auto-extinguishing system semi-annually (CFC 904.11.6.2)
- 5 yr certification on sprinkler/standpipe system (Title 19, Sect. 904)

MISCELLANEOUS

- Lower storage 18" below sprinklers or 2' from ceiling (CFC 315.2.1)
- Secure compressed gas cylinders (CFC 3003.5.3)
- Post Business License Fire Department permit (CFC 105.3.5)
- NO VIOLATIONS

ELECTRICAL SAFETY PRE-CAUTIONS

- Discontinue use of extension cords (CFC 605.5)
- Keep 30" clear for access in front of electrical panel (CFC 605.3)
- Provide/replace electrical Cover Socket Power Strip (CFC 605.1)

HAZ-MAT SAFETY PRE-CAUTIONS

- Provide approved cabinet if more than 10 gal. flammable liquids (CFC 3404.3.4.3)
- Provide approved safety container(s) for flammable liquids (CFC 3404.3.1)

HAZARDOUS MATERIALS DISCLOSURE

(HSC CHAPTER 6.95 Section 25404, 25500 - 25520)

- Failure to implement and/or electronically submit a HMBP www.esubmit.ocgov.com
- Chemical inventory is incomplete and/or requires updating
- The Emergency Response Plan is inadequate and/or does not adequately address Notification, Mitigation, Evacuation and/or Employee Training
- Site Map is incomplete or insufficient
- Failure to report a change in business or chemical inventory within 30 days of the following:
 - 100% or more increase in the quantity of a disclosed material
 - Addition of a previously undisclosed material
 - Change of business name or owner
- Failure to report a release or threatened release
- Failure to submit annual certification

NO VIOLATIONS MINOR VIOLATION
 CLASS I VIOLATION
 CLASS II VIOLATION

ADDITIONAL VIOLATIONS AND/OR NOTES tried to get username & password once already - need to upload authorization letter.

Business representative signature X Paul Date 8/30/13
Inspector Name/ ID # S. Solter 3303 Date 8/30/13

Cleared 9/12/13 Mailback card due 1/1/13 Re-inspection date 9/20/13 Final Notice 1/1/13



GARDEN GROVE FIRE DEPARTMENT
ENVIRONMENTAL PROTECTION SECTION

11301 Acacia Parkway
Garden Grove, CA 92840
Business: 714 741-5600 Haz Mat: 714 741-5636

Hazardous Materials Business Emergency Plan And
Inventory Certification Statement

Business Name: ELASCO

Telephone: (714) 897-1995

Site Address: 11377 MARKON DR

Zip Code: 92648

The California Health & Safety Code, Division 20, Chapter 6.95, Section 25505(c) and Section 25503.3(c) provide the following:

A business that handles hazardous materials shall review AND certify their Hazardous Materials Business Emergency Plan (HMBEP) once every three years from the date of acceptance by the Garden Grove Fire Department. A business may comply with the annual chemical inventory reporting requirement by submitting a certification statement to the Garden Grove Fire Department. **A business may not utilize this certification to meet the annual inventory submission requirements of the Emergency Planning and Community Right to Know Act (Section 11022, Title 42, United States Code).**

Note: A business may comply with the annual inventory reporting requirements using this certification statement if both of the following apply:

1. The business has previously filed an inventory reporting form and;
2. The business attests to the following:
 - The information contained in the annual inventory form most recently submitted to the Garden Grove Fire Department is complete, accurate, and up to date.
 - There has been no change in the quantity of any hazardous material as reported in the most recently submitted annual inventory form.
 - No hazardous material subject to the inventory requirements is being handled that is not listed on the most recently submitted annual inventory form.

THIS IS TO CERTIFY THAT THE HMBEP AND/OR CHEMICAL INVENTORY HAS BEEN REVIEWED.
(Please check applicable boxes.)

- No changes are required to the HMBEP submitted to the Garden Grove Fire Department.
- All the necessary changes/revisions have been made to the HMBEP. The changes/revisions are attached to this certification.
- No changes are required to the chemical inventory that was previously on file with the Garden Grove Fire Department.
- All the necessary changes/revisions have been made to the chemical inventory. The changes/revisions are attached to this certification.

AS AN AUTHORIZED REPRESENTATIVE, I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED AND BELIEVE THE INFORMATION IS TRUE, ACCURATE, AND COMPLETE.

Print Name DAVE SCHWALLEN

Signature [Signature]

Job Title CO. PRES

Date 4-12-10





CITY OF GARDEN GROVE
11301 ACACIA PARKWAY
GARDEN GROVE, CALIFORNIA 92642
(714) 741-5636

CUPA

FACILITY INFORMATION

BUSINESS ACTIVITIES

2/373

Page 2 of 3

I. FACILITY IDENTIFICATION

FACILITY ID#	3 0 0 3 5	1. EPA ID # (Hazardous Waste Only)	2. CAD 983643222
BUSINESS NAME (Same as FACILITY NAME or DBA-Doing Business As)		3. ELASCO, INC.	

II. ACTIVITIES DECLARATION

NOTE: If you check YES to any part of this list, please submit the Business Owner/Operator Identification page.

Does your facility...	If Yes, please complete these pages of the UPCF...	
A. HAZARDOUS MATERIALS Have on site (for any purpose) hazardous materials at or above 55 gallons for liquids, 500 pounds for solids, or 200 cubic feet for compressed gases (include liquids in ASTs and USTs); or the applicable Federal threshold quantity for an extremely hazardous substance specified in 40 CFR Part 355, Appendix A or B; or handle radiological materials in quantities for which an emergency plan is required pursuant to 10 CFR Parts 30, 40 or 70?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	4. ✓ HAZARDOUS MATERIALS INVENTORY - CHEMICAL DESCRIPTION (Form 3)
B. UNDERGROUND STORAGE TANKS (USTs) 1. Own or operate underground storage tanks? 2. Intent to upgrade existing or install new USTs? 3. Need to report closing a UST?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	5. ✓ UST FACILITY (Formerly SWRCB Form A) ✓ UST TANK (one page per tank) (Formerly Form B) 6. ✓ UST FACILITY ✓ UST TANK (one per tank) ✓ UST INSTALLATION - CERTIFICATE OF COMPLIANCE (one page per tank) (Formerly Form C) 7. ✓ UST TANK (closure portion-one page per tank)
C. ABOVE GROUND PETROLEUM STORAGE TANKS (ASTs) Own or operate ASTs above these thresholds: - any tank capacity is greater than 660 gallons, or - the total aggregate capacity for the entire facility (ASTs, drums and portable containers) greater than 1,320 gallons?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	8. ✓ NO FORM REQUIRED TO CUPAS
D. HAZARDOUS WASTE 1. Generate hazardous waste? 2. Recycle more than 100 kg/month of excluded or exempted recyclable materials (per HSC §25143.2)? 3. Treat hazardous waste on site? 4. Treatment subject to financial assurance requirements (for Permit by Rule and Condition Authorization)? 5. Consolidate hazardous waste generated at a remove site? 6. Need to report the closure/removal of a tank that was classified waste and cleaned onsite?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	9. ✓ EPA ID NUMBER - provide at the top of this page 10. ✓ RECYCLABLE MATERIALS REPORT (one per recycler) 11. ✓ ONSITE HAZARDOUS WASTE TREATMENT - FACILITY (Formerly DTSC Forms 1772) ✓ ONSITE HAZARDOUS WASTE TREATMENT - UNIT (one page per unit) (Formerly DTSC Forms 1772A, B, C, D and L) 12. ✓ CERTIFICATION OF FINANCIAL ASSURANCE (Formerly DTSC Form 1232) 13. ✓ REMOTE WASTE/CONSOLIDATION SITE ANNUAL NOTIFICATION (Formerly DTSC Form 1196) 14. ✓ HAZARDOUS WASTE TANK CLOSURE CERTIFICATION (Formerly DTSC Form 1249)
E. LOCAL REQUIREMENTS -ARP: California Accidental Release Prevention Program SC Chapter 6.95, Article 2, §25531 et seq - Stationary Source with more than a Threshold Quantity of a Regulated Substance in a Process	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	15. ✓ REGULATED SUBSTANCE REPORTING FORM (Orange County CUPA)

**GARDEN GROVE FIRE DEPARTMENT
HAZARDOUS MATERIALS DISCLOSURE PROGRAM
BUSINESS EMERGENCY PLAN**

EMERGENCY NOTIFICATIONS:

A handler of hazardous materials is required to immediately report any release or threatened release of hazardous materials to the Garden Grove Fire Department. Failure to do so may result in criminal and/or civil prosecution.

REQUIRED NOTIFICATIONS:

In the event of a release or threatened release of hazardous materials, it is State law to notify each of the following agencies.

AGENCY	PHONE NUMBERS
Garden Grove Fire Department, Police, Paramedics	911
Office of Emergency Services (OES)	(800) 852-7550 or (916) 427-4341
National Response Center	(800) 424-8802
Individual responsible for calling these agencies:	

Provide the following information when you call:

- Name of the person and business
- Business street address
- Location of the incident
- Type of incident (spill, gas release, etc.)
- The name(s) of the chemical substance(s) involved
- The amount of the chemical substance(s) involved
- The extent of injuries, if any
- Possible hazards to human health and/or the environment
- Emergency call-back phone number (_____) _____

If a chemical spill or release at your facility could create a toxic cloud or a liquid stream that could drift beyond your facility, then, identify nearby facilities that could be in imminent danger.

To the North
 Facility Sure Signal Products Phone (714) 895-8477
 Facility _____ Phone () _____

To the South
 Facility Jason Tool Phone () _____
 Facility _____ Phone () _____

To the East
 Facility I.U.P.A.T. Training Center Phone (714) 894-4097
 Facility _____ Phone () _____

To the West
 Facility Final Assy. Inc. Phone (714) 891-1400
 Facility _____ Phone () _____

**GARDEN GROVE FIRE DEPARTMENT
HAZARDOUS MATERIALS DISCLOSURE PROGRAM
BUSINESS EMERGENCY PLAN**

OPTIONAL NOTIFICATIONS:

1. Hazardous Waste Contractor
Name: Enviroserve (562) 254-2575
2. Insurance Company
Name: Federated Insurance (949) 201-9474
3. Poison Control Center - 24-Hour 1 (800) 876-4766

EVACUATION PLANS AND PROCEDURES:

Evacuation Alarms – describe the type of alarm signals that will be used to start an evacuation at this facility (vocal, paging system, manual alarm, etc.):

Vocal and paging system

Evacuation Drills

Evacuation drills and records proving you have held such drills are required by California law. The drill record does NOT have to be provided to the Fire Department with this business plan, but shall be maintained for a period of three years and shall be available for review by Fire Department personnel. The record shall include the facilitator's name, title, facility location, date of drill, and the signature of the facilitator. For your convenience, a form for recording list information is included with this packet. Make additional copies as needed.

The following four forms:

- A) Evacuation Drill Record
- B) Emergency Coordinator Task Completion Sheet
- C) Emergency Chemical Disclosure Form
- D) Training Record

These forms are designed to assist you in organizing, planning and maintaining permanent records. They are to be retained at the business, and may be requested by emergency responders upon their arrival or during your annual fire inspection.

**GARDEN GROVE FIRE DEPARTMENT
EVACUATION DRILL RECORD**

Business Name: Elasco Inc

Street Address: 11377 Markon Dr. Garden Grove CA
92841

Date of Evacuation Drill: 7-9-07

Brief Description of Drill: EVACUATION OF ALL
PERSONS IN FACILITY.

Facilitator's Name: DAVE SCHINDLER

Facilitator's Title: PLANT MANAGER

I hereby certify, under penalty of perjury, that I facilitated the evacuation drill as described above.

Signature of Facilitator: 

Date signed: 7-9-07

Date of Evacuation Drill: _____

Brief Description of Drill: _____

Facilitator's Name: _____

Facilitator's Title: _____

I hereby certify, under penalty of perjury, that I facilitated the evacuation drill as described above.

Signature of Facilitator: _____

Date Signed: _____

THIS RECORD TO BE RETAINED AT THE BUSINESS.
MAKE ADDITIONAL COPIES OF THIS FORM AS NEEDED.

Elasco Safety Meeting Sign-In Sheet

Date: 3/29/2010

Subject: Evacuation Training

1. Demonstration of all exit routes

2. Meeting area in North East Parking lot

1		31
2		32
3		33
4		34
5		35
6		36
7		37
8		38
9		39
10		40
11		41
12		42
13		43
14		44
15		45
16		46
17		47
18		48
19		49
20		50
21		51
22		52
23		53
24		54
25		55
26		56
27		57
28		58
29		59
30		60

Elasco Safety Meeting Sign-In Sheet

Date: 5/21/2009

Subject: Evacuation Training/Drill

Fire extinguisher Training

1. Review fire exits
2. Evacuation Locations
3. Fire Extinguisher Locations
4. Fire Extinguisher Training

1		31
2		32
3		33
4		34
5		35
6		36
7		37
8		38
9		39
10		40
11		41
12		42
13		43
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26		56
27		57
28		58
29		59
30		60

**GARDEN GROVE FIRE DEPARTMENT
BUSINESS EMERGENCY PLAN
EVACUATION PLANNING**

Describe the evacuation routes, emergency exits, and staging areas for employees in each work area at this facility. (A "staging area" is a specific location where your personnel meet after an evacuation, where you make sure everyone evacuated safely.)

-
1. Working area: Maintenance Shop
 Evacuation route: Proceed east of building
 Emergency exits: Various open bays
 Staging area: SW + NE corner of property
-
2. Working area: Warehouse
 Evacuation route: proceed east of building
 Emergency exits: Various open bays
 Staging area: SW & NE corner of property.
-
3. Working area: Casting & Batching
 Evacuation route: Proceed East of building
 Emergency exits: Various bays
 Staging area: SW & NE corner of property.
-
4. Working area: Finishing & Machine Shop
 Evacuation route: West, or East of building
 Emergency exits: Various bays.
 Staging area: SW & NE corner of property.
-
5. Working area: Offices
 Evacuation route: Front exit
 Emergency exits: Various bays
 Staging area: SW & NE corner of property
-

MAKE ADDITIONAL COPIES OF THIS FORM AS NEEDED.

**GARDEN GROVE FIRE DEPARTMENT
BUSINESS EMERGENCY PLAN**

EMPLOYEE RESPONSIBILITIES:

Every business is required to develop an emergency plan. Part of this plan shall include the pre-assignment of important emergency duties to specific employees, and training of employees to carry out these emergency duties. Provide this information below for those employees who will carry out the emergency duties:

JOB TITLE: Facility Maintenance Manager

EMERGENCY FUNCTION(S): _____

- a. coordinate evacuation
- b. coordinate emergency response
- c. Notify appropriate agencies
- d. _____

JOB TITLE: _____

EMERGENCY FUNCTION(S): _____

- a. _____
- b. _____
- c. _____
- d. _____

JOB TITLE: _____

EMERGENCY FUNCTION(S): _____

- a. _____
- b. _____
- c. _____
- d. _____

MAKE ADDITIONAL COPIES OF THIS FORM AS NEEDED.

GARDEN GROVE FIRE DEPARTMENT BUSINESS EMERGENCY PLAN

TRAINING:

Every business handling hazardous materials above the minimum limits shall provide training for their employees in the following area:

- A. Method for safe handling of hazardous materials.
- B. Procedures for notification and coordination with emergency agencies, in the event of a spill or threatened spill.
- C. Use of emergency response equipment and supplies under the control of the handler.
- D. Emergency mitigation procedures in response to a release or threatened release hazardous material.
- E. Tasks assigned to employees in the event of a hazardous materials emergency.
- F. Evacuation procedures.

Describe the type of training programs you either are currently using or will use during the next year to provide the required employee training.

Training programs are given to all employees regarding safety, correct use of fire extinguishers use of dust masks, how to read MSDS sheets, location of exits.

Specific employees are trained in the correct driving of fork lifts as well as proper storage and handling of chemicals used on the premises.

Elasco Inc. is dedicated to training in all areas i.e:

- ✓ Housekeeping
- ✓ Fire Safety
- ✓ Hazcom
- ✓ Back Safety
- ✓ General Safety

Please see attached Employee Safety Handbook

MAKE ADDITIONAL COPIES OF THIS FORM AS NEEDED.

GARDEN GROVE FIRE DEPARTMENT BUSINESS EMERGENCY PLAN

PREVENTION:

Part of the emergency pre-planning process is to identify potential hazards BEFORE an emergency, then either eliminate the hazard (if feasible) or prepare to handle the hazard should an emergency occur. To help you in this task, the form below is designed to help you identify potential hazards and to plan for minimizing the hazard. Complete this information for each hazardous materials storage location within your facility.

HAZARDOUS MATERIALS STORAGE LOCATION	PREVENTATIVE MEASURE
1. <u>NW corner of building</u>	<u>containment curb and covering.</u>
2. _____	_____
3. <u>Finishing Dept.</u>	<u>Fire Locker.</u>
4. _____	_____
5. _____	_____
6. _____	_____
7. _____	_____
8. _____	_____

Comments relating to the listed storage areas:

Hazardous materials labelled.

Material Data Safety Sheets are
available for all hazardous materials on site.

Prevention measures to be taken at this location:

Estimated date of completion: _____

Actual date of completion: _____

MAKE ADDITIONAL COPIES OF THIS FORM AS NEEDED.

EMPLOYEE SAFETY HANDBOOK



A GUIDE FOR YOUR PERSONAL SAFETY

Safety Program

Code of Safe Work Practices

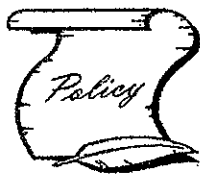
Employee Responsibilities

Reporting Hazardous Conditions

What to do if you are injured on the job

Employee Assistance

SAFETY POLICY



Our primary goal is the elimination of personal injury accidents ensuring every employee has a safe and healthful work environment, proper equipment and adequate training.

Accident prevention is given the highest priority and Elasco, as your employer will cooperate with our clients to reduce risk of personal injuries through a comprehensive Illness and Injury Prevention Plan.

All employees are required to engage in safe work practices at the work site and are encouraged to continue these practices in their personal lives.

SAFETY PROGRAM

This handbook explains the safety program rules and your employee duties. These are to prepare you for the work assignment in a safe manner. The Client employer will acquaint you with the job site and provide you with specific job task and safety awareness training.

Ultimately, you are responsible for your personal safety. Federal and State Safety agencies require that you, your fellow employees and Elasco, Inc share responsibility for your protection from workplace hazards.

The Client employer is responsible for general safety training to acquaint you with conditions at the worksite that may affect your health or safety. The Client employer has the responsibility to provide the specific information on the conditions, equipment, and materials related to your work assignment.

You must recognize that these exposures can occur in any job position: technical, clerical, service, professional, and labor. You are responsible for completing the work assignments successfully and safely. Understanding your specific job tasks and workplace exposures is very important to your personal success and satisfaction with your position while avoiding interruptions from personal injury to yourself or to others.

EMPLOYEE PARTICIPATION & RESPONSIBILITY



Each employee is responsible for following safe work practices and procedures and for obeying safety rules of the Client work site employer. You are responsible to ensure safety on the job for yourself and for other employees.

You are responsible to:

- ✓ Know your job and apply safe work practices.
- ✓ Actively participate and cooperate in the overall safety program of Barrett Business Services and Client employer.
- ✓ Recognize the hazards of your job and take precautions to ensure the safety of yourself and others.
- ✓ Properly use and maintain the Personal Protective Equipment required to perform your job safely.
- ✓ Inform your Supervisor and employer of work site hazards. Make recommendations to eliminate these hazards and make suggestions to improve safety performance.
- ✓ Obey all health and safety warning signs and instructions.
- ✓ Report any injury immediately, no matter how slight, to your work site supervisor.

The placement coordinator can assist you in receiving prompt medical attention. Any employee involved in an accident, illness, or injury shall undergo post incident drug and alcohol testing.

- ✓ Use work site first aid facilities when available and practical.
- ✓ Immediately report any acts that have an adverse effect on your safety or well being, or that of any employee.

All ELASCO, INC.'s employees are expected to obey the following rules:

- ✓ Do not undertake a job until you have received instructions and training on how to do the job properly and safely and you have been authorized to perform the job.
- ✓ Do not undertake a job that appears to be unsafe. Notify your supervisor immediately.
- ✓ Do not use chemicals or other hazardous materials until you have demonstrated safe handling procedures and know the health hazards involved.
- ✓ Do not remove or alter any machine guards. If guards are missing, or improperly placed, notify your supervisor before using the equipment.
- ✓ Do not touch any equipment having a warning tag that says, "Do Not Operate," or that is locked out with a lockout device.
- ✓ Do not operate equipment or drive vehicles without written authorization based on experience and training.



REMEMBER

By taking an assignment or accepting a position, you are telling yourself, "I can do this job." Do it properly and safely so that you can do it again tomorrow and the next day without injury and unnecessary disruptions. TREAT YOUR SELF KINDLY!!

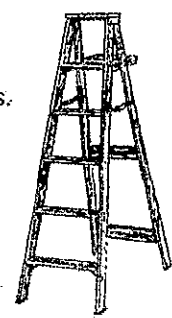
CODE OF SAFE WORK PRACTICES

Safe work practices are life-long tools that assist you in making sound judgments while performing your work assignment with success and a minimum of disruption.

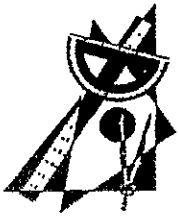
Immediately report any unsafe job or workplace exposure following the procedures in this Handbook. Notify your placement coordinator if there are new workplace exposures, tools, instruments, equipment, or vehicles you are not trained to use or operate, or have not been authorized to operate as part of your job description.

General Safety Rules

- ✓ All exits shall be kept unlocked, clear of any obstructions and well lit during work hours. No materials or equipment may be stored blocking or against doors or exits.
- ✓ All aisles shall be kept clear of any obstructions at all times.
- ✓ Work areas shall be kept neat and orderly.
- ✓ Trash will be disposed of in proper waste containers. Rags with any flammable or combustible solvent shall only be put into metal containers.
- ✓ Wipe up all spills promptly following spill response procedures. If you have not been trained to handle small spills of materials you are using, immediately notify your supervisor.
- ✓ Always use proper lifting technique when lifting any objects.
- ✓ Do not stack or place material on top of high places unless it is a designated storage area and has the proper safety equipment for preventing objects from falling.



- ✓ Do not obstruct your vision when carrying objects. Watch your step and make sure there is nothing in your path, whether on the floor or sticking out at a higher level.
- ✓ Always stack material securely and safely.
- ✓ Use properly designed stools, ladders, scaffolds to reach or work above floor grade.
- ✓ Do not use compressed air for cleaning off clothing.
- ✓ Secure all compressed gas cylinders with a strap or chain. Store in designated areas away from heat, electrical equipment, or high temperatures.



Electrical

- ✓ Do not use and immediately report exposed wiring and cords that are frayed or have deteriorated insulation. All outdoor construction extensions must have GFCI (Ground Fault Current Interrupter) Protection.
- ✓ Never use a metal ladder where it could come in contact with energized parts of equipment, fixtures or electrical wires.
- ✓ Maintain adequate access and working space around all electrical equipment.
- ✓ Do not block access to electrical panels; maintain a 3-foot clearance on all sides.
- ✓ Do not use portable electrical equipment or electrical tools that cannot be grounded, or that are not double insulated.
- ✓ Plug all electrical equipment into appropriate wall receptacles or into no more than one extension cord of size and capacity adequate for the expected load. Three-pronged plugs should be used whenever possible to ensure a continuous ground.
- ✓ All power cords running across aisles and under foot must be taped down or inserted through rubber protectors to prevent tripping hazards.

Fire

- ✓ If you discover a fire, sound the fire alarm and begin evacuation procedures. After having assured your safety, follow the emergency procedures to notify response personnel of the location and extent of the fire.
- ✓ If you hear a fire alarm, stop work immediately and evacuate the area following the Emergency Evacuation Procedures, if possible. If this is not possible due to the fire, evacuate the area by the closest clear exit. Immediately head for the designated assembly area and check-in with the person responsible for the accounting of all personnel.
- ✓ Do not attempt to respond to the fire or any other emergency unless you have been trained in Emergency Response, **and it is safe for you to do so while maintaining a safe exit at your back.** Training must include hands-on use of fire extinguishers if your assignment includes fighting "wastebasket fires." Otherwise evacuate and leave the fire fighting to the professionals.
- ✓ Practice fire safety at all times; be sure stairways are clear of all items that can obstruct passage. Store flammable and combustible materials in appropriate areas, not under stairways.
- ✓ Never block fire hose stations, escape ladders and fire extinguishers.





Hazardous Materials & Chemicals

- ✓ Do not enter a confined space unless you have an approved permit, have received training in confined space entry and until chemical tests for toxic substances, explosive concentrations of gases or vapors and oxygen deficiency have been performed.
- ✓ Hazardous materials must be kept in properly labeled and closed containers when not in use. They must be stored in approved storage locations and equipment. Ask for Material Safety Data Sheets, MSDSs, for your own safety when you are unfamiliar with the product and its properties. If you have any questions, call Barrett Business Services for assistance.
- ✓ Do not eat, drink or smoke in areas where hazardous materials are present.
- ✓ Learn the hazards and safe handling procedures for the various hazardous materials and chemicals stored in your workplace.
- ✓ Store cleaning supplies separately and lower than edible items on kitchen or pantry shelves.
- ✓ Store hazardous materials, such as cleaning solvents and flammable liquids, in appropriate containers and only in designated storage areas.

PPE — Personal Protection Equipment

When PPE is required to perform your job, it shall be properly worn, cleaned, maintained and stored. If you have any questions, contact your supervisor & The Client employer will provide the proper way to put on, take off, clean and maintain PPE you are required to use in the performance of your job tasks.

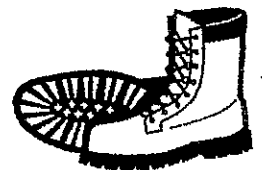


- ✓ Hearing protection shall be worn in all areas identified as requiring hearing protection and when using equipment that generates noise requiring the use of hearing protection for operator safety.
- ✓ Goggles, safety glasses or face shields must be worn when grinding, welding or using any other machinery that generates particles that may enter the eyes or generates bright light, which may cause eye damage. Wearing the right protection will prevent permanent impairment. Eye protection is also required when handling any hazardous materials where there is a danger of splashing, flying debris or any other airborne matter that could enter the eyes.
- ✓ Respiratory protection must be used when working with any material that may produce airborne dust, mist or vapor that may be present in excess of permissible exposure limits. Respiratory protection may be used with any dust, mist or vapor that you find uncomfortable. Before using a respirator, you must have a current medical card, receive training on how to use, clean and maintain your respirator and undergo a fit test to ensure that the respirator will perform properly when you wear it.
- ✓ Special footwear such as steel-toed boots, rubber boots, static straps or stiff leather boots may be required by the work environment.
- ✓ Hard Hats may be required when working where overhead work is being performed, in the vicinity of overhead cranes or where falling objects can cause injury.
- ✓ Gloves may be required to protect the hands against sharp, rough, slick, cold or hot objects. Special chemical resistant gloves may be required when handling hazardous materials.

Fall Protection

Slips and Falls

- ✓ Watch your step! Be alert to floor conditions, dark areas, congested aisles and cluttered stairways. Practice good housekeeping and remove trip, slip and fall hazards as soon as you notice them.
- ✓ Watch your footing around manufacturing processes where wet or slippery conditions are present.



- ✓ Be alert where permanent or temporary equipment is being used for the possibility of oils or other lubricants leaking and causing slippery footing.
- ✓ Use handrails when climbing descending stairs.

Falls from Above

- ✓ Stair landings and elevated surfaces above 4 feet require hand rails and toe boards.
- ✓ **Use fall protection!** Do not work on surfaces above 6 feet without proper guard rails. Fall protection includes approved scaffolding, ladder jacks, pump jacks or PPE: Harness and lanyards. The employer will provide you with the proper equipment and training. You must use the equipment every time you are in a situation requiring fall protection.
- ✓ **Check** for a firm, secure base for a ladder *each time before climbing*.
- ✓ **Do not extend your body beyond the side rails** when working on a ladder.
- ✓ **Always** tie off a ladder whether working from it or using it to reach another work level. Remember: *always* means *always!* No matter how small the job.

Operation of Equipment and Vehicles

Inspect motorized vehicles and other mechanized equipment daily or prior to first use on any shift. Certain equipment, such as lift trucks, will have a daily or shift checklist to be completed before the first use. If the equipment has a checklist, make sure it is completed before you use it.



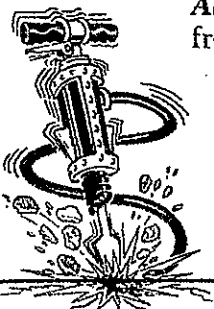
- ✓ **Do not** operate a motor vehicle unless you are employed to do so, and you are on the authorized list of operators.
- ✓ **Do not** operate equipment unless you are employed to do so, and you have been trained for the specific equipment you are to use.
- ✓ **Do not** operate equipment without supervision.

Ergonomics

Learn to recognize unsafe work conditions that can cause fatigue and body stress such as:

- ✓ Regular repetitive tasks.
- ✓ Use of limbs, hands, wrists or fingers for long periods of time in uncomfortable positions.
- ✓ Forceful exertions such as pushing, pulling or lifting.
- ✓ Twisting or rotating while bending or lifting.
- ✓ Cold temperatures.
- ✓ Improper hand tools
- ✓ Vibration from power tools.
- ✓ Poor body mechanics or poor body posture.
- ✓ Restrictive work stations.
- ✓ Lifting heavy or awkward objects.

Alter, change or adjust your task when these conditions exist *before you get hurt!* Ask for help from your supervisor .



EMPLOYEE CITATIONS – WRITTEN WARNINGS



Your work is very important to the success of our company but your safety is just as important! Serious or flagrant violations of safety rules and policies may result in immediate dismissal without prior warnings.

The *ELASCO, INC.* office copy of the violation form will be retained in your personnel file. Each time a new violation form is received, your file will be reviewed for previous violations. Violations received during a twelve-month period will result in the following actions:

- | | |
|------------------|--|
| First Violation | Verbal Explanation and Warning. No punitive action taken. Notation in file. |
| Second Violation | Verbal and Written Warning. Department Manager determines additional consequences. Copies of all materials placed in file. |
| Third Violation | Final written warning and dismissal. Copy to file. |

The purpose of the *ELASCO, INC.* safety program and disciplinary policy is to promote and ensure your safety on the job. Our policy is not intended to punish employees—its purpose is to help maintain a safe work place for you and your fellow workers.

WHAT HAPPENS IF I'M HURT ON THE JOB?

The Workers' Compensation System is designed to provide medical benefits for work-related illness and injuries. The state program protects the employees' rights for medical treatment, replacement of lost wages and return to work benefits. With few exceptions, this program covers injuries occurring in the course of employment.



What To Do When Injured *Report all injuries no matter how slight!*

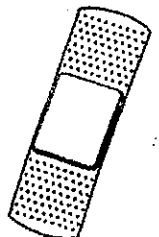
- ✓ Immediately notify the job site supervisor of the nature and extent of the injury. Severe injuries will be handled by on-site medical services or 9-1-1 Emergency Response Teams.
- ✓ Injured employees are responsible to assist and cooperate in the accident investigation process.
- ✓ *All employees must* report the injury and receive immediate assistance to arrange medical care.
- ✓ *Human Resources will* complete Injury Reports for initiating benefits.

What Are My Responsibilities?

- ✓ Immediately report any injury to the worksite supervisor
- ✓ Complete the Post Injury Drug/Alcohol Screen.
- ✓ Complete required injury reports.
- ✓ Return to work as soon as medically advisable.
- ✓ Follow your medical practitioner's instructions and treatment plan. Keep all medical appointments.
- ✓ Contact *Human Resources* when your medical practitioner releases you for modified and regular work.
- ✓ Cooperate with personnel in the "Return to Work" program.

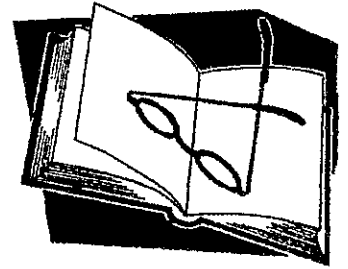
Injuries May Not Be Covered by the Program if:

- ✓ You were under the influence of alcohol or illicit drugs at the time of injury.
- ✓ You engaged in altercations with another person.
- ✓ Engaged in horseplay on the Client employer's work site.
- ✓ You knowingly made a False statement to obtain or support a claim for benefits.



TRAINING

As you begin your employment at ELASCO, INC. we want to emphasize that we are concerned about your health and safety. We also want to emphasize that injury prevention is the responsibility of everyone (, site employer, and the employee) and that you should become thoroughly knowledgeable with and observe all safe work practices indicated in this handbook. Your safety training is a shared responsibility between YOU and your site employer. At ELASCO you will receive all necessary core or fundamental general safety orientation and training (i.e., back safety, reading material safety data sheets, etc.). Your site employer will be providing any additional job-specific training, as well as updating you on new hazards in the workplace. Do not attempt to perform your assignment without obtaining job-specific training from the site employer (i.e., site specific lockout/tagout procedures or hazard communication training).



You will be given a New Employee Safety Training Checklist to be completed by the site employer on the first day of your assignment. The checklist needs to be signed by both you and the site employer. This checklist provides documentation that appropriate safety training has been provided to you and will be kept on file in our office.

The following core or fundamental general safety topics will be provided by Barrett Business Services, Inc. You must demonstrate a competence in all applicable areas prior to beginning your assignment.

- ✓ Housekeeping
- ✓ Fire Safety
- ✓ Hazcom
- ✓ Back Safety
- ✓ (Employee Safety Handbook) General Safety

HOUSEKEEPING



For any of you with children at home you already know how housekeeping can affect safety. How many times have we tripped over toys left in the middle of the living room floor? Those of you without children have your own housekeeping issues. In your hurry to clean the kitchen you toss the steak knives into the wrong drawer or blade-up in the dishwasher. The next day without thinking you reach into that drawer or dishwasher with a sharp disaster.

At Work The same unfortunate disasters happen at work too. Therefore the Occupational Safety & Health Administration (OSHA) has developed housekeeping regulations for the workplace to reduce the potential for accidents such as:

- ✓ Slips, Trips and Falls
- ✓ Chemical Hazards
- ✓ Fire Hazards
- ✓ Contact Hazards: Cuts and Bruises

Good housekeeping can prevent a lot of these hazards and injuries such as:

Slips and falls can be prevented by keeping aisles and other traffic areas clear. That means avoiding running cords and hoses across walk surfaces; not leaving tools unattended; picking up and mopping debris lying on the floor.

Fire hazards can also be reduced by not allowing debris to pile up. Immediately dispose of trash and any other type of flammables. Proper chemical storage can also prevent many fire hazards. Caring for electrical equipment is important too. After using the tool/equipment make sure it is not over heated and clogged with grease or dust.

Chemical hazards causing fire or personal injury can be partially eliminated by storing the materials safely. Store them in clearly marked containers. Don't leave identifying the substance up to your nose—read the MSDS.

Contact hazards cause cuts and bruises resulting from reaching where you last thought you left an item to find a sharp reminder you didn't return the tool to the proper place. Or, you bumped into a tool that was improperly placed, hanging off the edge of a table into a walkway.

Make prevention part of your routine:

- ✓ Keep tools/equipment in their proper place when not in use.
- ✓ Keep walking/working surfaces clear at all times.
- ✓ Avoid allowing trash or debris to pile up.
- ✓ Clean up spills immediately or report them to someone who will.
- ✓ Keep cords and hoses out of traffic areas.
- ✓ Store and dispose of flammable materials properly.
- ✓ Use caution to check labels before using or storing materials.
- ✓ Don't allow dust or grease to build up on electrical equipment/tools.
- ✓ Keep food and beverages out of the work area.
- ✓ Report any housekeeping problem that is out of your control to correct.



Make sure you clean your work area prior to leaving each day. Don't let debris accumulate and take personal responsibility to assure that your work area is safe. When your work area is clean and neat, it's much easier to find what you need, therefore you will perform your job more efficiently. It also makes it easier to respond or to get out of the building more quickly in an emergency situation. Housekeeping and safety go hand-in-hand.

Housekeeping QUIZ

- T F 1. Employees don't have to worry about good housekeeping on the job.
- T F 2. Contact hazards are objects you can bump into or objects that can hit you resulting in injury.
- T F 3. OSHA has a regulation that requires keeping workplaces clean.
- T F 4. Letting dust or lint build up on machinery or work surfaces is not a safety hazard.
- T F 5. Part of your job responsibility is to maintain good housekeeping in the workplace.
- T F 6. A neat and clean work area helps improve emergency response.
- T F 7. One way to prevent trips and falls is to report flooring problems like loose boards or uncovered drains.
- T F 8. Letting grease or dust build up on machinery or work surfaces is not a safety hazard.
9. Good housekeeping can help prevent? Trips and Falls Fires Punctures

FIRE SAFETY

Extinguishers

In all work environments, regularly maintained fire extinguishers are a requirement. We get so used to them being around that we sometimes tend to forget how important they might be once they are needed. To extinguish a particular type of burning material, the correct class of extinguisher must be used. Common fire classes are shown on the chart below. Extinguishers contain either water, dry chemical or carbon dioxide. Your site employer will orient you to their specific fire emergency plan and show you the location of the fire alarm, extinguishers, and exits.

FIRE EXTINGUISHER CLASS	FOR USE ON THIS TYPE OF BURNING MATERIAL	TIME TO EXTINGUISH FIRE		
		WATER	DRY CHEM.	CO ₂
A	Wood, paper, rubber, plastics, cloth	1 min.	8 to 25 sec.	8 to 10 sec
B	Gasoline, oil, grease, tar, lacquer, etc.		8 to 25 sec.	8 to 10 sec
C	Energized electrical equip., wiring, fuse boxes		8 to 25 sec.	8 to 10 sec

Always size up the fire and make sure to use the proper class of extinguisher. Multi-purpose dry chemical extinguishers are effective on all classes of fires. If you don't know what is burning, get emergency assistance. Locate the Material Safety Data Sheets (MSDS) for appropriate control measures. Attempting to put the fire out with the wrong extinguisher puts you and others at risk of a greater loss. It could cause the fire to spread, or do more damage than the fire itself. It could cause an explosion or cause the user to be shocked or even electrocuted.

When operating a Fire Extinguisher use the PASS technique:

- P** Pull the pin.
- A** Aim the extinguisher at the *base* of the fire.
- S** Squeeze the handle.
- S** Sweep back and forth.

It is important that all employees understand the company policy on the selection, use, maintenance, storage and disposal of fire extinguishers. Remember:

- ✓ Do not use a fire extinguisher unless you have been trained to do so.
- ✓ Size up the fire (if it is taller than you, don't try to put it out).
- ✓ Select the correct extinguisher.
- ✓ Use the **PASS** technique.
- ✓ Know how and when to call for emergency assistance.



Common causes of fires

Electricity: Choose equipment of the proper design for operating demands and environmental conditions. Keep equipment clean, dry, and cool. Conduct and record regular inspections and electrical tests.

Chemical actions: Know the characteristics of the chemicals in the workplace and how to deal with them in an emergency situation.

Friction: Lubricate machinery regularly. Follow a machine maintenance plan. Inspect machines prior to use.

Sparks: Do not use lift trucks powered by gas or diesel fuel where flammable vapors or gasses normally exist.

Arson: Maintain adequate security against intruders.

Fire Safety QUIZ

- T F 1. "Class A" fire extinguishers are used to extinguish electrical fires.
- T F 2. Training on specific fire safety procedures will be completed by the site employer.
- T F 3. If you have not received proper fire extinguisher training do not attempt to use a fire extinguisher.
- T F 4. Do not use water on live electrical fires.
- T F 5. Never block the area in front of a fire extinguisher.
- T F 6. Portable extinguishers contain a very limited supply of extinguishing material.
- T F 7. To fight a fire, you should aim the extinguisher at the middle of the fire and squeeze the handle.
- T F 8. Multi-purpose Dry Chemical extinguishers are effective on all classes of fires.
- T F 9. Your site supervisor should show you the location of extinguishers, alarms, and emergency exits.

GENERAL HAZARD COMMUNICATION SAFETY

Hazard Communication, also known as "Right to Know" was developed as a vehicle for employers to inform their employees about the hazards of the chemicals they have to work with, so they can use them safely. Every business that uses hazardous chemicals is required by law to have a Hazard Communication program that covers three essential areas: Employee information and training, container labeling, and Material Safety Data Sheets (Hereinafter referred to as MSDS).

ELASCO, Inc. will be providing generic hazard communication training such as reading labels and using MSDS's. The site employer will then provide affected employees with site-specific hazard training such as specific protective practices, emergency procedures, location of the written program, MSDS's, and emergency response. Make sure you completely understand the potential dangers associated with your assignment prior to beginning work. If you do not understand something, ask your site supervisor for clarification or assistance.

The site employer must have a written program, this will serve as a useful reference for you. This program should be made available for your review. This program will outline how the site employer will meet obligations in the rules concerning labeling, MSDS, and employee information and training. The program will also contain a list of hazardous chemicals in the workplace, the corresponding MSDS's, suggestions for appropriate protection measures, and emergency procedures.

Labels: Labels give quick facts regarding the content of material inside containers. All containers should contain some type of identification—report missing or illegible labels to your supervisor. Never use anything that doesn't have a label. Take a minute to read the hazard warning as a reminder every time you handle a chemical.

Material Safety Data Sheets: MSDS's contain 12 different information items providing detailed chemical information. These printed pages give you all the critical information you need about how to use, transport, and store chemicals in order to protect yourself, as well as what to do in case of emergencies and overexposure. Always read the MSDS before you begin a job using chemicals. Following is a list of what items are contained on a MSDS.



Material Safety Data Sheet

Chemical identity: Product name, manufacturer, chemical formula, severity.

Physical and chemical characteristics: Vapor pressure, flash point, and chemical solubility.

Physical hazards: Reactivity, explosibility, and fire potential.

Health hazards: Signs and symptoms of illness, and medical conditions which might be aggravated by exposure.

Primary routes of chemical entry: Identifies routes into the body (eyes, ingestion, skin, etc.).

Permissible exposure limits: Published safe use limits recommended for the chemical.

The MSDS will also list whether the chemical is a **carcinogen** (cancer causing substance).

Precautions necessary for safe use: Ventilation, storage, spills and other details.

Control measures: Engineering, work practice, and personal protective equipment necessary to protect against the hazard.

Emergency and first aid procedures: List proper emergency and first aid procedures after exposure.

Date of MSDS preparation: Or the date of last change in chemical content.

Name, address, and phone number: Person responsible for the MSDS or manufacturer.

Protection Against Chemical Hazards

You may not see, smell, or feel the presence of hazardous chemicals, so you need to know basic hazards to protect yourself. It's important to remember that there is no one sure protection for every chemical. You have to check the label and the MSDS of each chemical you work with so you know what to do to work safely with that chemical. Chemicals may cause physical and/or health risks to workers.

Physical: A chemical may have three basic physical hazards:

- ✓ **Fire:** Flammable chemicals give off flammable vapors even at room temperature where a spark or small flame can start a disastrous fire.
- ✓ **Explosion:** Some chemicals have an explosion risk, know the circumstances under which a chemical might explode.
- ✓ **Reactivity:** This is the potential of a chemical to catch fire or explode if it's combined with other chemicals or with water or air. Know what the chemical should be kept away from and what situations to avoid.

To Control Flammable Vapors:

- ✓ Keep in tightly closed, approved container.
- ✓ Use only in ventilated area—or outdoors.
- ✓ Have only small amounts on hand.
- ✓ Clean up or report spills or leaks—immediately.
- ✓ Use approved waste disposal containers.
- ✓ Wear required protection (indicated on MSDS).
- ✓ Keep in separate storage areas.

To Control Ignition Sources: Keep away from heat, sparks, flame or other ignition source.

Health: A chemical can create a variety of health hazards which could result in anything from a skin rash to lung cancer. Refer to the MSDS for possible health hazards of any given chemical, the symptoms to watch out for, and any existing medical condition that the chemical might make worse.

Toxic Chemicals: Can poison internal organs, nervous system, and the brain.

Corrosive Chemicals: Can destroy, irritate or sensitize living cells.

Exposure may occur immediately or over a period of time. Routes of entry include the eyes, nose, mouth, and skin (*contact or absorption*).

To Control Health Hazards:

- ✓ Follow established safe work practices.
- ✓ Use appropriate equipment, ventilation, and containers.
- ✓ Use protective equipment specified on the MSDS (*i.e., respirator, splash goggles, gloves*).
- ✓ Follow the recommended hygiene practices.

Hazard Communication QUIZ

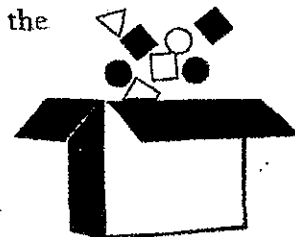
- T F 1. Your site supervisor should show you where the written Hazard Communication Plan is kept.
- T F 2. Job specific chemical training is provided by the site supervisor.
- T F 3. If a container doesn't have a label then it is most likely safe to work with.
- T F 4. You should report missing or illegible container labels to your supervisor.
- T F 5. Material Safety Data Sheets (MSDS) give you quick facts about a particular chemical.
- T F 6. You must wear the protective clothing and equipment recommended on the MSDS.
- T F 7. You can always smell the presence of a hazardous chemical.
- T F 8. Vapors released from flammable chemicals are harmless.
- T F 9. Skin contact with corrosive chemicals could result in skin tissue damage.
- T F 10. Emergency and first aid procedures are not listed on the Material Safety Data Sheet.

BACK SAFETY

Back strains and injuries can happen anywhere, but a great many of them happen at work. OSHA has reported that "back strains due to overexertion represents one of the largest segments of employee injuries in the American workplace." Since back injuries occur more frequently than injuries to any other part of the body it becomes very important that you understand what types of acts are likely to strain your back, and how to perform tasks in ways that reduce that risk. Back injuries not only cause you to lose time away from work (*ninety-three million work days are lost each year*) they will also prevent you from performing everyday tasks at home. Picking up your child, sitting through your favorite television show, and sleeping can all become painful. This back injury prevention training program has been developed to assist you in taking an active role in your own personal safety and health.

About the Back

The purpose of your back is to support the upper body, protect your spinal cord and allow flexibility. The spinal column, which runs down your back, is an s-shaped stack of bones called vertebrae. These vertebrae are connected by ligaments and separated by soft discs that cushion and protect the bones. At the center of the spinal column is the spinal cord, and nerves from there run out to other parts of the body. The back does its job with the help of muscles attached to the vertebrae. These muscles work with the stomach muscles to keep the spinal column in place and keep the back strong. You can injure your back with one wrong movement. When you experience back pain, it's usually related to the muscles or ligaments being stretched in ways they're not meant to move.



Causes of back injuries: Improper lifting, overexertion, poor posture, medical factors (age, other disabilities, etc.), slips and falls, excessive weight, lack of exercise, stress.

Symptoms of back injuries: Pain and tightness, spasms, decreased range of motion, numbness in the limited ability to sit or stand.

Ergonomics

Proper ergonomics adapts the job to fit the person rather than forcing the person to fit the job. An ergonomic workplace designs tasks and tools to fit individual capabilities and limitations so people can do their jobs with less possibility of injury. Take an active role in your well being and look at the following ergonomic issues. Communicate your concerns to your supervisor.

- ✓ Are the tables you work at too high or too low to comfortably fit your body frame?
- ✓ Do you have to stretch to reach the items you work with?
- ✓ Does the location of material keep you from using proper lifting techniques? Can it be rearranged?

Look around the facility for areas that make using correct lifting techniques difficult. It's possible that moving a shelf or rearranging items, the obstacle can be eliminated and work can be performed more easily.

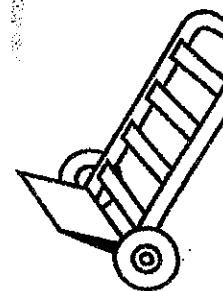
Proper Lifting Techniques

Use proper body mechanics when you are lifting, bending or pushing. A healthy back begins with proper lifting techniques and exercise. Train yourself to think before you lift and to stretch before you work. If your position requires you to lift, follow the *Eight Commandments of Lifting* listed below:

- ✓ **Plan your lift and test the load.** Before you lift, think about the item you are going to move and yourself: "Can I lift this alone?" "Is it too awkward for one person?" "Is the path clear?" You also need to test the load to see approximately how heavy it is before lifting.
- ✓ **Ask for help.** If the load is too heavy or too awkward for you to lift, ask for assistance.
- ✓ **Get a firm footing.** Keep your feet apart, creating a stable base and point your toes out.
- ✓ **Bend your knees.** Don't bend at the waist. Keep the principles of leverage in mind at all times. Do not do more work than you have to.
- ✓ **Tighten your stomach muscles.** Use intra-abdominal pressure to support your spine when you are offsetting the force of the load. Train your muscles to work together.
- ✓ **Lift with your legs.** After you have secured a good grip with your hands, let your leg muscles do the work of lifting. Don't rely on weaker back muscles.
- ✓ **Keep the load close.** Bring the load as close as possible to your body. The closer it is to your spine, the less force it exerts on your back. Keep your weight centered over your feet. Tuck your arms and elbows into your side.
- ✓ **Keep your back straight.** Whether lifting or putting down a load, don't add the weight of your body to the load caused by bending over. Avoid twisting.

Also, remember the following safe practices when lifting:

- ✓ Pivot, don't twist to move objects.
- ✓ Lift smoothly don't jerk the object you are lifting.
- ✓ Push, don't pull heavy objects.
- ✓ Move, don't over stretch to reach items on your desk or at a table.
- ✓ Sit and stand with your spine aligned, don't hunch over at your desk or stand in an awkward position.



Condition your body—warm up prior to working

There are other things that you can do to keep your back healthy. Eat right, sleep on a firm mattress and get some form of aerobic exercise three times per week and you will be well on your way to a healthy back. Another important step to maintaining a healthy back is warming up before you start working. Muscles tend to shorten and tighten with overuse. You can help avoid stiffness and tightness by periodically stretching.

Listen to your body. Pain is a warning signal. It means STOP! If you begin feeling sharp pains anywhere stop and change how you are performing your job task. A little muscle soreness is normal and to be expected on any new job, but to keep on using a muscle in pain is to invite injury and is not acceptable.

Proper Lifting QUIZ

- T F 1. The purpose of the back is to support the upper body, protect your spinal cord, and allow flexibility.
- T F 2. When you lift, your abdomen and back muscles help to take pressure away from your spine.
- T F 3. The first thing you should do before you lift is plan your lift and test the load.
- T F 4. Twisting while lifting an object is a safe work practice.
- T F 5. Improper lifting is a common reason back injuries occur.
- T F 6. If you start to feel pain in your back when lifting, ignore it and continue working.
- T F 7. It is always a good idea to warm up by stretching before you start lifting.
8. When moving heavy objects using material handling devices, such as roller carts or hand-trucks, you should
 push pull.
9. Designing the workplace to fit the worker is called _____.
10. List two causes of back injuries. (1) _____ (2) _____.

Employee Safety Handbook – General Safety QUIZ

- T F 1. Ultimately, you are responsible for your personal safety and are required to follow safe work practices.
- T F 2. Serious or flagrant violations of safety rules and policies may result in immediate dismissal.
- T F 3. It is okay to begin a job before receiving instruction from your supervisor on how to do the job safely.
- T F 4. Immediately notify your job site supervisor and Barrett Business Services of any work related injury.
- T F 5. Employee safety suggestions are encouraged, but pointing out hazards in the workplace are not.
- T F 6. When Personal Protection Equipment is required to perform your job, it should be properly worn, cleaned, maintained and stored.
- T F 7. Operation of motor vehicles is prohibited unless you are authorized and employed to do so.
- T F 8. If you are asked to perform a job that appears to be unsafe, notify Barrett Business Services before you begin the job assignment.
- T F 9. It is acceptable to remove guards from machines if it will help you work faster.
- T F 10. If your site supervisor fails to provide you with appropriate specific safety training you should notify your Barrett Business Services, Inc. placement coordinator.

EMPLOYEE ASSISTANCE INFORMATION

AFFIX ADDRESS LABEL OR BUSINESS CARD — OR — WRITE OR STAMP BRANCH ADDRESS HERE →

CONTACT PERSON: _____

Have an Injury?

CONTACT RISK MANAGER: _____ PHONE: (____) _____

JOBSITE Employer: ELASCO INC.

ADDRESS: 11377 MARKON DR.
GARDEN GROVE CA 92841

SUPERVISOR: _____ PHONE: (714) 891-1795

REPORTING A SAFETY HAZARD OR OFFERING A SAFETY SUGGESTION



We want to hear about any safety concerns or suggestions for improvement that you have. The easiest way for you to report hazards or to offer suggestions is to talk directly to your supervisor. They want to hear from you! You can also talk to us. We want to hear from you too!

Our Telephone Number is: (714) 891-1795 Fax Number: (714) 895-7031

Our mailing Address is: 11377 MARKON DR.
GARDEN GROVE CA
92841

Contact: Janet Larrucea, Human Res. Director

Please tell us the: Date _____

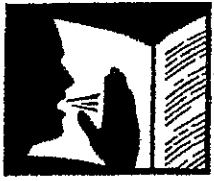
Job Site Address _____

What You Are Doing _____

Hazard/or Safety Suggestion: _____

May we contact you?

Telephone Number: (____) _____ Name: _____



New Employee SAFETY TRAINING Checklist

This form is to be completed by _____
the new employee within three days after the employment or returned with the Employee Time Sheet. This completed form will be kept in the employee's personnel file.

Date Employed _____ Position _____ Social Security Number _____

NAME OF EMPLOYEE (PLEASE PRINT)

First _____ Middle _____ Last _____

Management and new employee are to review the following safety list, check and discuss those which apply:

- 1. Company safety policies and programs (HazCom, Fall Protection, etc.).
- 2. Safety rules, both general and specific to job assignment.
- 3. Safety rule enforcement procedures (disciplinary program).
- 4. Use of tools, machines, and equipment (lockout/tagout, clean work area).
- 5. Proper personal protective equipment (assessment, demonstrate proper use).
- 6. How to report accidents/injuries (immediately to supervisor and Barrett).
- 7. How to report unsafe conditions.
- 8. Emergency procedures (exit locations, evacuation routes, specific procedures).
- 9. Employee responsibility for the prevention of accidents.
- 10. Proper lifting techniques (written training).
- 11. Safety incentive explained (lease accounts).

- | | | |
|---|--|--|
| Location of:
<input type="checkbox"/> 1. Fire extinguishers
<input type="checkbox"/> 2. First aid kits
<input type="checkbox"/> 3. MSDS sheets
<input type="checkbox"/> 4. Emergency exits
<input type="checkbox"/> 5. Rest rooms
<input type="checkbox"/> 6. Break/lunch area | Miscellaneous
<input type="checkbox"/> 1. Fire extinguishers
<input type="checkbox"/> 2. First aid kits
<input type="checkbox"/> 3. MSDS sheets
<input type="checkbox"/> 4. Emergency exits
<input type="checkbox"/> 5. Rest rooms
<input type="checkbox"/> 6. Break/lunch area | Personal Protective Equipment
<input type="checkbox"/> 1. Glasses
<input type="checkbox"/> 2. Shoes
<input type="checkbox"/> 3. Aprons, chaps
<input type="checkbox"/> 4. Respirators/dust masks
<input type="checkbox"/> 5. Fall protection equipment
<input type="checkbox"/> 6. Hearing protection
<input type="checkbox"/> 7. Gloves
<input type="checkbox"/> 8. Hard hat |
|---|--|--|

Employee agrees to cooperate fully with the safety efforts of the employer, follow all safety rules and use good judgement concerning safe work behavior. Please report any unsafe work conditions immediately!

SIGNED

EMPLOYER _____ Telephone: 714 891 - 1795

Job-site Supervisor _____ Employee Signature _____ Date _____

The record will be kept by THE CLIENT COMPANY

The New Employee SAFETY TRAINING Checklist on page 17
to be completed by employee and job-site supervisor,
removed from booklet and kept on file by ELASCO, INC.

EMPLOYEE SAFETY HANDBOOK



The materials in this Employee Safety Handbook were reviewed with me at my orientation session.

I understand that violation of rules can result in termination. The use of drugs or intoxicating beverages is prohibited. I have demonstrated knowledge of the

tools for safe work practices by quizzes and demonstrations. This orientation provides a basic foundation to step into the work assignment. It is my continued responsibility to question and ask direction for specific work place tasks and hazards.

I have read the Employee Safety Handbook and completed:



- Housekeeping Quiz
- Fire Safety Quiz
- Hazard Communication Quiz
- Proper Lifting Quiz
- General Safety Quiz
- Other: _____ INITIAL
- Other: _____ INITIAL
- Other: _____ INITIAL
- Other: _____ INITIAL
- Other: _____ INITIAL

Print employee name _____

Sign employee name _____

Date _____

Branch Employee Name _____

Position _____

Date _____

The New Employee SAFETY HANDBOOK Checklist on page 19 is to be completed by employee, removed from booklet and kept on file at

**GARDEN GROVE FIRE DEPARTMENT
BUSINESS EMERGENCY PLAN**

A BUSINESS IS REQUIRED BY LAW TO NOTIFY THE GARDEN GROVE FIRE DEPARTMENT WITHIN 30 DAYS OF ANY OF THE FOLLOWING EVENTS:

1. Change of business address.
2. Change of business ownership.
3. Change of business name.
4. Cessation of business operation (quitting business).
5. Use or handling of a previously undisclosed hazardous material.
6. A 100% increase in the quantity of a previously disclosed hazardous material.

IN ADDITION, IF A BUSINESS HANDLES EXTREMELY (ACUTELY) HAZARDOUS MATERIALS, THE BUSINESS MUST NOTIFY THE GARDEN GROVE FIRE DEPARTMENT WITHIN 30 DAYS OF ANY OF THE FOLLOWING EVENTS:

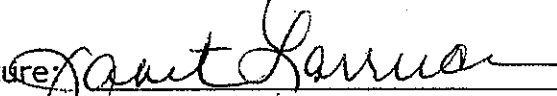
1. A modification, change, or addition to your facility which either increases your usage of extremely hazardous materials by 10% or greater, or substantially increases the risk in handling extremely hazardous materials at that address.

Your business is required by State law to retain a copy of this entire Business Plan, chemical inventory, material safety data sheets and site maps, for review by Fire Department personnel. State where your Disclosure and Emergency Business Plan will be kept.

Show location on site map also using symbol in the legend.

Note: A fee is charged for a replacement copy from the Garden Grove Fire Department.

I certify, under penalty of perjury, that the enclosed information is true and correct to the best of my knowledge.

Signature: 
 Name: JANET LARRUCEA
 Title: HUMAN RESOURCES Dir.
 Date: 7-11-07

GARDEN GROVE



FIRE DEPARTMENT

HAZARDOUS MATERIALS DISCLOSURE PROGRAM

REPORTING FORMS PACKET

SHORT VERSION

FOR OFFICIAL USE ONLY	
FACILITY ID NO.	_____
BUSINESS NAME	_____
BUSINESS ADDRESS	_____
APPROVED BY	_____ DATE _____
NEW BUSINESS	<input type="checkbox"/> YES <input type="checkbox"/> NO UPDATE _____
PICK	__ 4D __ BUSLIST __ CALARP: __ CUPA: __ GIS __
FEE	_____



Hazardous Materials Disclosure

Program Description, Disclosure Forms, Placard Information

This Program Affects Your Business

State and federal legislation requires EVERY BUSINESS that handles or stores hazardous materials and/or hazardous waste above a specified amount, to report their inventories to their local fire department. This disclosure information will assist the Fire Department in responding to emergencies involving hazardous materials along with meeting the "Community Right to Know Act" and safeguarding the environment.

Does Your Business Handle Hazardous Materials?

Many materials you may not consider as a "hazardous material" are, in fact, hazardous. If it is flammable, combustible, corrosive, caustic, explosive, toxic, poisonous, an irritant, etc., then it is a hazardous material. Also, if the item has a warning label or the manufacturer supplies a Material Safety Data Sheet (MSDS), it is considered it a hazardous material.

Consider the materials that you use in your business operations. If there are any hazards associated with them, then you are handling a hazardous material. The question now becomes one of, "Is this hazardous material a reportable quantity?" Basically, if your business handles any single hazardous material at any one time, in an amount greater than or equal to

**55 gallons of a liquid, 500 pounds of a solid, or
200 cubic feet of a gas,**

then you have a reportable quantity and are required to report your inventory to the fire department.

Other Circumstances

In addition, there are chemicals that state and federal governments have deemed to be "Extremely Hazardous Substances" (EHS) chemicals. These chemicals will be subject to SARA III or EPCRA reporting, as indicated on the MSDS. As a general rule, EHS items are required to be disclosed regardless of the amount.

Reportable amounts of waste materials must be disclosed. The fire department monitors the disclosure only, while Orange County Environmental Health regulates and tracks hazardous wastes for the city of Garden Grove.

Cost Recovery

Fees are assessed to recoup the costs involved in operating the Hazardous Materials Disclosure Program. The fees are determined by the amount and number of reportable chemicals and/or the number of employees. Your business will be billed annually by the Orange County Certified Unified Program Agency (CUPA) for Garden Grove's Hazardous Material Disclosure Program fees. See Page 3 for Fee Schedule.

Penalties

Failure to report disclosure information in a timely manor may result in fines and penalties of up to \$2,000 per day, and up to \$5,000 per day for knowingly refusing to disclose (California Health and Safety Code, Section 25514).

How Do I Complete This Packet?

1. **Determine if your business handles reportable quantities of a hazardous material.** If you have not read the first page of this booklet, please do so now. Many items you may not consider as "hazardous," are indeed recognized as a "hazardous material" under state and/or federal law.
2. **Complete Form 1,** the Business Information Form. Each box is numbered and has a corresponding explanation, which is found in the "Guide for Completing" Form 1.
3. **Complete Form 2.** This is the site plan of your facility. Please use the legend symbols as needed. This information is important, as it will inform the fire department of the location of your hazardous materials, and will also provide vital information during emergency responses pertaining to the layout of your facility.
4. **Complete Form 3,** the Chemical Inventory Form. Fill in your business name and make as many copies as needed to disclose all your reportable hazardous materials. Please use one form per chemical and/or each waste item. Accompany each form with the respective MSDS.
5. **Complete the CUPA Business Activities Form,** required by Orange County Health Care Agency.
6. **Complete the Emergency Business Plan.** This is a fill-in-the-blank safety workbook that will assist your business in maintaining safety, and also help to remain in compliance with hazardous materials laws and OSHA regulations. Since state law requires the fire department to review your business plan for sufficiency, you must return it along with the other forms. Please note that the Business Emergency Plan workbook has two versions. The version that applies to you will depend on the complexity of your business. Businesses are required to keep a separate copy of their Business Emergency Plan at their location (CFC 8001.3.2). The original is kept on file at the Garden Grove Fire Department.

Updates To Disclosure

You are required to notify the Hazardous Materials Coordinator at the Garden Grove Fire Department, of any changes in your business information, and/or chemical inventory information, within 30 days. The entire disclosure packet does not

HAZARDOUS MATERIALS DISCLOSURE (Continued)
Program Description, Disclosure Forms, Placard Information

necessarily need to be resubmitted. You only will need to submit Forms 1, 2, or 3, whichever one(s) may be affected.

MSDS Copies

MSDS are requested for each chemical submitted. MSDS may be obtained from your supplier. Note: The law requires that the suppliers provide MSDS.

Items To Be Returned To The Fire Department

1. The Hazardous Materials Disclosure
 - a. Business Information - Form 1
 - b. Site Plan - Form 2
 - c. Chemical Inventory - Form 3
2. The Business Emergency Plan
3. Copies of the Material Safety Data Sheet
4. CUPA Business Information Form

Assistance

The Garden Grove Fire Department recognizes that completing the forms may be difficult and/or time consuming; therefore, any assistance you may need is offered to you. Also, if you prefer the form to be filled out for you, the department offers a Hazardous Materials Disclosure Reporting Assistance Program. Under this program, forms are completed upon payment of the appropriate fees. You may contact the Hazardous Materials Coordinator at (714) 741-5636 for additional information.

Fee Schedule

The schedule listed below shows the current fees adopted for the Garden Grove Fire Department Hazardous Materials Disclosure Program, Resolution No. 8101-98, under Hazardous Material Ordinance No. 1986.

FEE SCHEDULE	
1 -15 chemicals, <10,000 gallons <1000 lbs. <1000 cu ft of compressed gas, 1-10 Employees	\$ 200
1 -15 chemicals, <20,000 gallons <2000 lbs. <2000 cu ft of compressed gas, 11-20 Employees	\$ 300
1 -15 chemicals, <30,000 gallons <3000 lbs. <3000 cu ft of compressed gas, 21-30 Employees	\$ 400
>30,000 gallons, >3000 lbs., >3000 cu ft of compressed gas, +31 Employees	\$ 500
16 - 30 chemicals	\$ 750
31 or more chemicals	\$ 1,000

**GUIDE FOR COMPLETING
THE CALIFORNIA HAZARDOUS MATERIAL
BUSINESS INFORMATION - FORM 1**

There are minimum hazardous material inventory report and data management requirements in Chapter 6.95 of Division 20 of the California Health and Safety Code and Section 11022 of Title 42 of the United States Code (1989). This inventory form is required to be used by businesses and administering agencies. It is designed to include inventory information mandated under both state and federal laws.

BUSINESS OWNER & OPERATOR IDENTIFICATION		
NO.	DATA ELEMENT BOXES	INFORMATION REQUIRED
	Facility ID Number	Number assigned by GGFD. Leave this blank.
1.	Calendar year beginning	The current date you are filling out this report (e.g., 8/21/2007).
2.	Calendar year ending	The ending date and current year of the report (e.g., 12/31/2007).
3.	Page 1 of	The number of total pages in the inventory, including this page.
4.	Business Name	Enter the full legal name of the business or facility.
5.	Business Phone	Enter the business phone number.
6.	Business Site Address	Enter the street address, including street, avenue, boulevard, etc., where the facility is located. No post office box numbers. This information must provide a means to geographically locate the facility.
7.	City	Enter the city where the facility is located. Garden Grove filled in for you.
8.	State	Enter the two-character state abbreviation. CA filled in for you.
9.	Zip	Enter the zip code for the street address shown above.
10.	Dun & Bradstreet (Optional)	Enter the Dun & Bradstreet number for the facility. The Dun & Bradstreet number can be obtained by calling (610) 882-7748.
11.	SIC Code	Enter the facility Standard Industrial Classification four digit code. NOTE: If code is more than four digits, report only the first four. If you don't know your SIC Code, leave blank and the Fire Department will fill it in for you.
12.	Fire District	(Fire Dept. Use – Leave Blank)
13.	County	Enter the county where facility is located. Orange is filled in for you.

BUSINESS OWNER & OPERATOR IDENTIFICATION

NO.	DATA ELEMENT BOXES	INFORMATION REQUIRED
14.	Business Operator/Manager's Name	Enter the name of the business operator/manager.
15.	Operator Phone Number	Enter business operator phone number if different from business phone, area code first, and any extension.
16.	Owner Name	Enter name of business owner.
17.	Owner Phone Number	Enter the owner's phone number, if different from business phone.
18.	Owner Mailing Address	Enter the owner's mailing address, if different from business address.
19.	City	Owner's mailing address – City
20.	State	Owner's mailing address – State
21.	Zip	Enter the zip code for the above address
22.	Environmental Contact Name	Enter the name of the person, if different from the Business Owner and Operator, that receives all environmental correspondence and will respond to enforcement activity.
23.	Contact Phone Number	Enter the phone number at which the above person can be contacted—area code first, then any extension.
24.	Mailing Address	Enter the mailing address, if different from the site address, where all environmental correspondence should be sent.
25.	City	Enter the name of the city.
26.	State	Enter the state abbreviation.
27.	Zip	Enter the zip code for the above address.
28.	Primary Contact Name	Enter the name of a facility representative that can be contacted in case of an emergency involving hazardous materials at the facility. The contact should have FULL facility access, site familiarity, and authority to make decisions for the business regarding incident mitigation.
29.	Primary Contact Title	Enter the title of the primary contact.
30.	Primary Business Phone	Enter the business phone number for the primary contact, area code first and any extensions.
31.	Primary 24-hour Phone	Enter the 24-hour phone number for the primary contact.
32.	Primary Pager Number	Enter the pager telephone number for the primary contact, if available.

BUSINESS OWNER & OPERATOR IDENTIFICATION		
NO.	DATA ELEMENT BOXES	INFORMATION REQUIRED
33.	Secondary Contact Name	Enter the name of facility official that can be contacted in the event that the primary contact is not available. The contact should have FULL facility access, site familiarity, and authority to make decisions for the business regarding incident mitigation.
34.	Secondary Contact Title	Enter the title of the secondary contact.
35.	Secondary Business Phone	Enter the business number for the secondary contact.
36.	Secondary 24-hour Phone	Enter the 24-hour phone number for the secondary contact.
37.	Secondary Pager Number	Enter the pager number for the secondary contact, if available.
38.	Business Operation	Description of main operations and/or processes at this site.
39.	Total # of employees	Number of employees at this site.
40.	Billing Address	Billing address, if different from site address.
41.	Attention:	Responsible person or department for billing purposes.
42.	Property Owner Name	
43.	Property Owner Address	
44.	Phone	Property Owner's phone
45.	Owner/Operator Signature	The business owner/operator shall sign in the space provided. The signature certifies that all information contained in the inventory report (including subsequent chemical description information) is true, accurate, and complete.
46.	Date	Enter the date that the document was signed (e.g., 03/01/07).
47.	Name of Signer (<i>Print</i>)	Print the full name of owner/operator on line 45.
48.	Title of Signer (<i>Print</i>)	Print the title of signer on line 48.
49.	Name of Document Preparer	Print the full name of the document preparer.
50.	Title of Document Preparer	Print the title of document preparer.



CITY OF GARDEN GROVE FIRE DEPARTMENT

11301 Acacia Parkway, Garden Grove, CA 92842 (714) 741-5600 (714) 741-5636

FORM 1

Hazardous Materials Business Information Form

Page ____ of ____ 3

BUSINESS INFORMATION

FACILITY # (Supplied by GGFD)	3	0	0	3	5	BEGINNING DATE	1	ENDING DATE	2		
BUSINESS NAME								4	BUSINESS PHONE	5	
BUSINESS SITE ADDRESS										6	
CITY	GARDEN GROVE						7	STATE	8	ZIP	9
DUN & BRADSTREET	10				SIC CODE (4 DIGIT #)	11		FIRE DISTRICT	12		
COUNTY	ORANGE									13	
BUSINESS OPERATOR NAME	14							OPERATOR'S PHONE	15		

BUSINESS OWNER

OWNER NAME	16							OWNER PHONE	17		
OWNER MAILING ADDRESS											18
CITY	19						STATE	20	ZIP	21	

ENVIRONMENTAL CONTACT

CONTACT NAME	22							CONTACT PHONE	23		
CONTACT MAILING ADDRESS											24
CITY	25						STATE	26	ZIP	27	

PRIMARY

EMERGENCY CONTACTS

SECONDARY

NAME	28							NAME	33	
TITLE	29							TITLE	34	
BUSINESS PHONE	30							BUSINESS PHONE	35	
24-HR. PHONE	31							24-HR. PHONE	36	
PAGER #	32							PAGER #	37	

ADDITIONAL LOCALLY COLLECTED INFORMATION

DESCRIBE THE TYPE OF BUSINESS OPERATION:	38							TOTAL # OF EMPLOYEES	39	
BILLING ADDRESS (IF DIFFERENT FROM ABOVE)	40							ATTENTION	41	
PROPERTY OWNER NAME	42			ADDRESS	43			PHONE	44	
Certification: Based on my inquiry of those individuals responsible for obtaining the information, I certify under penalty of law that I have personally examined and am familiar with the information submitted and believe the information is true, accurate, and complete.										
SIGNATURE OF OWNER/OPERATOR OR DESIGNATED REPRESENTATIVE	45							DATE	46	
NAME OF SIGNER (print)	47							NAME OF DOCUMENT PREPARER (print)	49	
TITLE OF SIGNER	48							TITLE OF DOCUMENT PREPARER	50	

**GARDEN GROVE FIRE DEPARTMENT
HAZARDOUS MATERIALS DISCLOSURE FORM**

**INSTRUCTIONS TO COMPLETE SITE PLAN DRAWING
FORM 2**

Attach a map of the facility using the standard grid. As a minimum, the map should show the following:

1. Site Layout

- Scale of map (if any)
- Site orientation (North arrow)
- Loading areas
- Parking lots
- Internal roads
- Storm and sewer drains
- Adjacent property use
- Locations and names of adjacent streets and alleys
- Access and egress points and roads

2. Facility

- Location of each hazardous material (shown by placing on attached map).
- If hazardous material is not listed, use a square box (ex. Cl chlorine) and label as needed.
- Place a letter in the box, from the map symbol legend that best describes the material; i.e., w = waste oil.
- Location of emergency response equipment. For example, equipment for fire suppression, approach and mitigation, protective clothing, medical response, etc.

NOTE: When you fill out Haz-Mat Form 3 (Chemical Information Form), you will use the matrix coordinates on this map to show where each hazardous material is stored or handled (i.e., acetone is at A-3, waste oil is stored at C-4, etc.). This will help Firefighters in the event of a fire or hazardous materials spill at your facility.

ALTERNATE METHOD

If you already have a good site diagram, and if it can be reduced to an 8-1/2 inch by 11 inch page and still be legible, then you can submit that map instead of this form. Just draw the matrix over the map, and make sure it shows all the information listed above.

**GARDEN GROVE FIRE DEPARTMENT
HAZARDOUS MATERIALS DISCLOSURE FORM**

**INSTRUCTIONS FOR THE CHEMICAL INVENTORY DESCRIPTION PAGE
FORM 3**

You must complete a separate Hazardous Materials Inventory Form for **each** hazardous material or hazardous waste that you handle at your facility in amount equal to or greater than:

- 500 pounds of a solid; 55 gallons of a liquid; 200 cubic feet of compressed gas
- Any amount of Extremely Hazardous Substance (EHS) or Acutely Hazardous Materials (AHM)

1. Type or print legibly in black ink only.
2. Photocopy the blank form and save if needed later.
3. Fill in your business name (Box 3).
4. Photocopy the number of forms you'll need for completing an inventory for **each** of your reportable chemicals.
5. Complete the Chemical Information (Box 1 through 39). Material Safety Data Sheets contain necessary information to complete this form.
6. Supply MSDS for each reportable chemical.

INSTRUCTIONS FOR THE CHEMICAL INVENTORY DESCRIPTION PAGE FORM 3		
NO.	DATA ELEMENT BOXES	INFORMATION DESCRIPTION
1.	Add, Delete, Revise	Check the appropriate box to identify if the chemical is being added to the inventory, deleted from the inventory or if the information previously submitted is being revised.
2.	Page Number, Total Pages	The number of the page and the number of total pages in the inventory, including the business information form.
3.	Business Name	Enter full business name of facility.
4.	Chemical Location	Enter the area, building, address, etc. where the hazardous material/waste is handled. Example: Northwest wall of shop inside the building. South of chiller plant outside the building. Note: This information is not subject to public disclosure.

**INSTRUCTIONS FOR THE CHEMICAL INVENTORY DESCRIPTION PAGE
FORM 3**

NO.	DATA ELEMENT BOXES	INFORMATION DESCRIPTION
5.	Confidential Location EPCRA <input type="checkbox"/> Y <input type="checkbox"/> N	All businesses which are subject to the Emergency Planning and Community Right to Know Act (EPCRA) must check "Yes" to keep chemical location confidential. Otherwise check "No."
6.	Map Number	If more than one map is included, enter the number of the map on which the location of the hazardous material is shown.
7.	Grid Number	Enter the grid coordinates of the map, showing the location of the hazardous material is shown.
8.	Chemical Name	Enter the proper chemical name of the hazardous material. If a waste check <input type="checkbox"/> Yes.
9.	Common Name	Enter the common name or trade name of the hazardous material/waste.
10.	CAS Number	Enter the Chemical Abstract Service (CAS) number for the hazardous material. For mixtures, enter the CAS number of the mixture, if it has been assigned a number distinct from its components. If it has no CAS number, leave this column blank and report the CAS number of the individual hazardous components in the appropriate section below.
11.	Trade Secret	Check "Yes" to declare this chemical a trade secret. As a state requirement, if "Yes" and the business is not subject to EPCRA, disclosure of the designated trade secret information is bound by HSC Sec. 25511. If "Yes" and the business is subject to EPCRA, the information is bound by 40 CFR and the business must submit a "Substantiation to Accompany Claims of Trade Secrecy" form (CFR 350.72) to USEPA.
12.	EHS (AHM)	Is this hazardous material an Extremely Hazardous Substance (EHS), as defined in section 25532 of the Health and Safety Code? NOTE: If the material is an Extremely Hazardous Substance, all amounts must be reported in pounds.

INSTRUCTIONS FOR THE CHEMICAL INVENTORY DESCRIPTION PAGE FORM 3		
NO.	DATA ELEMENT BOXES	INFORMATION DESCRIPTION
13.	Fire Code Hazard Class	Uniform Fire Code hazard classes from Article 80, MSDS and other references. Used only if required by the local Fire Chief. Lists will be provided when required.
14.	Type of Material	Check the box that appropriately describes the type of hazardous material: pure, mixture, or waste.
15.	Radioactive	Check if radioactive. _____
16.	Curies	If hazardous material/waste is radioactive, use this area to report concentration in μ Curies.
17.	Physical State	Check the box that appropriately describes the state of the hazardous material: solid, liquid, or gas.
18.	Federal Hazardous Categories	Check all categories that describe the physical and health hazards associated with the hazardous material/waste. The Environmental Protection Agency's Hazards Categories are:

PHYSICAL HAZARDS	
Fire	Flammable, Combustible liquids, Pyrophorics, Oxidizers
Reactive	Unstable Reactive, Organic Peroxides, Water Reactives
Pressure Release	Explosives, Compressed Gases
HEALTH HAZARDS	
Acute Health (Immediate)	Highly Toxic, Toxic, Irritants, Sensitizers, Corrosives
Chronic Health (Delayed)	Carcinogens

**INSTRUCTIONS FOR THE CHEMICAL INVENTORY DESCRIPTION PAGE
FORM 3**

	DATA ELEMENT BOXES	INFORMATION DESCRIPTION
19.	Avg. Daily Amount	For each building calculate the average daily amount on hand of the hazardous material/waste or mixture containing hazardous materials.
20.	Max. Daily Amount	For each building provide the maximum daily amounts on hand of the hazardous material/waste or mixture containing hazardous materials.
21.	Annual Waste Amount	If the hazardous material being inventoried is a waste, provide an estimate of the annual amount handled.
22.	State Waste Code	If the hazardous material is a waste, enter the appropriate California 3-digit hazardous waste code as listed on the back of the Uniform Hazardous Waste Manifest.
23.	Units of Measure	Check the unit of measure that is most appropriate for the material being inventoried: gallons, pounds, cubic feet or tons. NOTE: If material is an Extremely Hazardous Substance (EHS), all amounts must be reported in pounds.
24.	Days on-site	List the total number of days during the year that the material is on site (i.e., "365 days").
25.	Largest Container	List largest vessel (i.e., 55 gallon drum, 12,000 gallon tank)
26.	Storage Container	Check the boxes that best describe the type of storage containers in which the hazardous material is stored. NOTE: If appropriate, you may choose more than one.
27.	Storage Pressure	Check the box that best describes the pressure at which the hazardous material is stored.
28.	Storage Temperature	Check the box that best describes the pressure at which the hazardous material is stored.
29.	Percent (%) Weight	Enter the percentage weight of the hazardous components in a mixture. If the MSDS describes the percentage as a range, enter the highest number in the range.

INSTRUCTIONS FOR THE CHEMICAL INVENTORY DESCRIPTION PAGE FORM 3		
	DATA ELEMENT BOXES	INFORMATION DESCRIPTION
30.	Hazardous Component	List the three most hazardous ingredients (refer to MSDS or, in the case of trade secrets, refer to manufacturer). When reporting waste mixtures, mineral and chemical composition of the waste should be listed.
31.	EHS / AHM	Is the component of the mixture considered an Extremely Hazardous Substance (EHS) or Acutely Hazardous Material (AHM), as defined in Section 25532 of the Health and Safety Code.
32.	CAS Numbers	List all Chemical Abstract Service (CAS) number of the hazardous components you listed in the mixture.
33.	UNDOT #	4 digit ID number, used for shipping purposes, found in MSDS.
34.	DOT HAZARD CLASS	DOT hazard classification or division number as listed in MSDS or shipping documentation.
35.	EPCRA	If an EPCRA regulated chemical check "Yes."
36.	Signature	Signature required for all EPCRA chemicals.
37.	NFPA 704 Placard	Hazard classification using NFPA categories. Refer to Pages 15-16.
38.	Facility ID Number	Generated by GGFD. Leave this blank.

FILL OUT A COMPLETE "HAZARDOUS MATERIALS INVENTORY" FORM FOR EVERY REPORTABLE HAZARDOUS AND EXTREMELY HAZARDOUS MATERIAL HANDLED BY YOUR FACILITY. MAKE AS MANY COPIES OF THE CHEMICAL INFORMATION PAGES AS NEEDED.



HAZARDOUS MATERIALS INVENTORY FORM

FORM 3

ADD DELETE REVISED 1

Page _____ of _____ 2

FACILITY ID#	3 0 0 3 5	38	BUSINESS NAME	3
--------------	-----------	----	---------------	---

I. FACILITY INFORMATION

CHEMICAL LOCATION	4				
CONFIDENTIAL LOCATION EPCRA	<input type="checkbox"/> Yes <input type="checkbox"/> No 5	MAP #	6	GRID #	7

II. CHEMICAL INFORMATION

CHEMICAL NAME	WASTE	<input type="checkbox"/> Yes	8	TRADE SECRET	<input type="checkbox"/> Yes <input type="checkbox"/> No	11					
COMMON NAME	* If EPCRA see instructions										
CAS #	10	FIRE CODE HAZARD CLASSES (supplied by GGFD)	13								
TYPE (Check one item only)	<input type="checkbox"/> a. PURE	<input type="checkbox"/> b. MIXTURE	<input type="checkbox"/> c. WASTE	14	RADIOACTIVE	<input type="checkbox"/> Yes <input type="checkbox"/> No	15	CURIES	16		
PHYSICAL STATE (Check one item only)	<input type="checkbox"/> a. SOLID	<input type="checkbox"/> b. LIQUID	<input type="checkbox"/> c. GAS	17	FED HAZARD CATEGORIES	<input type="checkbox"/> a. FIRE	<input type="checkbox"/> b. REACTIVE	<input type="checkbox"/> c. PRESSURE RELEASE	18	<input type="checkbox"/> d. ACUTE HEALTH	<input type="checkbox"/> e. CHRONIC HEALTH
AVERAGE DAILY AMOUNT	19	MAXIMUM DAILY AMOUNT	20	ANNUAL WASTE AMOUNT	21	STATE WASTE CODE	22				
UNITS	<input type="checkbox"/> a. GALLONS	<input type="checkbox"/> b. CUBIC FEET	23	DAYS ON SITE	24	LARGEST CONTAINER	25				
	<input type="checkbox"/> c. POUNDS	<input type="checkbox"/> d. TONS									
	*If EHS, amount must be in pounds.										
STORAGE CONTAINER (Check all that apply)	<input type="checkbox"/> a. ABOVEGROUND TANK	<input type="checkbox"/> e. PLASTIC DRUM	<input type="checkbox"/> i. VAT	<input type="checkbox"/> m. CYLINDER	<input type="checkbox"/> q. TANK WAGON	26					
	<input type="checkbox"/> b. UNDERGROUND TANK	<input type="checkbox"/> f. NONMETALLIC DRUM	<input type="checkbox"/> j. FIBER DRUM	<input type="checkbox"/> n. GLASS CONTAINER	<input type="checkbox"/> r. RAIL CAR						
	<input type="checkbox"/> c. TANK INSIDE BLDG	<input type="checkbox"/> g. METAL CONTAINER	<input type="checkbox"/> k. BAG(S)	<input type="checkbox"/> o. PLASTIC CONTAINER	<input type="checkbox"/> s. TOTE BIN						
	<input type="checkbox"/> d. STEEL DRUM	<input type="checkbox"/> h. CARBOY	<input type="checkbox"/> l. BOX(S)	<input type="checkbox"/> p. IN MACH OR EQUIP	<input type="checkbox"/> t. OTHER						
STORAGE PRESSURE	<input type="checkbox"/> a. AMBIENT	<input type="checkbox"/> b. ABOVE AMBIENT	<input type="checkbox"/> c. BELOW AMBIENT	27							
STORAGE TEMPERATURE	<input type="checkbox"/> a. AMBIENT	<input type="checkbox"/> b. ABOVE AMBIENT	<input type="checkbox"/> c. BELOW AMBIENT	<input type="checkbox"/> d. CRYOGENIC	28						

%WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1	29	<input type="checkbox"/> Yes <input type="checkbox"/> No	30 31 32
2	29	<input type="checkbox"/> Yes <input type="checkbox"/> No	30 31 32
3	29	<input type="checkbox"/> Yes <input type="checkbox"/> No	30 31 32
4	29	<input type="checkbox"/> Yes <input type="checkbox"/> No	30 31 32
5	29	<input type="checkbox"/> Yes <input type="checkbox"/> No	30 31 32

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

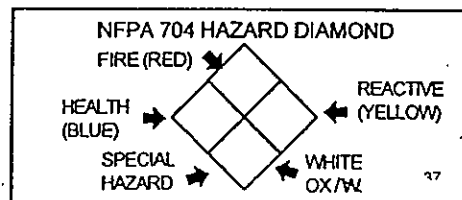
PLACARDING INFORMATION

UNDOT # _____ 33
Refer to shipping papers or MSDS

DOT HAZARD CLASS _____ 34
Refer to shipping papers or MSDS

EPCRA YES NO 35

X _____ 36
If EPCRA, Please Sign Here



MAKE AS MANY COPIES OF CHEMICAL INVENTORY FORM AS NEEDED

**GARDEN GROVE FIRE DEPARTMENT
HAZARDOUS MATERIALS IDENTIFICATION PROGRAM**

REQUIREMENT FOR HAZARDOUS MATERIALS IDENTIFICATION SIGNS

To meet the requirements of the newly revised Uniform Fire Code, all businesses that have more than a certain amount of hazardous materials at their business site must identify each location where hazardous materials are stored, dispensed, used, or handled. These locations must be identified with specialized signs. The information presented below will help you understand if this sign program applies to you, the purpose for these signs, and how to comply with the new regulations.

DOES MY BUSINESS HANDLE HAZARDOUS MATERIALS?

According to the California Health and Safety Code (H&SC) Section 25501(j), a "hazardous material" is "any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant hazard to human health and safety or to the environment if released." In other words, if there is any kind of hazard associated with a material, it is a "hazardous material." This includes items such as gasoline, most solvents, many cleaning products, pesticides, etc.

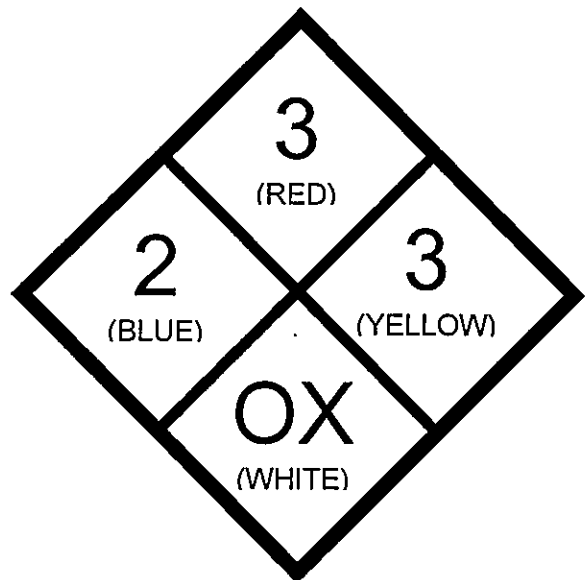
HOW MUCH "HAZARDOUS MATERIAL" MUST MY BUSINESS HANDLE BEFORE I AM REQUIRED TO INSTALL HAZARDOUS MATERIALS SIGNS?

If your business handles any kind of hazardous material that requires a permit from the Fire Department, or if your business handles AT ANY ONE TIME a hazardous material equal to or greater than 55 gallons for a liquid, 500 pounds for a solid, or 200 cubic feet for a gas, then you are REQUIRED to have hazardous materials signs installed. These signs are required by Sections 80.104(e), 80.301(d), and 80.40(a) of the Uniform Fire Code (UFC).

WHAT ARE THESE SIGNS AND WHAT DO THEY TELL THE FIRE DEPARTMENT?

These signs are based on the National Fire Protection Association (NFPA) Standard No. 704, which is used throughout the United States to help identify the hazards associated with hazardous materials. The sign is diamond shaped, and divided into four sections (see illustration, right). The left quadrant is colored blue, and stands for health hazard. The top quadrant is red in color, and represents fire hazard. The right quadrant is yellow, and shows likelihood of reactivity with other chemicals. The bottom quadrant is white, and is reserved for special hazards (i.e., oxidizer, water reactive, radioactive). A number is placed in each quadrant, ranging from 0 to 4. "0" represents no hazard, while "4" represents the words hazard.

If you have more than one hazardous material at your site, the worst hazard level for each category is listed on the sign for all your hazardous materials. For example, if you have a material that has a health rating of 1, a fire rating of 3, and a reactivity rating of 0 (1-3-0), and if you have another material with a health rating of 2, a fire rating of 2, and a reactivity rating of 3 (2-2-3), your sign would show a health rating of 2, a fire rating of 3, and a reactivity rating of 3 (2-3-3).



Through this system, Fire Fighters can tell at a glance the worst case hazard levels that can be found within the building. This can be of great assistance in an emergency!

**GARDEN GROVE FIRE DEPARTMENT
HAZARDOUS MATERIALS IDENTIFICATION PROGRAM**

HOW DO I FIND OUT WHAT NUMBERS TO PUT ON THE SIGNS?

The NFPA has determined the ratings for over 1,400 hazardous materials commonly used in business. If you prepare a list of what hazardous materials you handle, the Fire Department will tell you what numbers you need to use. If your list is short, tell the Fire Fighters as they are inspecting your business or call the Fire Department at (714) 741-5600, and we can give you the information over the phone. If your list is long, please bring your list to the Fire Administration office at 11301 Acacia Parkway, Garden Grove, and we will be happy to assist you.

WHERE DO THE SIGNS GO?

The signs must be located at the entrance where hazardous materials are located. Entrances may be to the rear or side as well as the front of a building or structure. The number of and location of signs will be determined by Fire Department personnel inspecting your business.

WHO WILL HANG AND MAINTAIN MY SIGNS?

Each business will hang and maintain their signs in the predetermined locations, and must maintain these signs as long as they handle hazardous materials. When hanging your sign, please remember it is a diamond shaped sign. The red quadrant is the top, while the white quadrant is the bottom (please see the illustration).

QUESTIONS???????

If you have any questions regarding the Hazardous Materials Identification Program, please call the Garden Grove Fire Department at (714) 741-5636.

**GARDEN GROVE FIRE DEPARTMENT
HAZARDOUS MATERIALS DISCLOSURE PROGRAM**

**THE FOLLOWING FORMS ARE FOR USE IN THE EVENT OF
AN ACTUAL OR THREATENING HAZARDOUS MATERIALS EMERGENCY.**

BUSINESS EMERGENCY PLAN

All businesses using, handling or storing hazardous materials that are required to disclose must complete a Business Emergency Plan. The occupancy groups listed below will be permitted to complete a short version of the business plan. The completion of the short form shall be considered the application required in the Health and Safety Code, Title 20, Chapter 6.95, Section 25503.5.

The Chief of the Garden Grove Fire Department in the role of the Administering Agency, allows the following types of businesses to file the short version of the Business Emergency Plan.

1. Gasoline/Diesel service stations. S-3 occupancies
2. Repair Garages. H-4 occupancies
3. Dry Cleaners
4. Businesses, at the Fire Chief's discretion, with less than 10 employees and using materials that are not considered highly or acutely toxic.

The Fire Chief exempts the following portions from the business plan. These exemptions have been established because the materials used in the above-mentioned occupancies are common knowledge to first responding units. The materials pose no significant, unexpected hazard nor do they affect the ability of the administering agency to effectively respond to their release of a hazardous material and that there are unusual circumstances justifying this exemption.

Exemptions

1. Detailed evacuation plans.
2. Detailed key employee responsibilities.
3. Training outline.
4. Detailed prevention outline.

The following Short Business Emergency Plan must be completed in order for the exemption to be granted.

**GARDEN GROVE FIRE DEPARTMENT
HAZARDOUS MATERIALS DISCLOSURE PROGRAM**

BUSINESS EMERGENCY PLAN

Personnel Emergency Notifications and Responsibilities

Employee Evacuation and Staging Areas:

1. The type of alarm signal that will be used to initiate an evacuation at the facility (vocal, paging system, manual alarm, etc.).

--

2. All employees shall be trained to evacuate the facility through at least one exit. Alternate exit routes shall be designated if available.
3. Staging areas shall be designated for all employees. Staging areas will be the location that all employees shall report to in the event of an emergency.

One person shall be designated to account for all personnel at the staging area. That person will be responsible for meeting the incoming Fire units and reporting the conditions known about the incident.

The Staging area is at the following location as shown on your site plan map:

--

Employee Responsibilities:

At least one employee shall be responsible for the following minimum requirements in the event of an emergency response by the Fire Department.

1. Notify employees. Initiate evacuation procedures.
2. Notify the Garden Grove Fire Department. Dial 911.
3. Try to identify the nature of the incident.
4. Report to the staging area and account for evacuated employees.
5. Report to the incoming fire units.
6. Activate any emergency mitigation procedures that area available at your business. (List below any mitigation procedures specific to your business, if any.)

**GARDEN GROVE FIRE DEPARTMENT
HAZARDOUS MATERIALS DISCLOSURE PROGRAM**

BUSINESS EMERGENCY PLAN

Personnel Emergency Notifications and Responsibilities (Continued)

Training Requirements

State law requires training of employees where the business uses, handles or stores hazardous materials.

Employee training provided on:

- Appointment of person/persons on site who are trained in key role positions. Emergency coordinator, evacuation coordinators, staging area supervisors and documenting officers.
- Procedures to follow during a release or threatened release of a hazardous material (evacuation to staging areas).
- Information contained in material safety data sheets.
- Warning labels/placards.
- Safe work practices.
- Use of on-site emergency equipment and supplies.
- Use and location of personal protective equipment.
- Any chemical, hazardous material or substance that could be encountered in his/her work area.
- On site alarm system for evacuation.
- Discuss possible release of hazardous materials scenario.

Emergency Notifications

A handler of hazardous materials is required to immediately report any release or threatened release of hazardous materials to the Garden Grove Fire Department. Failure to do so may result in criminal and/or civil prosecution.

Required Notifications

In the event of a release or threatened release of hazardous materials, it is State law to notify each of the following agencies.

<u>Agency</u>	<u>Phone Numbers</u>
Garden Grove Fire Department, Police, Paramedics Office of Emergency Services (OES)	911 (800) 852-7550 or (916) 427-4341
National Response Center	(800) 424-8802

**GARDEN GROVE FIRE DEPARTMENT
HAZARDOUS MATERIALS DISCLOSURE PROGRAM**

BUSINESS EMERGENCY PLAN

Personnel Emergency Notifications and Responsibilities (Continued)

Prevention

All materials are stored, used and handled within the guidelines of the Uniform Fire Code, N.F.P.A. standards, California Administrative Code, Titles 19 and 20.

This section is meant to initiate a Prevention Plan at your business and to assist in preventing a release, or threatened release, of a hazardous material. In the spaces provided, place a checkmark by the preventive actions which have been initiated by your business to abate hazards relating to hazardous material handling, use of storage.

Consideration shall include:

1. Drum storage and/or above ground tank storage areas:
 - a. Isolation and separation of incompatible materials.
 - b. Diking areas to contain spills.
 - c. Storage on paved ground.

2. Compressed and/or cryogenic gas storage areas:
 - a. Cylinder stored upright and secured.
 - b. Isolation and/or separation of incompatible cylinders (oxygen and flammable gases, etc.).

3. General:
 - a. Safe work practices are exercised in daily routines.
 - b. Employees who handle hazardous materials are properly trained.
 - c. Material Safety Data Sheets (MSDS) readily available for each hazardous material on the premises.
 - d. Labeling of all materials and storage areas with the product name and hazards associated with the product (drums, piping, tanks, etc.).
 - e. Uniform Fire Code (UFC) requires separation between outside hazardous material storage area or tanks and combustible materials (wood, bush, etc.).
 - f. Posting of "No Smoking" signs where appropriate.

GARDEN GROVE FIRE DEPARTMENT

BUSINESS EMERGENCY PLAN

A BUSINESS IS REQUIRED BY LAW TO NOTIFY THE GARDEN GROVE FIRE DEPARTMENT WITHIN 30 DAYS OF ANY OF THE FOLLOWING EVENTS.

- | |
|---|
| <ol style="list-style-type: none">1. Change of business address.2. Change of business ownership.3. Change of business name.4. Cessation of business operation (quitting business).5. Use or handling of a previously undisclosed hazardous material.6. A 100% increase in the quantity of a previously disclosed hazardous material. |
|---|

Your business is required by State law (CFC 8001.3.2) to retain a copy of this entire Hazardous Materials Disclosure information, including the Business Plan, chemical inventory, material safety data sheets and site maps, for review by Fire Department personnel. State where your disclosure and Emergency Business Plan will be kept.

Show location on site map also using symbol in the legend.

Note: A fee is charged for a replacement copy from the Garden Grove Fire Department.

I certify, under penalty of perjury, that the enclosed information is true and correct to the best of my knowledge.

Signature: _____

Name: _____

Title: _____

Date: _____

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number C 00083541232	2. Page 1 of 1	3. Emergency Response Phone (800) 368-4773	4. Manifest Tracking Number 006879021 JJK					
5. Generator's Name and Mailing Address UNION OF RESOURCES 4157 WILSON DRIVE SARASOTA FL 34234				Generator's Site Address (if different than mailing address) 1157 WILSON DRIVE SARASOTA FL 34234						
Generator's Phone: (941) 555-1111				U.S. EPA ID Number CA R00013241		U.S. EPA ID Number NJ 0000001390				
6. Transporter 1 Company Name ENVIRONMENTAL RECOVERY SERVICES, INC				U.S. EPA ID Number NJ 0000001390		U.S. EPA ID Number NY T30010000				
7. Transporter 2 Company Name WALDEE ENTERPRISES, INC				U.S. EPA ID Number NY T30010000		U.S. EPA ID Number NY T30010000				
8. Designated Facility Name and Site Address US ECOLOGY HAY 25, 12 MILES SOUTH SPATTY NY 13108				Facility's Phone: (315) 555-2200						
GENERATOR	9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))		10. Containers		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
		1. NON HAZARDOUS WASTE, SOLID (CURD RESIDUE)		No. 2	Type TP	1100	P	273		
		2. NON HAZARDOUS WASTE, LIQUID (URETHANE, PERIOD)		No. 11	Type TP	1125	G	272		
		3.		No. V.C.	Type					
		4.		No.	Type					
14. Special Handling Instructions and Additional Information 3-10-10 11:00 AM 2-10-10 11:00 AM 2-10-10 11:00 AM CALL TO ENVIRONMENTAL RECOVERY SERVICES										
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.										
Generator's/Offeror's Printed/Typed Name								Signature		Month Day Year 5 5 10
INT'L	16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S.			Port of entry/exit:			Date leaving U.S.:			
	Transporter signature (for exports only):									
TRANSPORTER	17. Transporter Acknowledgment of Receipt of Materials									
	Transporter 1 Printed/Typed Name			Signature			Month Day Year 5 5 10			
Transporter 2 Printed/Typed Name			Signature			Month Day Year				
DESIGNATED FACILITY	18. Discrepancy									
	18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection									
	Manifest Reference Number:									
	18b. Alternate Facility (or Generator)						U.S. EPA ID Number			
	Facility's Phone:						Month Day Year			
18c. Signature of Alternate Facility (or Generator)						Month Day Year				
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)										
1.		2.		3.		4.				
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a										
Printed/Typed Name						Signature		Month Day Year		



CITY OF GARDEN GROVE FIRE DEPARTMENT

11301 Acacia Parkway, Garden Grove, CA 92842 (714) 741-5600 (714) 741-5636

FORM 1

Hazardous Materials Business Information Form

Page 1 of 373 3

BUSINESS INFORMATION

FACILITY # (Supplied by GGFD)	3 0 0 3 5	BEGINNING DATE	1	ENDING DATE	2
BUSINESS NAME	ELASCO, INC.			BUSINESS PHONE	5
BUSINESS SITE ADDRESS	11377 Markon Dr.				
CITY	GARDEN GROVE	STATE	CA	ZIP	92841
DUN & BRADSTREET	10	SIC CODE (4 DIGIT #)	11	FIRE DISTRICT	12
COUNTY	ORANGE				
BUSINESS OPERATOR NAME	HENRY LARRUCEA			OPERATOR'S PHONE	15

BUSINESS OWNER

OWNER NAME	HENRY LARRUCEA			OWNER PHONE	17
OWNER MAILING ADDRESS	1506 PACIFIC COAST HWY				
CITY	HUNTINGTON BEACH	STATE	CA	ZIP	92648

ENVIRONMENTAL CONTACT

CONTACT NAME	Environmental Recovery Service			CONTACT PHONE	23
CONTACT MAILING ADDRESS	2650 Lime Ave.				
CITY	Signal Hill	STATE	CA	ZIP	90806

PRIMARY

EMERGENCY CONTACTS

SECONDARY

NAME	28	Henry Larrucea	NAME	33	David Schindler
TITLE	29	CEO	TITLE	34	Plant Mgr.
BUSINESS PHONE	30	(714) 891-1795 x236	BUSINESS PHONE	35	(714) 891-1795 x.249
24-HR. PHONE	31	(714) 330-0726	24-HR. PHONE	36	(714) 348-9711
PAGER #	32		PAGER #	37	

ADDITIONAL LOCALLY COLLECTED INFORMATION

DESCRIBE THE TYPE OF BUSINESS OPERATION:	38	Urethane casting	TOTAL # OF EMPLOYEES	39	70
BILLING ADDRESS (IF DIFFERENT FROM ABOVE)	40		ATTENTION	41	
PROPERTY OWNER NAME	42	Henry Larrucea	ADDRESS	43	1506 Pacific Coast Hwy Huntington Beach CA
			PHONE	44	(714) 330-0726

Certification: Based on my inquiry of those individuals responsible for obtaining the information, I certify under penalty of law that I have personally examined and am familiar with the information submitted and believe the information is true, accurate, and complete.

SIGNATURE OF OWNER/OPERATOR OR DESIGNATED REPRESENTATIVE	45	[Signature]	DATE	46	4-12-10
NAME OF SIGNER (print)	47	JANET LARRUCEA	NAME OF DOCUMENT PREPARER (print)	49	JANET LARRUCEA
TITLE OF SIGNER	48	Human Resources Director	TITLE OF DOCUMENT PREPARER	50	Human Resources Director



Hazardous Materials Business Information Form

BUSINESS INFORMATION

FACILITY ID 3 0 0 3 5		BEGINNING DATE	1	ENDING DATE	2
BUSINESS NAME ELASCO, INC.		4		BUSINESS PHONE	5
BUSINESS SITE ADDRESS 11377 MARKON DRIVE		6			
CITY	GARDEN GROVE	7	STATE	8	ZIP
DUN & BRADSTREET		10	SIC CODE (4 DIGIT #)	11	FIRE DISTRICT
COUNTY	ORANGE			9	12
BUSINESS OPERATOR NAME		14	OPERATOR'S PHONE		

BUSINESS OWNER

OWNER NAME	16	OWNER PHONE	17
OWNER MAILING ADDRESS	18		
CITY	19	STATE	20
		CA	21
		ZIP	92648

ENVIRONMENTAL CONTACT

CONTACT NAME	22	CONTACT PHONE	23
ENVIRONMENTAL RECOVERY SERVICE		24	
CONTACT MAILING ADDRESS 2650 LIME AVE			
CITY	25	STATE	26
Signal Hill, CA		CA	27
		ZIP	90806

PRIMARY EMERGENCY CONTACTS SECONDARY

NAME	28	NAME	33
[REDACTED]		[REDACTED]	
TITLE	29	TITLE	34
CEO		PLANT MANAGER MAINT.	
BUSINESS PHONE	30	BUSINESS PHONE	35
714.891.1795		714.891.1795 (714) 891.1795 ext. 234	
24-HR. PHONE	31	24-HR. PHONE	36
[REDACTED]		[REDACTED]	
PAGER #	32	PAGER #	37
[REDACTED]		[REDACTED]	

ADDITIONAL LOCALLY COLLECTED INFORMATION

DESCRIBE THE TYPE OF BUSINESS OPERATION:	38	TOTAL # OF EMPLOYEES	39
URETHANE CASTING		90	
BILLING ADDRESS (IF DIFFERENT FROM ABOVE)	40	ATTENTION	41
PROPERTY OWNER NAME	42	AD	43
[REDACTED]		[REDACTED]	44
[REDACTED]		PHONE	[REDACTED]

Certification: Based on my inquiry of those individuals responsible for obtaining the information, I certify under penalty of law that I have personally examined and am familiar with the information submitted and believe the information is true, accurate, and complete.

SIGNATURE OF OWNER/OPERATOR OR DESIGNATED REPRESENTATIVE	45	DATE	46
[REDACTED]		6/25/05	
NAME OF SIGNER (print)	47	NAME OF DOCUMENT PREPARER (print)	49
[REDACTED]		JANET KARRUCRA	
TITLE OF SIGNER	48	TITLE OF DOCUMENT PREPARER	50
CEO		VICE PRESIDENT	

Inspection Information for -11377 MARKON St ,92841 District-2114

Next Disclosure Inspection: 5 / 2005 Frequency 36 Inspector TP Status C Facility No. 358

Site Information

Eps to do Life Safety Inspection

Business Name ELASCO INC. Business Phone 714-891-1795
Site Address 11377 MARKON St City GARDEN GROVE State CA Zip 92841
Complex name Fax No. 714 895-7031 phone 714-891-1795

Business Operator Darryl C. Readshaw EMail

Business Owner Henry Larrucea Address MARKON
City GARDEN GROVE State CA Zip 92841 Hme Phone 714-891-1795

Envir. Contact DARRYL READSHAW Address 11377 MARKON ST
City GARDEN GROVE State CA Zip 92841 Phone 714-891-1795

Number of Tanks 0 Number of Chemicals 26

Emergency contacts Name Title Business Phone 24 hr Phone Pager

1 [Redacted]
2 [Redacted]

Property Owner Name Ocsale Partnership
Property Owner Street 11377 Markon Dr. Property Owner type Partnership
City / State / Zip Garden Grove CA 92841-____ Phone

Tank Owner Name Date certified 00/00/00
Tank Owner Street Tank Owner type
City / State / Zip Phone

Life Safety

Construction Type Stories 0 Buidling Sq. Ft. 0 Unit Sq. Ft. 0
Sprinklers (F/P/N) F 5 yr Test Date 4/12/2000 Superv Alarm (Y/N) Y Common Attic

Protection Systems

Business License # 127043 Expiration Date 00/00/00 Occ. Load 0 Occ. Group F1
Next Life Safety Insp Date 5 / 2006 Life Safety Inspector FPB Shift N Area Inspector NB Nate Brady

Visits

Special Information Disclosure

04/21/2003 4079 Annual Disclosure revisit may 5th, bring current packet

Permit Information

Violation History

Visit Info-Date ___/___/___ Employee No. ___ Name ___ Type ___ Hours Spent ___

		Max Daily Amount	Not Used/Used	
Common Name	ACETELENE	0 Cubic Feet	<input type="checkbox"/>	<input type="checkbox"/>
Chemical Name	ACETELENE	Map 1	Grid C-D,2	Delete __ Modify __
Cas #	74-86-2	Location NORTH HALF OF BLDG 1		
Common Name	ALUMINUM OXIDE	0 Pounds	<input type="checkbox"/>	<input type="checkbox"/>
Chemical Name	ALUMINUM OXIDE	Map 1	Grid C-D,2	Delete __ Modify __
Cas #	1344-28-1	Location NORTH HALF OF BLDG 1		
Common Name	AMMONIA	110 Gallons	<input type="checkbox"/>	<input type="checkbox"/>
Chemical Name	AMMONIA	Map 1	Grid C-D, 1	Delete __ Modify __
Cas #	1336-21-6	Location NORTH HALF OF BLDG 1		
Common Name	B-SIDE BLEND	55 Gallons	<input type="checkbox"/>	<input type="checkbox"/>
Chemical Name	POLYETHER POLYOL BLEND	Map 1	Grid C-D,2	Delete __ Modify __
Cas #	25190-06-1	Location NORTH HALF OF BLDG 1		
Common Name	BUTANEDIOL	55 Gallons	<input type="checkbox"/>	<input type="checkbox"/>
Chemical Name	BUTANEDIOL	Map 1	Grid C-D,2	Delete __ Modify __
Cas #	110-63-4	Location NORTH HALF OF BLDG 1		
Common Name	DBE	55 Gallons	<input type="checkbox"/>	<input type="checkbox"/>
Chemical Name	DIBASIC ESTER	Map 1	Grid C-D,2	Delete __ Modify __
Cas #	MIXTURE	Location NORTH HALF OF BLDG 1		
Common Name	DESMOPHENE 2001KS	55 Gallons	<input type="checkbox"/>	<input type="checkbox"/>
Chemical Name	POLYESTER POLYOL	Map 1	Grid C-D, 1	Delete __ Modify __
Cas #	26570-73-0	Location NORTH HALF OF BLDG. 1		
Common Name	DISHWASHER SOAP	0	<input type="checkbox"/>	<input type="checkbox"/>
Chemical Name	SURFACTANT BLEND	Map 2	Grid E-3	Delete __ Modify __
Cas #	MIXTURE	Location 7101 HONALD CIRCLE (ADJACENT BLDG.)		
Common Name	ELASTOTHANE, VIBRATHANE	935 Gallons	<input type="checkbox"/>	<input type="checkbox"/>
Chemical Name	VARIOUS MDI PREPOLYMERS	Map 1	Grid C-D,2	Delete __ Modify __
Cas #	51855-41-5	Location NORTH HALF OF BLDG 1		
Common Name	ELSCO BLEND	0 Gallons	<input type="checkbox"/>	<input type="checkbox"/>
Chemical Name	MDI	Map	Grid	Delete __ Modify __
Cas #		Location BLDG 1		
Common Name	ETHACURE 300 CURATIVE	55 Gallons	<input type="checkbox"/>	<input type="checkbox"/>
Chemical Name	DI-(METHYLTHIO) TOLUENEDIAMINE	Map 1	Grid C-D,2	Delete __ Modify __
Cas #	106264-79-3	Location NORTH HALF OF BLDG 1		
Common Name	FREMONT 386	55 Gallons	<input type="checkbox"/>	<input type="checkbox"/>
Chemical Name	PHOSPHORIC ACID	Map 1	Grid C-D,2	Delete __ Modify __
Cas #	7664-38-2	Location NORTH HALF OF BLDG 1		
Common Name	HYDRAULIC OIL	55 Gallons	<input type="checkbox"/>	<input type="checkbox"/>
Chemical Name	HYDRAULIC OIL	Map 1	Grid C-D,2	Delete __ Modify __
Cas #	MIXTURE	Location NORTH HALF OF BLDG 1		
Common Name	ISONATE 143L	55 Gallons	<input type="checkbox"/>	<input type="checkbox"/>
Chemical Name	MDI ADDUCT	Map 1	Grid C-D,2	Delete __ Modify __
Cas #	101-68-8	Location NORTH HALF OF BLDG. 1		

Common Name MEK 55 Gallons
 Chemical Name METHYL ETHYL KETONE Map 1 Grid E-4, C Delete __ Modify __
 Cas # 78-93-3 Location NW SECTOR OF BLDG, AND OUTSIDE NW CORNER

Common Name MONDUR M 0 Pounds
 Chemical Name MDI Map 1 Grid C-D,2 Delete __ Modify __
 Cas # 101-68-8 Location NORTH HALF OF BLDG 1

Common Name MULTRANOL 3901 55 Gallons
 Chemical Name POLYOXYALKYLENE POLYOL Map 1 Grid C-D,2 Delete __ Modify __
 Cas # 9082-00-2 Location BLDG 1

Common Name POLYETHER PIGMENTS 0 Gallons
 Chemical Name POLYETHER PIGMENTS Map 1 Grid C-D,2 Delete __ Modify __
 Cas # 7727-43-7 Location BLDG 1

Common Name POLYURETHANE CATALYST 0 Gallons
 Chemical Name POLYURETHANE CATALYST Map 1 Grid C-D,2 Delete __ Modify __
 Cas # MIXTURE Location NORTH HALF OF BLDG 1

Common Name PROPANE 0 Cubic Fee'
 Chemical Name DIMETHYL METHANE Map 1 Grid C-D,2 Delete __ Modify __
 Cas # 74-98-6 Location NORTH HALF OF BLDG 1

Common Name RELEASE AGENT E-155 55 Gallons
 Chemical Name POLYDIMETHYL SILOXANE Map 1 Grid C-D,2 Delete __ Modify __
 Cas # 63148-62-9 Location NORTH HALF OF BLDG 1

Common Name SAFE STRIP 55 Gallons
 Chemical Name RESIN SOLVENT Map 1 Grid C-D,2 Delete __ Modify __
 Cas # MIXTURE Location BLDG 1

Common Name SILICONE 67 Gallons
 Chemical Name SILICONE Map 1 Grid C-D,2 Delete __ Modify __
 Cas # MIXTURE Location BLDG 1

Common Name SOLUBLE OIL 55 Gallons
 Chemical Name SOLUBLE OIL Map 1 Grid C-D,2 Delete __ Modify __
 Cas # MIXTURE Location NORTH HALF OF BLDG 1

Common Name TERATHANE 55 Gallons
 Chemical Name POLYTERTAHYDROFURAN Map 1 Grid C-D,2 Delete __ Modify __
 Cas # 31831-53-5 Location NORTH HALF OF BLDG 1

Common Name THIXON 55 Gallons
 Chemical Name BISPHENOL ADHESIVE Map 1 Grid E-4, C Delete __ Modify __
 Cas # MIXTURE Location NORTH WEST SECTOR OF BLDG 1, AND OUTSIDE NW CORNER

Common Name TMP 0 Pounds
 Chemical Name TRIMETHYLOLPROPANE Map 1 Grid C-D,2 Delete __ Modify __
 Cas # 77-99-6 Location NORTH HALF OF BLDG 1

Common Name TOLUENE 55 Gallons
 Chemical Name TOLUENE Map 1 Grid E-4, C Delete __ Modify __
 Cas # 108-88-3 Location NORTH WEST SECTOR OF BLDG, AND OUTSIDE NW CORNER



GARDEN GROVE FIRE DEPARTMENT

11301 Acacia Parkway, Garden Grove, CA 92842

Tel: (714) 741-5600

Fax: (714) 741-5640

FAX

Date: 7/15/2004

To: Colleen Cavalieri

From: Jim Hughes

Fax: 558-4782

Fax: _____

Tel: _____

Tel: _____

SUBJECT: Elasco

Confidential: Yes

Number of pages transmitted including this page: **2**

*Sent 7/15/04
@14:50 hr.*

WARNING

This message is intended only for the use of the individual or entity to which it is addressed, and may contain information that is privileged, confidential, or otherwise exempt from disclosure under applicable law.

If you are not the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this communication is strictly prohibited.

		Max Daily Amount	Not Used/Used	
Common Name	ACETELENE	0 Cubic Fee	<input type="checkbox"/>	<input type="checkbox"/>
Chemical Name	ACETELENE	Map 1	Grid C-D,2	Delete __ Modify __
Cas #	74-86-2	Location NORTH HALF OF BLDG 1		
Common Name	ALUMINUM OXIDE	0 Pounds	<input type="checkbox"/>	<input type="checkbox"/>
Chemical Name	ALUMINUM OXIDE	Map 1	Grid C-D,2	Delete __ Modify __
Cas #	1344-28-1	Location NORTH HALF OF BLDG 1		
Common Name	AMMONIA	110 Gallons	<input type="checkbox"/>	<input type="checkbox"/>
Chemical Name	AMMONIA	Map 1	Grid C-D,	Delete __ Modify __
Cas #	1336-21-6	Location NORTH HALF OF BLDG 1		
Common Name	B-SIDE BLEND	55 Gallons	<input type="checkbox"/>	<input type="checkbox"/>
Chemical Name	POLYETHER POLYOL BLEND	Map 1	Grid C-D,2	Delete __ Modify __
Cas #	25190-06-1	Location NORTH HALF OF BLDG 1		
Common Name	BUTANEDIOL	55 Gallons	<input type="checkbox"/>	<input type="checkbox"/>
Chemical Name	BUTANEDIOL	Map 1	Grid C-D,2	Delete __ Modify __
Cas #	110-63-4	Location NORTH HALF OF BLDG 1		
Common Name	DBE	55 Gallons	<input type="checkbox"/>	<input type="checkbox"/>
Chemical Name	DIBASIC ESTER	Map 1	Grid C-D,2	Delete __ Modify __
Cas #	MIXTURE	Location NORTH HALF OF BLDG 1		
Common Name	DESMOPHENE 2001KS	55 Gallons	<input type="checkbox"/>	<input type="checkbox"/>
Chemical Name	POLYESTER POLYOL	Map 1	Grid C-D,	Delete __ Modify __
Cas #	26570-73-0	Location NORTH HALF OF BLDG. 1		
Common Name	DISHWASHER SOAP	0	<input type="checkbox"/>	<input type="checkbox"/>
Chemical Name	SURFACTANT BLEND	Map 2	Grid E-3	Delete __ Modify __
Cas #	MIXTURE	Location 7101 HONALD CIRCLE (ADJACENT BLDG.)		
Common Name	ELASTOTHANE, VIBRATHANE	935 Gallons	<input type="checkbox"/>	<input type="checkbox"/>
Chemical Name	VARIOUS MDI PREPOLYMERS	Map 1	Grid C-D,2	Delete __ Modify __
Cas #	51855-41-5	Location NORTH HALF OF BLDG 1		
Common Name	ELSCO BLEND	0 Gallons	<input type="checkbox"/>	<input type="checkbox"/>
Chemical Name	MDI	Map	Grid	Delete __ Modify __
Cas #		Location BLDG 1		
Common Name	ETHACURE 300 CURATIVE	55 Gallons	<input type="checkbox"/>	<input type="checkbox"/>
Chemical Name	DI-(METHYLTHIO) TOLUENEDIAMINE	Map 1	Grid C-D,2	Delete __ Modify __
Cas #	106264-79-3	Location NORTH HALF OF BLDG 1		
Common Name	FREMONT 386	55 Gallons	<input type="checkbox"/>	<input type="checkbox"/>
Chemical Name	PHOSPHORIC ACID	Map 1	Grid C-D,2	Delete __ Modify __
Cas #	7664-38-2	Location NORTH HALF OF BLDG 1		
Common Name	HYDRAULIC OIL	55 Gallons	<input type="checkbox"/>	<input type="checkbox"/>
Chemical Name	HYDRAULIC OIL	Map 1	Grid C-D,2	Delete __ Modify __
Cas #	MIXTURE	Location NORTH HALF OF BLDG 1		
Common Name	ISONATE 143L	55 Gallons	<input type="checkbox"/>	<input type="checkbox"/>
Chemical Name	MDI ADDUCT	Map 1	Grid C-D,2	Delete __ Modify __
Cas #	101-68-8	Location NORTH HALF OF BLDG. 1		

		Max Daily Amount	Not Used/Used	
Common Name	MEK	55 Gallons	<input type="checkbox"/>	<input type="checkbox"/>
Chemical Name	METHYL ETHYL KETONE	Map 1	Grid E-4,	Delete __ Modify __
Cas #	78-93-3	Location NW SECTOR OF BLDG, AND OUTSIDE NW CORNER		
Common Name	MONDUR M	0 Pounds	<input type="checkbox"/>	<input type="checkbox"/>
Chemical Name	MDI	Map 1	Grid C-D,2	Delete __ Modify __
Cas #	101-68-8	Location NORTH HALF OF BLDG 1		
Common Name	MULTRANOL 3901	55 Gallons	<input type="checkbox"/>	<input type="checkbox"/>
Chemical Name	POLYOXYALKYLENE POLYOL	Map 1	Grid C-D,2	Delete __ Modify __
Cas #	9082-00-2	Location BLDG 1		
Common Name	POLYETHER PIGMENTS	0 Gallons	<input type="checkbox"/>	<input type="checkbox"/>
Chemical Name	POLYETHER PIGMENTS	Map 1	Grid C-D,2	Delete __ Modify __
Cas #	7727-43-7	Location BLDG 1		
Common Name	POLYURETHANE CATALYST	0 Gallons	<input type="checkbox"/>	<input type="checkbox"/>
Chemical Name	POLYURETHANE CATALYST	Map 1	Grid C-D,2	Delete __ Modify __
Cas #	MIXTURE	Location NORTH HALF OF BLDG 1		
Common Name	PROPANE	0 Cubic Fee	<input type="checkbox"/>	<input type="checkbox"/>
Chemical Name	DIMETHYL METHANE	Map 1	Grid C-D,2	Delete __ Modify __
Cas #	74-98-6	Location NORTH HALF OF BLDG 1		
Common Name	RELEASE AGENT E-155	55 Gallons	<input type="checkbox"/>	<input type="checkbox"/>
Chemical Name	POLYDIMETHYL SILOXANE	Map 1	Grid C-D,2	Delete __ Modify __
Cas #	63148-62-9	Location NORTH HALF OF BLDG 1		
Common Name	SAFE STRIP	55 Gallons	<input type="checkbox"/>	<input type="checkbox"/>
Chemical Name	RESIN SOLVENT	Map 1	Grid C-D,2	Delete __ Modify __
Cas #	MIXTURE	Location BLDG 1		
Common Name	SILICONE	67 Gallons	<input type="checkbox"/>	<input type="checkbox"/>
Chemical Name	SILICONE	Map 1	Grid C-D,2	Delete __ Modify __
Cas #	MIXTURE	Location BLDG 1		
Common Name	SOLUBLE OIL	55 Gallons	<input type="checkbox"/>	<input type="checkbox"/>
Chemical Name	SOLUBLE OIL	Map 1	Grid C-D,2	Delete __ Modify __
Cas #	MIXTURE	Location NORTH HALF OF BLDG 1		
Common Name	TERATHANE	55 Gallons	<input type="checkbox"/>	<input type="checkbox"/>
Chemical Name	POLYTERTAHYDROFURAN	Map 1	Grid C-D,2	Delete __ Modify __
Cas #	31831-53-5	Location NORTH HALF OF BLDG 1		
Common Name	THIXON	55 Gallons	<input type="checkbox"/>	<input type="checkbox"/>
Chemical Name	BISPHENOL ADHESIVE	Map 1	Grid E-4,	Delete __ Modify __
Cas #	MIXTURE	Location NORTH WEST SECTOR OF BLDG 1, AND OUTSIDE NW CORNER		
Common Name	TMP	0 Pounds	<input type="checkbox"/>	<input type="checkbox"/>
Chemical Name	TRIMETHYLOLPROPANE	Map 1	Grid C-D,2	Delete __ Modify __
Cas #	77-99-6	Location NORTH HALF OF BLDG 1		
Common Name	TOLUENE	55 Gallons	<input type="checkbox"/>	<input type="checkbox"/>
Chemical Name	TOLUENE	Map 1	Grid E-4,	Delete __ Modify __
Cas #	108-88-3	Location NORTH WEST SECTOR OF BLDG, AND OUTSIDE NW CORNER		

GARDEN GROVE



FIRE DEPARTMENT

HAZARDOUS
DISCLOSURE

FEE CHANGE
TO 6

*Only
Change*

ALS
AM

REPORTING FORM

PART 1

FOR OFFICIAL USE ONLY

APPROVED BY: SHIRLEY DATE: 12-27-99
NEW BUSINESS EXISTING UPDATE
FEE: 1 2 3 4 5 6
OWNERSHIP CHANGE: _____
ADDRESS CHANGE: _____
TIER II: FAC: CON. BUS LIST: PICK:



CITY OF GARDEN GROVE, FIRE DEPARTMENT

11301 ACACIA PARKWAY, GARDEN GROVE, CALIFORNIA 92842

(714) 741-5600

(714) 741-5636

HAZARDOUS MATERIALS BUSINESS INFORMATION FORM

FORM 1

BUSINESS INFORMATION

CALENDAR YEAR BEGINNING (1)	12/18/98	ENDING (2)	12/31/99	(3) PAGE 1 OF	46
BUSINESS NAME (4)	ELASCO INC.		BUSINESS PHONE: (5)	714-891-1795	
SITE ADDRESS (6)	11377 MARKON DRIVE				
CITY (7)	GARDEN GROVE	STATE (8)	CA	ZIP (9)	92841
DUN & BRADSTREET (OPTIONAL) OPERATOR NAME (12)	09-757-6862		SIC CODE (4 DIGIT #) (11)	2821	
	DARRYL C. READSHAW		OPERATOR PHONE (13)	714-891-1795	

OWNER INFORMATION

OWNER NAME (14)	[REDACTED]	OWNER PHONE (15)	714-891-1795
OWNER MAILING ADDRESS (16)	[REDACTED]		
CITY (17)	[REDACTED]	STATE (18)	[REDACTED]
	[REDACTED]	ZIP (19)	[REDACTED]

ENVIRONMENTAL CONTACT

CONTACT NAME (20)	[REDACTED]	CONTACT PHONE (21)	[REDACTED]
MAILING ADDRESS (22)	[REDACTED]		
CITY (23)	[REDACTED]	STATE (24)	[REDACTED]
	[REDACTED]	ZIP (25)	[REDACTED]

EMERGENCY CONTACTS

Primary		Secondary	
NAME: (26)	[REDACTED]	NAME: (31)	[REDACTED]
TITLE: (27)	COO	TITLE: (32)	FACILITY MANAGER
BUSINESS PHONE: (28)	[REDACTED]	BUSINESS PHONE: (33)	[REDACTED]
24-HOUR PHONE: (29)	[REDACTED]	24-HOUR PHONE: (34)	[REDACTED]
PAGER #: (30)	[REDACTED]	PAGER #: (35)	[REDACTED]

ACUTELY HAZARDOUS MATERIALS (AHM) / EXTREMELY HAZARDOUS SUBSTANCE (EHS)

ON SITE AHM/EHS (36) Yes No If yes, and above Threshold Planning Quantities, attach a sheet of paper with a general description of the process and principal equipment.

ADDITIONAL LOCALLY COLLECTED INFORMATION

A. Type of Business Operation	MANUFACTURING	G. Underground Storage Tanks	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N
B. Hours of Business Operation	6:00AM - 10:00 PM	H. Above ground Tank over 660 gal.	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N
C. Total Number of Employees	120		
D. Property Owner Name	OCCASAL PARTNERSHIP	Address	11377 MARKON Dr. GARDEN GROVE CA 92841
E. Schools, hospitals within 1,000 ft. of business property	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>		
F. EPA I.D. Number	CA0983643222		

Certification: I certify under penalty of law that I have personally examined and that I am familiar with the information submitted in this inventory and believe the information is true, accurate, and complete.

Print Name of Document Preparer (38)	[REDACTED]	Date (40)	12-18-98
Signature of Owner/Operator (39)	[REDACTED]		

GALLADE CHEMICAL INC.

ORANGE COUNTY • SAN DIEGO COUNTY • SAN BERNARDINO COUNTY



COPY

MATERIAL SAFETY DATA SHEET (MSDS) ATTACHED

4

AQUA AMMONIA 020-Amoni

Manufactured By: Hill Brothers Chemical Co.

DISTRIBUTED BY

ORANGE COUNTY CHEMICAL
1230 EAST ST. GERTRUDE PLACE
SANTA ANA, CALIFORNIA 92707
(714) 546-9901



GALLADE CHEMICAL OF SAN DIEGO
425 NORTH ANDREASEN DRIVE
ESCONDIDO, CALIFORNIA 92029
(619) 489-0798 (619) 566-4940



GALLADE CHEMICAL OF FONTANA
15120 SANTA ANA AVENUE
FONTANA, CALIFORNIA 92335
(800) 325-3431

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: AQUA AMMONIA

CAS NUMBER: 1336-21-6

HBCC MSDS NO. CA13226



HILL BROTHERS CHEMICAL CO.

1675 No. Main Street
Orange, California 92667

Telephone No: 714-998-8800

Outside Calif: 800-821-7234

CHEMTREC: 800-424-9300

Revision issued: 9/08/94

Supersedes: 2/07/94

First issued: 1/02/86

IMPORTANT! Read this MSDS before use or disposal of this product. Pass along the information to employees and any other persons who could be exposed to the product to be sure that they are aware of the information before use or other exposure. This MSDS has been prepared according to the OSHA Hazard Communication Standard [29 CFR 1910.1200]. The MSDS information is based on sources believed to be reliable. However, since data, safety standards, and government regulations are subject to change and the conditions of handling and use, or misuse are beyond our control, HILL BROTHERS CHEMICAL COMPANY makes no warranty, either expressed or implied, with respect to the completeness or continuing accuracy of the information contained herein and disclaims all liability for reliance thereon. Also, additional information may be necessary or helpful for specific conditions and circumstances of use. It is the user's responsibility to determine the suitability of this product and to evaluate risks prior to use, and then to exercise appropriate precautions for protection of employees and others.

SECTION I - PRODUCT IDENTIFICATION

SYNONYMS / COMMON NAMES: AMMONIUM HYDROXIDE; AQUEOUS AMMONIA; WATER AMMONIA

CHEMICAL FAMILY / TYPE: INORGANIC BASES

DOT PROPER SHIPPING NAME: AMMONIA SOLUTION OR AMMONIUM HYDROXIDE

DOT HAZARD CLASS / UN/NA. NO, PG.: 8, UN2672, III

REPORTABLE QUANTITY: 1000 POUNDS (454 KILOGRAMS) (134 GAL)

NFPA RATING: HEALTH - 3; FIRE - 1; REACTIVITY - 0

0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme

SECTION II - HAZARDOUS INGREDIENTS

Chemical Name	CAS Number	%	Exposure Limits (TWAs) in Air		
			ACGIH TLV	OSHA PEL	Other
AMMONIA	1336-21-6	17-30%	25 ppm/	25 ppm/	N/A
			18 mg/m ³	18 mg/m ³	

SECTION III - PHYSICAL AND CHEMICAL PROPERTIES

Physical State: LIQUID Appearance/Color/Odor: COLORLESS LIQUID WITH PUNGENT ODOR

pH: 13-14

Melting Point: 14° F

Product/Trade Name: AQUA AMMONIA

SECTION III - PHYSICAL AND CHEMICAL PROPERTIES CONTINUED

Boiling Point/Range: 86.6° F Solubility in Water: 100% Molecular Weight: N/A

Vapor Pressure(mmHg): 268-720 @ 80° F % Volatiles(by volume): 20-37

Specific Gravity(Water = 1): 0.89 - 0.93 @ 20° C; 68° F Density(Air = 1): 0.6 @ 32° F

How to detect this compound : Smell. The odor threshold for Aqua Ammonia is 1-5 ppm.

SECTION IV - FIRE AND EXPLOSION

Flash Point: N/A Autoignition Temperature: 850° C; 1560° F.

Lower Flammable Limit: 16% by volume Ammonia gas

Upper Flammable Limit: 25% by volume Ammonia gas

Unusual Fire and Explosion Hazards: The presence of oil or other combustible materials will increase the fire hazard. The explosive (flammable) range of ammonia is broadened by a mixture of oxygen replacing air, and by temperature and pressure higher than atmospheric.

Extinguishing Media: Water spray or fog type streams. Chemical or CO₂ should be used on small fires only.

Special Firefighting Procedures: Stop the flow of liquid. Use water to keep fire exposed containers cool and to protect men affecting the shut off. Wear self-contained breathing apparatus and full protective clothing. Approach fire upwind and evacuate area downwind if needed.

SECTION V - REACTIVITY

Stability: Stable Hazardous Polymerization: Will not occur

Conditions to Avoid: Heat, open flames, and electrical equipment and fixtures which are not vapor-proof or grounded.

Materials to Avoid: Contact with mercury, chlorine, bromine, iodine, calcium, silver oxide, or hypochlorite can form explosive compounds.

Hazardous Decomposition Products: Ammonia is lightly reactive, easily undergoing oxidation, substitution and additional reactions. Combustion of ammonia will yield small amounts of nitrogen and water.

SECTION VI - HEALTH HAZARDS

INGESTION: Ingestion causes burning pain in mouth, throat, stomach, and thorax, constriction of throat, and coughing. This is soon followed by vomiting of blood or by passage of loose stools containing blood. Ingestion of 3-4 ml may be fatal.

INHALATION: If inhaled, will cause nausea, vomiting, breathing difficulty, and convulsions. Shock or loss of consciousness may result. Brief exposure to 5000 ppm may be fatal.

Product/Trade Name: AQUA AMMONIA

SECTION VI - HEALTH HAZARDS-CONTINUED

SKIN: ABSORPTION: Ammonia, because of its alkalinity and water solubility, tends to break down and disrupt the outer cell layers, permitting rapid penetration. Even so, ammonia is not a systemic poison and the effects will be limited to local effects. **CONTACT:** Causes smarting of the skin and first-degree burns on short exposure. May cause second-degree burns on long exposure.

EYES: Vapor is irritating to the eyes. Liquid will cause burns.

Carcinogenicity Lists: NO

NTP: NO

IARC Monograph: NO

OSHA Regulated: YES

Signs and Symptoms of Exposure: Burning of the eyes, conjunctivitis, skin irritation, swelling of the eyelids and lips, dry red mouth and tongue, burning in the throat, and coughing. In more severe cases of exposure, difficulty in breathing, signs and symptoms of lung congestion, and, ultimately, death from respiratory failure due to pulmonary edema may occur.

Effects of Overexposure: Irritation and possible burns of the skin and mucous membranes. Headache, salivation, nausea, and vomiting. Difficult or labored breathing and cough with bloody mucous discharge. Bronchitis, laryngitis, hemoptysis, and pulmonary edema or pneumonitis. Ulceration of the conjunctiva and cornea, and corneal and lenticular opacities. Damage to the eyes may be permanent.

Emergency and First Aid Procedures:

INGESTION: DO NOT INDUCE VOMITING. If person is conscious, give large quantities of water and, if possible, diluted vinegar, lemon juice, orange juice, or other citric juices to neutralize the ammonia. Delay may cause perforation of esophagus or stomach. OBTAIN MEDICAL ATTENTION.

INHALATION: Remove victim to fresh air. Give oxygen if breathing is difficult. If breathing has stopped, start artificial respiration. Keep victim calm and resting. OBTAIN MEDICAL ATTENTION.

SKIN: Apply water immediately to exposed areas of skin and continue for at least 15 minutes. Remove contaminated clothing while continuing to apply water. Do not apply salves or ointments to affected areas. OBTAIN MEDICAL ATTENTION.

EYES: Immediately flush with flowing water for at least 15 minutes with the eyelids held apart. OBTAIN MEDICAL ATTENTION.

Medical Conditions Generally Aggravated by Exposure: Ammonia is a respiratory irritant. persons with impaired pulmonary function may be at increased risk from exposure.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

Steps To Be Taken In Case Material Is Released Or Spilled:

[Spills may need to be reported to the National Response Center (800/424-8802) DOT Reportable Quantity (RQ) is 1000 pounds]. Stop the flow. Wear self-contained breathing apparatus and full protective clothing. Approach spill from upwind and evacuate area downwind. Prevent runoff from entering streams, drinking water supply or sewers. Dike to contain spill. Dilute with water, if necessary to reduce ammonia vaporization. Can be neutralized with dilute phosphoric or sulfuric acids. Vinegar will effectively neutralize small spills of aqua ammonia.

Handling and Storing Precautions: Avoid heating containers of aqua ammonia. Avoid storing in close proximity to strong acids. Avoid contact with skin and eyes. Avoid inhalation of vapors.

Product/Trade Name: AQUA AMMONIA

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE-CONTINUED

Waste Disposal Methods: Consult Federal, State, or Local authorities for proper disposal procedures.

Other Precautions: Harmful to aquatic life in very low concentrations. May be dangerous if it enters water intakes. Notify local health and wildlife officials. Do not contaminate any body of water by direct application, cleaning of equipment or disposal.

SECTION VIII - CONTROL MEASURES

Respiratory Protection: Unless ventilation is adequate to keep airborne concentrations below the exposure standard, wear approved respiratory protection such as an ammonia canister mask or an approved air supplied respirator. Canister or cartridge type masks must not be used above their exposure limits. From 0-200 ppm, a cartridge type 1/2 mask respirator is needed. From 200-500 ppm a type "N" gas mask with full face piece is needed. Over 500 ppm a self-contained breathing apparatus (SCBA) is required.

Ventilation: Local exhaust is essential. Spark-proof fans desirable with mechanical ventilation. Ducts should be located at ceiling level and lead upwards to the outside. Local exhaust must be adequate to reduce ammonia concentration below 25 ppm.

Protective Clothing: Rubber boots, gloves, apron, and coat. Use of protective oil will reduce skin irritation from ammonia.

Eye Protection: Tight fitting chemical safety and splash-proof goggles and/or a splash-proof faceshield must be worn if there is a likelihood of exposure. Persons subject to ammonia exposure must not wear contact lenses.

Other Protective Clothing or Equipment: Eyewash fountain and safety shower should be available in the work area.

Work/Hygienic Practices: Avoid contact with skin and avoid breathing vapors. Do not eat, drink, or smoke in work area. Wash hands before eating, drinking, or using restroom.

SECTION IX - SUPPLEMENTAL INFORMATION

Section 313 Supplier Notification: This product contains the following toxic chemical(s) subject to the reporting requirements of SARA TITLE III Section 313 of the Emergency Planning and Community Right-To Know Act of 1986 and of 40 CFR 372:

CAS #	CHEMICAL NAME	% BY WEIGHT
1336-21-6	AMMONIUM HYDROXIDE	17-30 %

Short Term Inhalation Limits: (Ammonia gas) 100 ppm for 30 min.; 500 ppm for 10 min.

Toxicity by Ingestion: Oral rat, LD₅₀: 350 mg/kg

IDLH Value*: 500 ppm *The Immediately Dangerous to Life and Health Value

CALIFORNIA CHEMICAL INVENTORY FORM – DESCRIPTION PAGE

(1) ADD DELETE REVISE NO CHANGE

PAGE (2) 27 OF (3) 46

BUSINESS NAME (4) ELASCO INC
 CHEMICAL LOCATION (Address, Area, Building, etc.) (5) 11377 MARKON DR. GARDEN GROVE, CA 92841
 MAP # (if more than one) (6) 1 GRID # (7) C-D, 2-5; D-H, 3-4

CHEMICAL NAME (8) Di-(Methylthio) Toluene DIAMENE TRADE SECRET (11) Y N
 COMMON NAME (9) ETHACURE(R) 300 AHM / *EHS (12) Y N
 CAS # (10) 106264-99-3
 FIRE CODE HAZARD CLASSES* (13) 14, 3 (C3B)
 *IF EHS BOX IS "Y" ALL AMOUNTS MUST BE IN LBS

TYPE (14) PURE MIXTURE WASTE CHECK IF RADIOACTIVE (15) (16) _____
 PHYSICAL STATE (17) SOLID LIQUID GAS CURIES _____
 FED HAZARD CATEGORIES (18) FIRE REACTIVE PRESSURE RELEASE ACUTE HEALTH CHRONIC HEALTH
 STATE WASTE CODE (19) _____ UNITS (22) GAL CU FT LBS TONS MAX DAILY AMT (23) _____
 DAYS ON SITE (20) _____ *If EHS, amounts must be in lbs. AVG DAILY AMT (24) _____
 LARGEST CONTAINER (21) _____ ANNUAL WASTE AMT (25) _____
 STORAGE CONTAINER (26) ABOVE GROUND TANK - INSIDE CAN BOX(S) TANK WAGON
 UNDER GROUND TANK CARBOY CYLINDER RAIL CAR
 TANK INSIDE BUILDING SILO GLASS CONTAINER
 STEEL DRUM FIBER DRUM PLASTIC CONTAINER Other
 PLASTIC/NONMETALLIC DRUM BAG(S) IN MACHINERY OR EQUIP.
 PRESSURE STORAGE (27) AMBIENT ABOVE AMBIENT BELOW AMBIENT
 STORAGE TEMPERATURE (28) AMBIENT ABOVE AMBIENT BELOW AMBIENT CRYOGENIC

(29) % WT	(30) HAZARDOUS COMPONENTS	(31) EHS/AHM	(32) CAS #
1.		<input type="checkbox"/> Y <input type="checkbox"/> N	
2.		<input type="checkbox"/> Y <input type="checkbox"/> N	
3.		<input type="checkbox"/> Y <input type="checkbox"/> N	

(33) ADDITIONAL LOCALLY COLLECTED INFORMATION
 *COMPLETE BLOCK (33) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.

NFPA CLASSIFICATION _____ NFPA 704 HAZARD DIAMOND

UN/DOT # _____ Refer to shipping papers or MSDS

DOT HAZARD CLASS _____ Refer to shipping papers or MSDS

UFC HAZARD CLASS _____

HEALTH BLUE → **2** (HEALTH) ← REACTIVE YELLOW **0**
 FIRE RED **0** (FIRE)
 SPECIAL HAZARD **0** (SPECIAL) ← WHITE OX/TK

MAKE AS MANY COPIES OF CHEMICAL INVENTORY FORM AS NEEDED



MATERIAL SAFETY DATA SHEET

FOR EMERGENCIES ONLY - Phone 504-344-7147
For Nonemergency Health and Safety Information Phone 504-388-7717

~~010-ETH300~~

ETHYL ETHACURE 300

28.5.5

PRODUCT IDENTIFICATION

TRADE NAME: ETHACURE (R) 300 Curative

CHEMICAL NAME: Di-(methylthio)toluenediamine

CAS NO.: 106264-79-3

SYNONYMS: DMTDA

CHEMICAL FORMULA: C9H14N2S2

CHEMICAL FAMILY: Aromatic amine

THIS MATERIAL IS IN COMPLIANCE WITH THE TOXIC SUBSTANCES CONTROL ACT (15 USC 2601 - 2629).

SUMMARY OF HAZARDS

See "Other Health Effects."
See "Chronic Effects of Overexposure."

HAZARDOUS COMPONENTS

CHEMICAL NAME	CAS NO.	NOTE+	EXPOSURE LIMIT
Di-(methylthio)toluenediamine	106264-79-3	NL	Not established by OSHA/ACGIH.

+NOTE: Carcinogenicity listing of components at concentrations greater than or equal to 0.1% indicated by: @=NTP; #=IARC; &=OSHA; *=OTHER; NL=Not Listed

08/23/89

Ethyl Corporation - Chemicals Group

Ethyl Tower 451 Florida Blvd., Baton Rouge, LA 70801
REPRESENTING ETHYL FOREIGN SALES CORPORATION FOR EXPORT SALES

010 2157

EMERGENCY PHONE NUMBER
(504) 344-7147

TRADE NAME:

ETHACURE (R) 300
Curative
28.5.5

CHEMICAL AND PHYSICAL PROPERTIES

APPEARANCE/ODOR: Amber liquid/amine odor.
BOILING POINT: Decomposes at 353C/668F.
VAPOR PRESSURE: <0.001 mm Hg @ 20C/68F.
SOLUBILITY IN WATER: < 1.0%
SPECIFIC GRAVITY: -1.2 g/mL (10 lb./gal.).

FIRE AND EXPLOSION HAZARDS

FLASH POINT(METHOD): 176C/349F (PMCC).
FLAMMABLE LIMITS: Not established.
EXTINGUISHING MEDIA: Dry chemical, water spray (fog), foam
or carbon dioxide.
HAZARDOUS THERMAL DECOMPOSITION PRODUCTS:
Include oxides of carbon, nitrogen,
and sulfur.
SPECIAL FIRE FIGHTING PROCEDURES:
Avoid breathing smoke and vapor.
UNUSUAL FIRE AND EXPLOSION HAZARDS:
None known.

REACTIVITY DATA

STABILITY: Stable.
CONDITIONS TO AVOID: High heat and humidity to maintain
integrity of product.
MATERIALS TO AVOID: Strong acids and oxidizers.
HAZARDOUS POLYMERIZATION:
Will not occur.

08/23/89

EMERGENCY PHONE NUMBER
(504) 344-7147

TRADE NAME: ETHACURE (R) 300
Curative
28.5.5

HEALTH HAZARDS

INHALATION: Expected to be absorbed through the lungs.

EYE CONTACT: Not expected to be an eye irritant.

SKIN CONTACT: Not expected to be a skin irritant.
Expected to be absorbed through the skin.

INGESTION: Expected to be absorbed through the gastrointestinal tract.

CHRONIC EFFECTS OF OVEREXPOSURE:

WARNING! Avoid all contact.
Chemicals similar in structure to DMTDA have been found to cause chronic organ and systemic effects and cancer in laboratory animals. The Environmental Protection Agency based this conclusion on analogy to 2,4-diaminoanisole (DAA), 2,4- and 2,6-toluenediamine (TDA) which were found to cause chronic toxicity and/or carcinogenicity in animal studies. There are no animal carcinogenic or chronic toxicity studies on DMTDA. A two year carcinogenicity bioassay on DMTDA is planned. The most pertinent carcinogenic study completed on DMTDA is the in vitro cell transformation assay. A positive assay indicates carcinogenic potential. For comparison, 2,4-TDA was positive while DMTDA was negative. To protect yourself, you must wear impervious gloves, chemical safety goggles or equivalent eye protection, and protective clothing while handling this chemical. In addition, you must wear a respirator if there is potential inhalation exposure.

OTHER HEALTH EFFECTS: DMTDA caused delayed contact

08/23/89

EMERGENCY PHONE NUMBER
(504) 344-7147

TRADE NAME:

ETHACURE (R) 300
Curative
28.5.5

HEALTH HAZARDS (Con't)

OTHER HEALTH EFFECTS: hypersensitivity in laboratory animals.

TOXICITY DATA: ORAL LD50 (rat) = 1515 mg/kg. DERMAL LD50 (rabbit) > 2000 mg/kg.

EMERGENCY FIRST AID PROCEDURES

INHALATION: If inhaled, remove to fresh air.

EYE CONTACT: Begin immediate eye irrigation with cool water.

SKIN CONTACT: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.

INGESTION: Induce vomiting immediately by giving two glasses of water and sticking finger down throat. Never give anything by mouth to an unconscious person. Get medical attention.

EXPOSURE CONTROL INFORMATION

EXPOSURE LIMITS: Not established by OSHA/ACGIH.

EYE PROTECTION: Chemical goggles.

MECHANICAL VENTILATION: Recommended.

LOCAL EXHAUST VENTILATION: At source of vapor.

OTHER: If skin contact or contamination of clothing is likely, protective clothing should be worn.

PROTECTIVE GLOVES: Use gloves determined to be impervious under the conditions of exposure.

08/23/89

Page 5 of 6

EMERGENCY PHONE NUMBER
(504) 344-7147TRADE NAME: ETHACURE (R) 300
Curative
28.5.5

EXPOSURE CONTROL INFORMATION (Con't)

RESPIRATORY PROTECTION: Persons involved in procedures where they may be exposed by inhalation should use, at a minimum, a NIOSH approved category 19C air-supplied respirator.

ENVIRONMENTAL PROTECTION

SPILLS OR LEAKS:

Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Take up small spills with dry chemical absorbent. Large spills may be taken up with pump or vacuum and finished off with dry chemical absorbent. May require excavation of contaminated soil.

DISPOSAL METHODS:

Under the CERCLA/RCRA regulations currently in effect, this product is not regulated as a hazardous waste or material. Wastes containing uncured DMTDA must be disposed of by incineration as an industrial waste according to good waste management practices and in compliance with applicable local, state, and federal regulations. However, incineration is not required of scrap polyurethane made by reaction of an excess of "out of condition" isocyanate prepolymer with waste curative.

STORAGE REQUIREMENT:

Store away from high humidity and heat. Blanket with nitrogen.

EMERGENCY PHONE NUMBER
(504) 344-7147

TRADE NAME:

ETHACURE (R) 300
Curative
28.5.5

ISSUE DATE: 08/23/89

. SUPERSEDES: 02/20/89

MSDS prepared by: Health & Environment Department
Ethyl Corporation

FOR ADDITIONAL NONEMERGENCY MSDS INFORMATION, CONTACT:

HEALTH AND ENVIRONMENT DEPARTMENT
ETHYL CORPORATION
451 FLORIDA ST.
BATON ROUGE, LA. 70801
(504) 388-7717

THIS MATERIAL SAFETY DATA SHEET CONTAINS AT LEAST
THE INFORMATION REQUIRED BY THE FEDERAL OSHA HAZARD
COMMUNICATION RULE, 29 CFR 1910.1200(g) (2).

TRADE NAME: Ethacure® 300 Curative

28.5.5

CANADIAN CONTROLLED PRODUCTS REGULATIONS

MSDS ADDENDUM

This sheet has been prepared as a supplement to the Ethyl Corporation Material Safety Data Sheet for compliance with WHMIS. It must remain with the MSDS. DO NOT DETACH!

TRADE NAME: Ethacure® 300 Curative

MSDS DATED: 08/23/89

ADDENDUM DATED: 02/20/89

WHMIS CLASSIFICATION: Class D, Division 2B

INFORMATION DISCLOSURE EXEMPTION NO:
Not applicable.

<u>HAZARDOUS INGREDIENTS</u>	<u>CAS NUMBER</u>	<u>WEIGHT PERCENT/RANGE</u>
Di-(methylthio)toluenediamine	106264-79-3	100

WHMIS



EXPLANATION OF MATERIAL SAFETY DATA SHEET TERMINOLOGY

The terminology is in the order as it appears on the MSDS.

PRODUCT IDENTIFICATION

TRADE NAME AND SYNONYMS

The name under which the product is sold and common synonyms.

CHEMICAL NAME AND FORMULA

Chemical descriptive name and the chemical formula.

CAS NO.

Chemical Abstract Service registry number which identifies the chemical substance or product/component.

SUMMARY OF HAZARDS

Emphasizes major hazard(s) associated with the product. Further details are provided in subsequent sections.

COMPONENT(S)/HAZARDOUS COMPONENTS

COMPONENT NAME

Chemical, generic, or proprietary name that identifies the product or components of a mixture. Inclusion of a component is not necessarily based on hazard materials.

EXPOSURE LIMIT

The airborne concentration at which most workers can be exposed without any expected adverse effects. Source may be Ethyl guideline, ACGIH TLV (Threshold Limit Value), or OSHA PEL (Permissible Exposure Limit).

TYPES OF EXPOSURE LIMITS

TWAS - the timeweighted average concentration for a normal 8-hour workday and a 40-hour workweek, to which nearly all workers may be repeatedly exposed, day after day, without adverse effect.

STEL (Short-Term Exposure Limit) - a 15 minute timeweighted average exposure which should not be exceeded at any time during a workday even if the 8-hour time-weighted average is within the TLV.

CEILING - the concentration that should not be exceeded during any part of the working exposure.

ACGIH - American Conference of Governmental Industrial Hygienists.

OSHA - Occupational Safety and Health Administration.

NIOSH - National Institute of Occupational Safety and Health.

CARCINOGENICITY LISTING

Indicates whether a component is thought to have cancer causing potential based on human experience and/or animal data.

NTP - National Toxicology Program.

IARC - International Agency for Research on Cancer.

OTHER - May include preliminary data or studies not yet evaluated by the major agencies. Also includes ACGIH and NIOSH listings.

CHEMICAL AND PHYSICAL PROPERTIES

APPEARANCE/ODOR

Description of material at normal temperature and pressure that may be useful in identification the presence of the product.

BOILING POINT

The temperature at which the vapor pressure of the liquid is equal to the pressure of the atmosphere.

MELTING POINT (FREEZING POINT)

Temperature at which a substance changes from the solid to liquid state.

VAPOR PRESSURE

The pressure exerted at any temperature by a vapor existing in equilibrium with its liquid or solid phase.

SOLUBILITY IN WATER

The amount of the product, by weight, that will dissolve in a given weight of water at a specified temperature.

grams/100g H₂O

Negligible	< 0.1
Slight	0.1 - 1.0
Moderate	1 - 10
Appreciable	> 10
Complete	Soluble in all proportions

SPECIFIC GRAVITY

Ratio of the weight of a volume of the product to the weight of an equal volume of water (liquid/solids) or air (gases).

EVAPORATION RATE

Ratio of the rate of vaporization of the product to the rate of a known material.

PERCENT VOLATILES

The percentage of the product (liquid or solid) that will evaporate at ambient temperature.

POUR POINT

The lowest temperature at which a liquid will flow when the containers is inverted.

VISCOSITY

A measure of flow characteristics of a liquid, expressed in units called centistokes (cst).

FIRE AND EXPLOSION HAZARDS

FLASH POINT (CLOSED CUP METHOD)

Lowest temperature at which the product will give off enough vapor to ignite.

FLAMMABLE LIMITS

Range of vapor concentrations (percent by volume in air) which will burn or explode in the presence of spark or flame. LEL is the lower explosive limit and UEL is the upper explosive limit.

EXTINGUISHING MEDIA

The fire fighting agents which are recommended for use.

HAZARDOUS THERMAL DECOMPOSITION PRODUCTS

Known hazardous product resulting from heating or burning the compound.

SPECIAL FIREFIGHTING PROCEDURES

General firefighting procedures of chemical firms are not described, but special procedures are given, if required.

UNUSUAL FIRE AND EXPLOSION HAZARDS

Hazards not covered by other sections of the MSDS pertaining to chemical reactions in the presence of heat and/or fire.

REACTIVITY DATA

STABILITY

Indicates the susceptibility of the product to dangerous decomposition.

CONDITIONS AND MATERIALS TO AVOID

Gives the conditions and materials produced from a chemical reaction.

HAZARDOUS DECOMPOSITION PRODUCTS

Describes the hazardous materials produced from a chemical reaction.

HAZARDOUS POLYMERIZATION

Indicate the tendency of the product' molecules to combine in a violent reaction.

HEALTH HAZARDS

Gives the possible immediate effects of overexposure to the product by skin or eye contact, breathing vapors or dust, and ingestion. Common symptoms which may occur from exposure to the product are given.

CHRONIC EFFECTS

Refers to the effects that may occur after repeated or prolonged overexposure to the product, or is an effect that may be long lasting after acute exposure.

OTHER HEALTH EFFECTS

Includes medical conditions which may be aggravated by exposure to the product.

TOXICITY

Gives numerical results from animal tests on the product. LD₅₀ or LC₅₀ is the dose level that kills half of the animals tested.

Although the information and recommendations set forth herein (hereinafter "Information") are presented in good faith and believed to be correct as of the date hereof, Ethyl Corporation makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its safety and suitability for their purposes prior to use. In no event will Ethyl Corporation be responsible for damages of any nature whatsoever resulting from the use or reliance upon information. NO REPRESENTATIONS OF WARRANTIES, EITHER EXPRESSED OR IMPLIED, OR MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE, ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR THE PRODUCT TO WHICH THE INFORMATION REFERS.

EMERGENCY FIRST AID

Gives emergency and first aid instructions for handling overexposure by inhalation, ingestion, and skin and eye contact.

NOTE TO PHYSICIAN

May give any contraindicated treatment or recommended treatment for a licensed health care professional to conduct.

EXPOSURE CONTROL INFORMATION

EYE PROTECTION

Specification of eyes or face protection beyond normal use of safety glasses.

PROTECTIVE GLOVES

Indicates the need for protective gloves when skin contact may occur.

RESPIRATORY PROTECTION

Specifications of the type of respirator recommended for use during routine or emergency situations.

VENTILATION

Specification of the type (local/general) of ventilation recommended to capture contaminants or prevent the build-up of hazardous atmospheres.

OTHER

Specification of other recommended personal protective equipment based on type and degree of hazard.

ENVIRONMENTAL PROTECTION

SPILLS AND LEAKS

Indicates special precautions for clean-up of spills and leaks and preparation of chemical for disposal.

DISPOSAL METHOD

Tells the EPA classification of the product as well as the proper disposal procedure.

EPA - Environmental Protection Agency

RQ - Reportable Quantity - The amount of the product or one of its components that, when spilled, must be reported to the EPA and possibly other regulatory agencies.

RCRA - Resource Conservation and Recovery Act

CERCLA - Comprehensive Environmental Response, Compensation and Liability Act.

STORAGE REQUIREMENTS:

Any unusual requirements or precautions for storage of the product.

ADDITIONAL PRECAUTIONS OR COMMENTS

States or reemphasized any special precautions or handling requirements.

CALIFORNIA CHEMICAL INVENTORY FORM - DESCRIPTION PAGE

FORM 3

(1) ADD DELETE REVISE NO CHANGE

PAGE (2) 7 OF (3) 46

BUSINESS NAME (4) ELASCO INC
 CHEMICAL LOCATION (Address, Area, Building, etc.) (5) 11377 MARKON DR. GARDEN GROVE, CA 92841
 MAP # (if more than one) (6) 1 GRID # (7) C-D, 2-5; D-H, 3-4

CHEMICAL NAME (8) MDI PREPOLYMER
 COMMON NAME (9) ELASTOTHANE E090
 CAS # (10) 101-68-8
 FIRE CODE HAZARD CLASSES* (13) 14, 3(C3B)

TRADE SECRET (11) Y N
 AHM / *EHS (12) Y N
 *IF EHS BOX IS "Y"
 ALL AMOUNTS MUST BE IN LBS

*COMPLETE BLOCK (13) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.

(14) PURE MIXTURE WASTE CHECK IF RADIOACTIVE (15) (16) _____
 (17) SOLID LIQUID GAS CURIES _____
 (18) FIRE REACTIVE PRESSURE RELEASE ACUTE HEALTH CHRONIC HEALTH
 (19) UNITS (22) GAL CU FT LBS TONS MAX DAILY AMT (23) _____
 (20) *If EHS, amounts must be in lbs. AVG DAILY AMT (24) _____
 (21) ANNUAL WASTE AMT (25) _____
 (26) ABOVE GROUND TANK - INSIDE CAN BOX(S) TANK WAGON
 UNDER GROUND TANK CARBOY CYLINDER RAIL CAR
 TANK INSIDE BUILDING SILO GLASS CONTAINER PLASTIC CONTAINER Other
 STEEL DRUM FIBER DRUM IN MACHINERY OR EQUIP.
 PLASTIC/NONMETALLIC DRUM BAG(S)

(27) AMBIENT ABOVE AMBIENT BELOW AMBIENT
 (28) AMBIENT ABOVE AMBIENT BELOW AMBIENT CRYOGENIC

(29) % WT

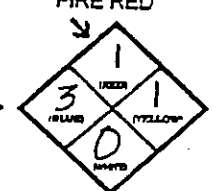
1.	< 15
2.	
3.	

(30) HAZARDOUS COMPONENTS (31) EHS/AHM (32) CAS #

Methyl Di phenyl Isoyanate	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	101-6868
	<input type="checkbox"/> Y <input type="checkbox"/> N	
	<input type="checkbox"/> Y <input type="checkbox"/> N	

(33) ADDITIONAL LOCALLY COLLECTED INFORMATION
 *COMPLETE BLOCK (33) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.

NFPA CLASSIFICATION _____
 UN/DOT # _____ Refer to shipping papers or MSDS
 DOT HAZARD CLASS _____ Refer to shipping papers or MSDS
 UFC HAZARD CLASS _____

NFPA 704 HAZARD DIAMOND
 FIRE RED
 HEALTH BLUE →  ← REACTIVE YELLOW
 SPECIAL HAZARD ↗ WHITE OX/WX ↖

MAKE AS MANY COPIES OF CHEMICAL INVENTORY FORM AS NEEDED



MATERIAL SAFETY DATA SHEET

BAYER CORPORATION
 PRODUCT SAFETY & REGULATORY AFFAIRS
 100 Bayer Road
 Pittsburgh, PA 15205-9741

TRANSPORTATION EMERGENCY

CALL CHEMTREC: (800) 424-9300
 DISTRICT OF COLUMBIA: (202) 483-7616

NON-TRANSPORTATION

BAYER EMERGENCY PHONE...: (412) 923-1800
 BAYER INFORMATION PHONE.: (800) 662-2927

I. PRODUCT IDENTIFICATION:

PRODUCT NAME.....: Baytec ME-090
 PRODUCT CODE.....: C-590
 CHEMICAL FAMILY.....: Aromatic Isocyanate Prepolymer
 CHEMICAL NAME.....: Modified Diphenylmethane Diisocyanate (MDI) Prepolymer
 SYNONYMS.....: Modified Diphenylmethane Diisocyanate (MDI)
 CAS NUMBER.....: 51855-41-5
 FORMULA.....: Not Applicable

II. HAZARDOUS INGREDIENTS:

INGREDIENT NAME /CAS NUMBER	EXPOSURE LIMITS	CONCENTRATION (%)
4,4'-Diphenylmethane Diisocyanate 101-68-8	OSHA : .020 ppm Ceiling .200 mg/m3 Ceiling ACGIH: .005 ppm TWA .051 mg/m3 TWA	1-10 %
Diphenylmethane Diisocyanate (2,2; 2,4) 26447-40-5	OSHA : Not Established ACGIH: Not Established	1-10 %

III. PHYSICAL PROPERTIES:

PHYSICAL FORM.....: Liquid
 COLOR.....: Pale Yellow
 ODOR.....: Slightly musty odor
 pH: Not Applicable
 BOILING POINT.....: Not Established
 MELTING/FREEZING POINT....: Not Established
 SOLUBILITY IN WATER: Not Soluble. Reacts slowly with water to liberate CO2 gas

Product Code: C-590
 Approval date: 01/01/95

MSDS Page 1
 Continued on next page

III. PHYSICAL PROPERTIES (Continued)

SPECIFIC GRAVITY: 1.06 @ 77 F (25 C)
BULK DENSITY.....: 8.84 lbs/gal
% VOLATILE BY VOLUME.....: Negligible
VAPOR PRESSURE: Less than 10-5 mmHg @ 77 F (25 C) for MDI
VAPOR DENSITY: 8.5 (MDI) (Air = 1)

IV. FIRE AND EXPLOSION DATA:

FLASH POINT.....: 500.0 F (260.0 C) Pensky-Martens Closed Cup
(ASTM D-93)
EXTINGUISHING MEDIA.....: Dry Chemical; Carbon Dioxide; Foam; Water
spray for large fires.
SPECIAL FIRE FIGHTING PROCEDURES: Full emergency equipment with self-contained
breathing apparatus and full protective clothing should be worn by
firefighters. During a fire, MDI vapors and other irritating, highly toxic
gases may be generated by thermal decomposition or combustion. (See
Section VIII). At temperatures greater than 400 F (204 C), polymeric MDI
can polymerize and decompose which can cause pressure build-up in closed
containers. Explosive rupture is possible. Therefore, use cold water to
cool fire-exposed containers.

V. HUMAN HEALTH DATA:

ROUTE(S) OF ENTRY.....: Skin Contact from liquid and aerosols (spray
application). Inhalation. Although MDI is low in volatility, an
inhalation hazard can exist from MDI aerosols or vapors formed during
heating, foaming or spraying.

HUMAN EFFECTS AND SYMPTOMS OF OVEREXPOSURE:

Data has not been established for this product. Data listed below is for MDI.

ACUTE INHALATION.....: MDI vapors or mist at concentrations above the
TLV can irritate (burning sensation) the mucous membranes in the
respiratory tract (nose, throat, lungs) causing runny nose, sore throat,
coughing, chest discomfort, shortness of breath and reduced lung function
(breathing obstruction). Persons with a preexisting, nonspecific bronchial
hyperreactivity can respond to concentrations below the TLV with similar
symptoms as well as asthma attack. Exposure well above the TLV may lead to
bronchitis, bronchial spasm and pulmonary edema (fluid in lungs). These
effects are usually reversible. Chemical or hypersensitive pneumonitis,
with flu-like symptoms (e.g., fever, chills) has also been reported. These
symptoms can be delayed up to several hours after exposure.

CHRONIC INHALATION.....: As a result of previous repeated overexposures
or a single large dose, certain individuals develop isocyanate
sensitization (chemical asthma) which will cause them to react to a later

Product Code: C-590
Approval date: 01/01/95

MSDS Page 2
Continued on next page

V. HUMAN HEALTH DATA (Continued)

exposure to isocyanate at levels well below the TLV. These symptoms, which can include chest tightness, wheezing, cough, shortness of breath or asthma attack, could be immediate or delayed (up to several hours after exposure). Similar to many non-specific asthmatic responses, there are reports that once sensitized an individual can experience these symptoms upon exposure to dust, cold air or other irritants. This increased lung sensitivity can persist for weeks and in severe cases for several years. Overexposure to isocyanates has also been reported to cause lung damage (including decrease in lung function) which may be permanent. Sensitization can either be temporary or permanent.

ACUTE SKIN CONTACT.....: Isocyanates react with skin protein and moisture and can cause irritation which may include the following symptoms: reddening, swelling, rash, scaling or blistering. Cured material is difficult to remove.

CHRONIC SKIN CONTACT.....: Prolonged contact can cause reddening, swelling, rash, scaling, blistering, and in some cases, skin sensitization. Individuals who have skin sensitization can develop these symptoms from contact with liquid or vapors. Animal tests have indicated that respiratory sensitization can result from skin contact with MDI. This data reinforces the need to prevent direct skin contact with MDI. (See Section XII Animal Toxicity Data, SENSITIZATION.)

ACUTE EYE CONTACT.....: Liquid, aerosols or vapors are irritating and can cause tearing, reddening and swelling. If left untreated, corneal damage can occur and injury is slow to heal. However, damage is usually reversible. See Section VI for treatment.

CHRONIC EYE CONTACT.....: None Found

ACUTE INGESTION.....: Can result in irritation and corrosive action in the mouth, stomach tissue and digestive tract. Symptoms can include sore throat, abdominal pain, nausea, vomiting and diarrhea.

CHRONIC INGESTION.....: None Found

CARCINOGENICITY.....: Neither MDI nor polymeric MDI are listed by the NTP, IARC or regulated by OSHA as carcinogens.

NTP.....: Not listed

IARC.....: Not listed

OSHA.....: Not regulated

OTHER.....: See results of two year inhalation study in Section XII Animal Toxicity Data, CARCINOGENICITY.

MEDICAL CONDITIONS

AGGRAVATED BY EXPOSURE.....: Asthma, other respiratory disorders (bronchitis, emphysema, bronchial hyperreactivity), skin allergies, eczema.

EXPOSURE LIMITS.....: Exposure limits have not been established for this product. Use the exposure limits in Section II of the MSDS for MDI:
OSHA PEL: 0.02 ppm Ceiling (MDI). ACGIH TLV: 0.005 ppm (0.051 mg/m3)
Time Weighted Average (TWA).

VI. EMERGENCY AND FIRST AID PROCEDURES:

FIRST AID FOR EYES.....: Flush with copious amount of water, preferably, lukewarm water for at least 15 minutes, holding eyelids open all the time. Refer individual to physician or ophthalmologist for immediate follow-up.

FIRST AID FOR SKIN.....: Remove contaminated clothing. Wash affected skin thoroughly with soap and water. Wash contaminated clothing thoroughly before reuse. For severe exposures, get under safety shower after removing clothing, then get medical attention. For lesser exposures, seek medical attention if irritation develops or persists after the area is washed.

FIRST AID FOR INHALATION: Move to an area free from risk of further exposure. Administer oxygen or artificial respiration as needed. Obtain medical attention. Asthmatic-type symptoms may develop and may be immediate or delayed up to several hours. Consult physician should this occur.

FIRST AID FOR INGESTION.: DO NOT INDUCE VOMITING. Give 1 to 2 cups of milk or water to drink. DO NOT GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. Consult physician.

NOTE TO PHYSICIAN.....: Eyes. Stain for evidence of corneal injury. If cornea is burned, instill antibiotic steroid preparation frequently. Workplace vapors have produced reversible corneal epithelial edema impairing vision. Skin. This compound is a known skin sensitizer. Treat symptomatically as for contact dermatitis or thermal burns. If burned, treat as thermal burn. Ingestion. Treat symptomatically. There is no specific antidote. Inducing vomiting is contraindicated because of the irritating nature of this compound. Respiratory. This compound is a known pulmonary sensitizer. Treatment is essentially symptomatic. An individual having a skin or pulmonary sensitization reaction to this material should be removed from exposure to any isocyanate.

VII. EMPLOYEE PROTECTION RECOMMENDATIONS:

EYE PROTECTION REQUIREMENTS.....: Liquid chemical goggles. Vapor resistant goggles should be worn when contact lenses are in use. In a splash hazard environment chemical goggles should be used in combination with a full face-shield.

SKIN PROTECTION REQUIREMENTS.....: Permeation resistant gloves (butyl rubber, nitrile rubber, polyvinyl alcohol). However, please note that PVA degrades in water. Cover as much of the exposed skin area as possible with appropriate clothing. If skin creams are used, keep the area covered by the cream to a minimum.

RESPIRATOR REQUIREMENTS.....: Concentrations greater than the TLV can occur when MDI is sprayed, heated or used in a poorly ventilated area. In such cases, or whenever concentrations of MDI exceed the TLV or are not known, respiratory protection must be worn. A supplied air respirator (either positive pressure or continuous flow type) is required. In an emergency situation, a self-contained breathing apparatus may be used. MDI

VII. EMPLOYEE PROTECTION (Continued)

has poor warning properties, since the concentration at which MDI can be smelled is substantially higher than the maximum exposure limit. Observe OSHA regulations for respirator use (29 CFR 1910.134).

VENTILATION REQUIREMENTS.....: Local exhaust should be used to maintain levels below the TLV whenever MDI is processed, heated or spray applied. Standard reference sources regarding industrial ventilation (ie., ACGIH Industrial Ventilation) should be consulted for guidance about adequate ventilation.

MONITORING.....: Isocyanate exposure levels must be monitored. Monitoring of airborne isocyanates in the breathing zone of individuals should become part of the overall employee exposure characterization program. Monitoring techniques have been developed by NIOSH, and OSHA. Upon request, Bayer Corporation can make available methods which are modifications of these NIOSH and OSHA methods.

MEDICAL SURVEILLANCE.....: Medical supervision of all employees who handle or come in contact with isocyanates is recommended. These should include preemployment and periodic medical examinations with pulmonary function tests (FEV₁, FVC as a minimum). Persons with asthmatic-type conditions, chronic bronchitis, other chronic respiratory diseases or recurrent skin eczema or sensitization should be excluded from working with isocyanates. Once a person is diagnosed as sensitized to an isocyanate, no further exposure can be permitted.

ADDITIONAL PROTECTIVE MEASURES.....: Safety showers and eyewash stations should be available. Educate and train employees in safe use of product. Follow all label instructions. For additional information, contact Bayer Product Safety Department for Polymers.

VIII. REACTIVITY DATA:

STABILITY.....: This is a stable material.

HAZARDOUS POLYMERIZATION....: May occur; Contact with moisture, other materials which react with isocyanates, or temperatures above 400 F (204 C), may cause polymerization.

INCOMPATIBILITIES.....: Water, amines, strong bases, alcohols. Will cause some corrosion to copper alloys and aluminum.

INSTABILITY CONDITIONS.....: Contamination with water.

DECOMPOSITION PRODUCTS.....: By high heat and fire: carbon monoxide, oxides of nitrogen, traces of HCN, MDI vapors or aerosols.

IX. SPILL AND LEAK PROCEDURES:

SPILL OR LEAK PROCEDURES....: Evacuate and ventilate spill area; dike spill to prevent entry into water system; wear full protective equipment, including respiratory equipment during clean-up. (See Section VII). Major Spill: Call Bayer Corporation at 412/923-1800. If transportation spill, call

Product Code: C-590
Approval date: 01/01/95

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Continued on next page

IX. SPILL AND LEAK PROCEDURES (Continued)

CHEMTREC 800/424-9300. If temporary control of isocyanate vapor is required, a blanket of protein foam (available at most fire departments) may be placed over the spill. Large quantities may be pumped into closed, but not sealed, container for disposal. Minor Spill: Absorb isocyanates with sawdust or other absorbent, shovel into suitable unsealed containers, transport to well-ventilated area (outside) and treat with neutralizing solution: mixture of water (80%) with non-ionic surfactant Tergitol TMN-10 (20%), or; water (90%), concentrated ammonia (3-8%) and detergent (2%). Add about 10 parts of neutralizer per part of isocyanate, with mixing. Allow to stand uncovered for 48 hours to let CO2 escape. Clean-up: Decontaminate floor with decontamination solution letting stand for at least 15 minutes.

WASTE DISPOSAL METHOD.....: Waste must be disposed of in accordance with federal, state, and local environmental control regulations. Incineration is the preferred method.

EMPTY CONTAINER PRECAUTIONS.: Empty containers must be handled with care due to product residue. Decontaminate containers prior to disposal. Empty decontaminated containers should be crushed to prevent reuse. **DO NOT HEAT OR CUT EMPTY CONTAINER WITH ELECTRIC OR GAS TORCH.** (See Sections IV and VIII). Gases may be highly toxic.

TRANSPORTATION EMERGENCIES.: Bayer Corporation requires that CHEMTREC be immediately notified (800-424-9300) when this product is unintentionally released from its container during its course of distribution, regardless of the amount released. Distribution includes transportation, storage incidental to transportation, loading and unloading. Such notification must be immediate and made by the person having knowledge of the release.

X. SPECIAL PRECAUTIONS & STORAGE DATA:

STORAGE TEMPERATURE(MIN/MAX): Ambient/Ambient

SHELF LIFE.....: 6 months

SPECIAL SENSITIVITY.....: If container is exposed to high heat, 400 F (204 C) it can be pressurized and possibly rupture. MDI reacts slowly with water to form CO2 gas. This gas can cause sealed containers to expand and possibly rupture.

HANDLING/STORAGE PRECAUTIONS: Store in tightly closed containers to prevent moisture contamination. Do not reseal if contamination is suspected. Avoid contact with skin and eyes. Do not breathe aerosols or vapors. Warning properties (irritation of the eyes, nose and throat or odor) are not adequate to prevent chronic overexposure from inhalation. This material can produce asthmatic sensitization upon either single inhalation exposure to a relatively high concentration or upon repeated inhalation exposures to lower concentrations. Exposure to vapors of heated MDI can be extremely dangerous. Employee education and training in the safe use and handling of this compound are required under the OSHA Hazard Communication Standard.

Product Code: C-590
Approval date: 01/01/95

MSDS Page 6
Continued on next page

XI. SHIPPING INFORMATION:

TECHNICAL SHIPPING NAME.....: Diphenylmethane Diisocyanate (MDI) Solution
FREIGHT CLASS BULK.....: Diphenylmethane-4,4'-Diisocyanate
FREIGHT CLASS PACKAGE.....: Chemicals, NOI (Isocyanate), NMFC 60000
PRODUCT LABEL.....: Product Label Established

DOT (HM-181) (DOMESTIC SURFACE)

HAZARD CLASS OR DIVISION: Non-Regulated

IMO / IMDG CODE (OCEAN)

HAZARD CLASS DIVISION NUMBER...: Non-Regulated

ICAO / IATA (AIR)

HAZARD CLASS DIVISION NUMBER...: Non-Regulated

XII. ANIMAL TOXICITY DATA:

TOXICITY DATA FOR: Diphenylmethane Diisocyanate (Monomeric and Polymeric)
ACUTE TOXICITY

ORAL LD50.....: Greater than 15,800 mg/kg (Rats)

DERMAL LD50.....: Greater than 7,900 mg/kg (Rabbits)

INHALATION LC50.....: Approximately 370-490 mg/m³ for an aerosol of polymeric MDI (Rat 4 Hr.). An LC50 (2 hr.) of greater than 400 mg/m³ was determined on a dust of monomeric MDI (Rat).

EYE EFFECTS.....: Slightly irritating. A maximum primary eye irritation score for a polymeric MDI of 12.0/110 (24 hr.) was obtained. This score is fairly typical for a number of MDI products.

SKIN EFFECTS.....: Slight to moderate irritant. Primary dermal irritation scores are typically below 3.4/8.0 (Draize).

SENSITIZATION.....: MDI has been shown to produce dermal sensitization in several species (guinea pigs, mice, rabbits and dogs). Intradermal or topical application followed by inhalation challenge have resulted in a respiratory sensitization response in guinea pigs. In addition, there is some evidence to suggest that cross-sensitization between different types of diisocyanates may occur.

CHRONIC TOXICITY.....: In a chronic inhalation exposure study, rats were exposed to an aerosol of polymeric MDI for 6 hours per day, 5 days per week for a period for two years. The exposure concentrations were 0, 0.2, 1.0 and 6.0 mg/m³. Microscopic examination of tissues revealed the effects of irritation to the nasal cavity and lungs in animals exposed to 1.0 and 6.0 mg/m³. The No Observable Effect Level (NOEL) was 0.2 mg/m³.

Product Code: C-590
Approval date: 01/01/95

MSDS Page 7
Continued on next page

XII. ANIMAL TOXICITY DATA (Continued)

CARCINOGENICITY.....: In the same two year inhalation study described above (See CHRONIC TOXICITY), the occurrence of pulmonary adenomas (benign tumors) and a single pulmonary adenocarcinoma (malignant tumor) was considered to be related to the exposure. These tumors were observed only in rats exposed to the high concentration of 6.0 mg/m3.

MUTAGENICITY.....: Monomeric MDI is positive in the Ames assay (with hepatic microsomal activation). However, it was negative in an in vivo-invitro micronucleus assay.

AQUATIC TOXICITY.....: LC50 - 24 hr. (static): Greater than 500 mg/liter for Daphnia magna, Limnea stagnalis, and Zebra fish (Brachydanio rerio) for both polymeric and monomeric MDI.

XIII. FEDERAL REGULATORY INFORMATION:

OSHA STATUS.....: This product is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200.

TSCA STATUS.....: On TSCA Inventory

CERCLA REPORTABLE QUANTITY...: 1 lb for 4,4'-Diphenylmethane Diisocyanate, CAS# 101-68-8.

SARA TITLE III:

SECTION 302 EXTREMELY

HAZARDOUS SUBSTANCES...: None

SECTION 311/312

HAZARD CATEGORIES.....: Immediate Health Hazard; Delayed Health Hazard; Reactive Hazard

SECTION 313

TOXIC CHEMICALS.....: 4,4'-Diphenylmethane Diisocyanate CAS# 101-68-8; Upper Bound 10%

RCRA STATUS.....: MDI is not listed as a hazardous waste. To the best of our knowledge, MDI does not meet the criteria of a hazardous waste if discarded in its purchased form. However, under RCRA, it is the responsibility of the user of products to determine, at the time of disposal, whether a product meets any of the criteria for a hazardous waste. This is because product uses, transformations, mixtures, processes, etc., may render the resulting material hazardous, under the criteria of ignitability, corrosivity, reactivity and EP toxicity (40 Code of Federal Regulations 261.20-24).

XV. APPROVALS:

REASON FOR ISSUE.....: Revising Section XI of MSDS - DOT, IATA, and IMO.
MDI is going from Regulated to Non-Regulated shipping status.
PREPARED BY.....: G. L. Copeland
APPROVED BY.....: J. H. Chapman
APPROVAL DATE.....: 01/01/95
SUPERSEDES DATE.....: 07/18/94
MSDS NUMBER.....: 03115

This information is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of Bayer Corporation. The data on this sheet relates only to the specific material designated herein. Bayer Corporation assumes no legal responsibility for use or reliance upon these data.

Product Code: C-590
Approval date: 01/01/95

MSDS Page 10
Last page

CALIFORNIA CHEMICAL INVENTORY FORM - DESCRIPTION PAGE

FORM 3

(1) ADD DELETE REVISE NO CHANGE

PAGE (2) 8 OF 3 46

BUSINESS NAME (4) ELASCO INC
 CHEMICAL LOCATION (5) 11377 MARKON DR. GARDEN GROVE, CA 92841
 MAP # (if more than one) (6) 1 GRID # (7) C-D,2-5;D-H,3-4

CHEMICAL NAME (8) MDI PREPOLYMER
 COMMON NAME (9) ELASTOTHANE E100
 CAS # (10) 101-68-8
 FIRE CODE HAZARD CLASSES (13) 14, 3(C3B)

TRADE SECRET (11) Y N
 AHM/*EHS (12) Y N

*IF EHS BOX IS "Y"
 ALL AMOUNTS MUST BE IN LBS

TYPE
 PHYSICAL STATE
 FED HAZARD CATEGORIES
 STATE WASTE CODE
 DAYS ON SITE
 LARGEST CONTAINER
 STORAGE CONTAINER
 PRESSURE STORAGE
 STORAGE TEMPERATURE
 (29) % WT

*COMPLETE BLOCK (13) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.
 CHECK IF RADIOACTIVE (15) (16)

(14) PURE MIXTURE WASTE
 (17) SOLID LIQUID GAS

(18) FIRE REACTIVE PRESSURE RELEASE ACUTE HEALTH CHRONIC HEALTH

(19) UNITS (22) GAL CU FT LBS TONS
 MAX DAILY AMT (23)
 (20) *If EHS, amounts must be in lbs. AVG DAILY AMT (24)
 (21) ANNUAL WASTE AMT (25)

(26) ABOVE GROUND TANK - INSIDE CAN BOX(S) TANK WAGON
 UNDER GROUND TANK CARBOY CYLINDER RAIL CAR
 TANK INSIDE BUILDING SILO GLASS CONTAINER
 STEEL DRUM FIBER DRUM PLASTIC CONTAINER Other
 PLASTIC/NONMETALLIC DRUM BAG(S) IN MACHINERY OR EQUIP.

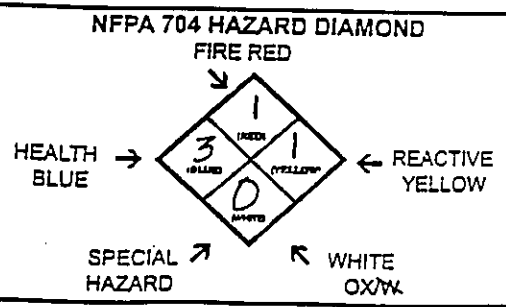
(27) AMBIENT ABOVE AMBIENT BELOW AMBIENT
 (28) AMBIENT ABOVE AMBIENT BELOW AMBIENT CRYOGENIC

1. < 15
 2.
 3.

(30) HAZARDOUS COMPONENTS	(31) EHS/AHM	(32) CAS #
Methyl Di phenyl Isocyanate	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	101-6868
	<input type="checkbox"/> Y <input type="checkbox"/> N	
	<input type="checkbox"/> Y <input type="checkbox"/> N	

(33) ADDITIONAL LOCALLY COLLECTED INFORMATION
 *COMPLETE BLOCK (33) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.

NFPA CLASSIFICATION
 UN/DOT # _____ Refer to shipping papers or MSDS
 DOT HAZARD CLASS _____ Refer to shipping papers or MSDS
 UFC HAZARD CLASS _____



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CALIFORNIA CHEMICAL INVENTORY FORM - DESCRIPTION PAGE

FORM 3

(1) ADD. DELETE REVISE NO CHANGE

PAGE (2) 14 OF 3) 46

BUSINESS NAME (4) ELASCO INC
 CHEMICAL LOCATION (Address, Area, Building, etc.) (5) 11377 MARKON DR. GARDEN GROVE, CA 92841
 MAP # (if more than one) (6) 1 GRID # (7) C-D,2-5;D-H,3-4

CHEMICAL NAME (8) MDI PREPOLYMER
 COMMON NAME (9) ELASTOTHANE E960
 CAS # (10) 101-68-8
 FIRE CODE HAZARD CLASSES* (13) 14, 3(C3B)

TRADE SECRET (11) Y N
 AHM / *EHS (12) Y N
 *IF EHS BOX IS "Y"
 ALL AMOUNTS MUST BE IN LBS

TYPE
 PHYSICAL STATE
 FED HAZARD CATEGORIES
 STATE WASTE CODE
 DAYS ON SITE
 LARGEST CONTAINER
 STORAGE CONTAINER
 PRESSURE STORAGE
 STORAGE TEMPERATURE
 (29) % WT

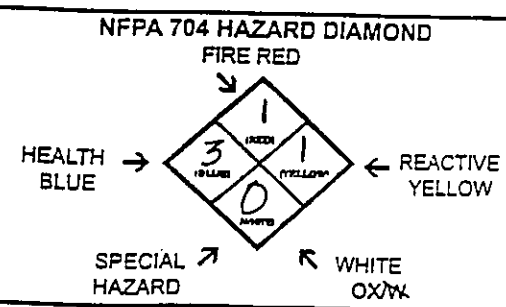
*COMPLETE BLOCK (13) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.
 (14) PURE MIXTURE WASTE CHECK IF RADIOACTIVE (15) (16) _____
 (17) SOLID LIQUID GAS CURIES _____
 (18) FIRE REACTIVE PRESSURE RELEASE ACUTE HEALTH CHRONIC HEALTH
 (19) UNITS (22) GAL CU FT LBS TONS MAX DAILY AMT (23) _____
 (20) *If EHS, amounts must be in lbs. AVG DAILY AMT (24) _____
 (21) ANNUAL WASTE AMT (25) _____
 (26) ABOVE GROUND TANK - INSIDE CAN BOX(S) TANK WAGON
 UNDER GROUND TANK CARBOY CYLINDER RAIL CAR
 TANK INSIDE BUILDING SILO GLASS CONTAINER
 STEEL DRUM FIBER DRUM PLASTIC CONTAINER Other
 PLASTIC/NONMETALLIC DRUM BAG(S) IN MACHINERY OR EQUIP.
 (27) AMBIENT ABOVE AMBIENT BELOW AMBIENT
 (28) AMBIENT ABOVE AMBIENT BELOW AMBIENT CRYOGENIC

1. < 15
 2.
 3.

(30) HAZARDOUS COMPONENTS	(31) EHS/AHM	(32) CAS #
Methyl Di phenyl Isocyanate	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	101-6868
	<input type="checkbox"/> Y <input type="checkbox"/> N	
	<input type="checkbox"/> Y <input type="checkbox"/> N	

(33) ADDITIONAL LOCALLY COLLECTED INFORMATION
 *COMPLETE BLOCK (33) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.

NFPA CLASSIFICATION _____
 UN/DOT # _____ Refer to shipping papers or MSDS
 DOT HAZARD CLASS _____ Refer to shipping papers or MSDS
 UFC HAZARD CLASS _____



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CALIFORNIA CHEMICAL INVENTORY FORM - DESCRIPTION PAGE

FORM 3

(1) ADD DELETE REVISE NO CHANGE

PAGE (2) 13 OF 3) 46

BUSINESS NAME (4) ELASCO INC
 CHEMICAL LOCATION (5) 11377 MARKON DR. GARDEN GROVE, CA 92841
 MAP # (if more than one) (6) 1 GRID # (7) C-D,2-5;D-H,3-4

CHEMICAL NAME (8) MDI PREPOLYMER
 COMMON NAME (9) ELASTOTHANE E955
 CAS # (10) 101-68-8
 FIRE CODE HAZARD CLASSES* (13) 14, 3(C3B)

TRADE SECRET (11) Y N
 AHM / *EHS (12) Y N
 *IF EHS BOX IS "Y"
 ALL AMOUNTS MUST BE IN LBS

TYPE
 PHYSICAL STATE
 FED HAZARD CATEGORIES
 STATE WASTE CODE
 DAYS ON SITE
 LARGEST CONTAINER
 STORAGE CONTAINER
 PRESSURE STORAGE
 STORAGE TEMPERATURE
 (29) % WT

*COMPLETE BLOCK (13) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.
 (14) PURE MIXTURE WASTE CHECK IF RADIOACTIVE (15) (16) _____
 (17) SOLID LIQUID GAS CURIES _____
 (18) FIRE REACTIVE PRESSURE RELEASE ACUTE HEALTH CHRONIC HEALTH
 (19) UNITS (22) GAL CU FT LBS TONS MAX DAILY AMT (23) _____
 (20) *If EHS, amounts must be in lbs. AVG DAILY AMT (24) _____
 (21) ANNUAL WASTE AMT (25) _____
 (26) ABOVE GROUND TANK - INSIDE CAN BOX(S) TANK WAGON
 UNDER GROUND TANK CARBOY CYLINDER RAIL CAR
 TANK INSIDE BUILDING SILO GLASS CONTAINER
 STEEL DRUM FIBER DRUM PLASTIC CONTAINER Other
 PLASTIC/NONMETALLIC DRUM BAG(S) IN MACHINERY OR EQUIP.
 (27) AMBIENT ABOVE AMBIENT BELOW AMBIENT
 (28) AMBIENT ABOVE AMBIENT BELOW AMBIENT CRYOGENIC

1. < 15
 2.
 3.

(30) HAZARDOUS COMPONENTS	(31) EHS/AHM	(32) CAS #
Methyl Di phenyl Isocyanate	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	101-6868
	<input type="checkbox"/> Y <input type="checkbox"/> N	
	<input type="checkbox"/> Y <input type="checkbox"/> N	

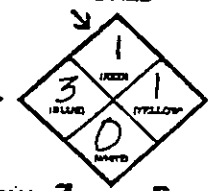
(33) ADDITIONAL LOCALLY COLLECTED INFORMATION
 *COMPLETE BLOCK (33) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.

NFPA CLASSIFICATION _____

UN/DOT # _____ Refer to shipping papers or MSDS

DOT HAZARD CLASS _____ Refer to shipping papers or MSDS

UFC HAZARD CLASS _____

NFPA 704 HAZARD DIAMOND
 FIRE RED
 HEALTH BLUE →  ← REACTIVE YELLOW
 SPECIAL HAZARD ↗ WHITE OX/WX ↖

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CALIFORNIA CHEMICAL INVENTORY FORM - DESCRIPTION PAGE

FORM 3

(1) ADD DELETE REVISE NO CHANGE

PAGE (2) 12 OF 3) 46

BUSINESS NAME (4) ELASCO INC
 CHEMICAL LOCATION (5) 11377 MARKON DR. GARDEN GROVE, CA 92841
 MAP # (if more than one) (6) 1 GRID # (7) C-D, 2-5; D-H, 3-4

CHEMICAL NAME (8) MDI PREPOLYMER
 COMMON NAME (9) ELASTOTHANE E906
 CAS # (10) 101-68-8
 FIRE CODE HAZARD CLASSES (13) 14, 3(C3B)
 TRADE SECRET (11) Y N
 AHM / *EHS (12) Y N
 *IF EHS BOX IS "Y" ALL AMOUNTS MUST BE IN LBS

*COMPLETE BLOCK (13) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.
 (14) PURE MIXTURE WASTE CHECK IF RADIOACTIVE (15) (16) _____
 (17) SOLID LIQUID GAS CURIES _____
 (18) FIRE REACTIVE PRESSURE RELEASE ACUTE HEALTH CHRONIC HEALTH
 (19) _____ UNITS (22) GAL CU FT
 (20) _____ *If EHS, amounts must be in lbs. MAX DAILY AMT (23) _____
 (21) _____ AVG DAILY AMT (24) _____
 (25) _____ ANNUAL WASTE AMT (25) _____
 (26) ABOVE GROUND TANK - INSIDE CAN BOX(S) TANK WAGON
 UNDER GROUND TANK CARBOY CYLINDER RAIL CAR
 TANK INSIDE BUILDING SILO GLASS CONTAINER
 STEEL DRUM FIBER DRUM PLASTIC CONTAINER Other
 PLASTIC/NONMETALLIC DRUM BAG(S) IN MACHINERY OR EQUIP.
 (27) AMBIENT ABOVE AMBIENT BELOW AMBIENT
 (28) AMBIENT ABOVE AMBIENT BELOW AMBIENT CRYOGENIC

(29) % WT

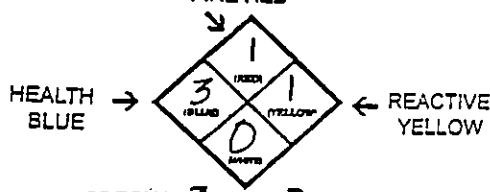
1.	< 15
2.	
3.	

(30) HAZARDOUS COMPONENTS (31) EHS/AHM (32) CAS #

Methyl Di phenyl Isocyanate	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	101-6868
	<input type="checkbox"/> Y <input type="checkbox"/> N	
	<input type="checkbox"/> Y <input type="checkbox"/> N	

(33) ADDITIONAL LOCALLY COLLECTED INFORMATION
 *COMPLETE BLOCK (33) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.

NFPA CLASSIFICATION _____
 UN/DOT # _____ Refer to shipping papers or MSDS
 DOT HAZARD CLASS _____ Refer to shipping papers or MSDS
 UFC HAZARD CLASS _____

NFPA 704 HAZARD DIAMOND
 FIRE RED
 HEALTH BLUE →  ← REACTIVE YELLOW
 SPECIAL HAZARD ↗ WHITE OX/W. ↖

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CALIFORNIA CHEMICAL INVENTORY FORM - DESCRIPTION PAGE

FORM 3

(1) ADD. DELETE REVISE NO CHANGE

PAGE (2) 10 OF 3) 46

BUSINESS NAME (4) ELASCO INC
 CHEMICAL LOCATION (5) 11377 MARKON DR. GARDEN GROVE, CA 92841
 MAP # (if more than one) (6) 1 GRID # (7) C-D,2-5;D-H,3-4

CHEMICAL NAME (8) MDI PREPOLYMER
 COMMON NAME (9) ELASTOTHANE E187
 CAS # (10) 101-68-8
 FIRE CODE HAZARD CLASSES (13) 14, 3(C3B)

TRADE SECRET (11) Y N
 AHM/EHS (12) Y N
 *IF EHS BOX IS "Y" ALL AMOUNTS MUST BE IN LBS

TYPE
 PHYSICAL STATE
 FED HAZARD CATEGORIES
 STATE WASTE CODE
 DAYS ON SITE
 LARGEST CONTAINER
 STORAGE CONTAINER
 PRESSURE STORAGE
 STORAGE TEMPERATURE
 (29) % WT

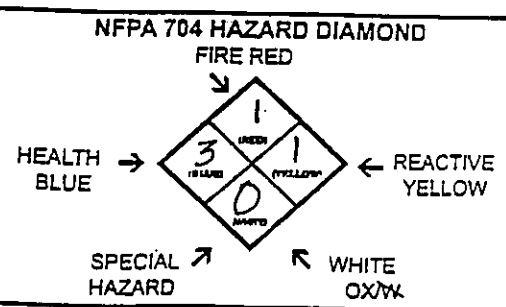
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 (14) PURE MIXTURE WASTE CHECK IF RADIOACTIVE (15) (16)
 (17) SOLID LIQUID GAS CURIES
 (18) FIRE REACTIVE PRESSURE RELEASE ACUTE HEALTH CHRONIC HEALTH
 (19) UNITS (22) GAL CU FT LBS TONS MAX DAILY AMT (23)
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 (21) ANNUAL WASTE AMT (25)
 (26) ABOVE GROUND TANK - INSIDE CAN BOX(S) TANK WAGON
 UNDER GROUND TANK CARBOY CYLINDER RAIL CAR
 TANK INSIDE BUILDING SILO GLASS CONTAINER
 STEEL DRUM FIBER DRUM PLASTIC CONTAINER Other
 PLASTIC/NONMETALLIC DRUM BAG(S) IN MACHINERY OR EQUIP.
 (27) AMBIENT ABOVE AMBIENT BELOW AMBIENT
 (28) AMBIENT ABOVE AMBIENT BELOW AMBIENT CRYOGENIC

1. < 15
2.
3.

(30) HAZARDOUS COMPONENTS	(31) EHS/AHM	(32) CAS #
Methyl Di phenyl Isocyanate	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	101-6868
	<input type="checkbox"/> Y <input type="checkbox"/> N	
	<input type="checkbox"/> Y <input type="checkbox"/> N	

(33) ADDITIONAL LOCALLY COLLECTED INFORMATION
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NFPA CLASSIFICATION
 UN/DOT # _____ Refer to shipping papers or MSDS
 DOT HAZARD CLASS _____ Refer to shipping papers or MSDS
 UFC HAZARD CLASS _____



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CALIFORNIA CHEMICAL INVENTORY FORM - DESCRIPTION PAGE

FORM 3

(1) ADD DELETE REVISE NO CHANGE

PAGE (2) 9 OF 3) 46

BUSINESS NAME (4) ELASCO INC
 CHEMICAL LOCATION (5) 11377 MARKON DR. GARDEN GROVE, CA 92841
 MAP # (if more than one) (6) 1 GRID # (7) C-D,2-5;D-H,3-4

CHEMICAL NAME (8) MDI PREPOLYMER
 COMMON NAME (9) ELASTOTHANE E110
 CAS # (10) 101-68-8
 FIRE CODE HAZARD CLASSES* (11) 14, 3(C3B)

TRADE SECRET (11) Y N
 AHM/*EHS (12) Y N
 *IF EHS BOX IS "Y"
 ALL AMOUNTS MUST BE IN LBS

TYPE
 PHYSICAL STATE
 FED HAZARD CATEGORIES
 STATE WASTE CODE
 DAYS ON SITE
 LARGEST CONTAINER
 STORAGE CONTAINER
 PRESSURE STORAGE
 STORAGE TEMPERATURE
 (29) % WT

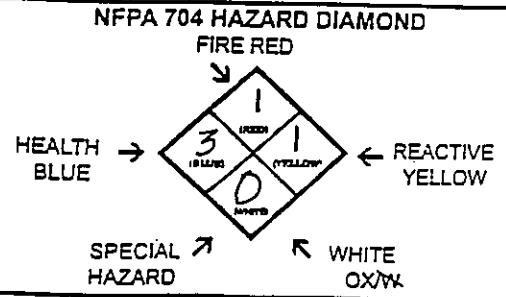
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 (14) PURE MIXTURE WASTE CHECK IF RADIOACTIVE (15) (16) _____
 (17) SOLID LIQUID GAS CURIES _____
 (18) FIRE REACTIVE PRESSURE RELEASE ACUTE HEALTH CHRONIC HEALTH
 (19) UNITS (22) GAL CU FT LBS TONS MAX DAILY AMT (23) _____
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 UNDER GROUND TANK CARBOY CYLINDER RAIL CAR
 TANK INSIDE BUILDING SILO GLASS CONTAINER
 STEEL DRUM FIBER DRUM PLASTIC CONTAINER Other
 PLASTIC/NONMETALLIC DRUM BAG(S) IN MACHINERY OR EQUIP.
 (27) AMBIENT ABOVE AMBIENT BELOW AMBIENT
 (28) AMBIENT ABOVE AMBIENT BELOW AMBIENT CRYOGENIC

1. < 15
 2.
 3.

(30) HAZARDOUS COMPONENTS	(31) EHS/AHM	(32) CAS #
Methyl Di phenyl Isocyanate	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	101-6868
	<input type="checkbox"/> Y <input type="checkbox"/> N	
	<input type="checkbox"/> Y <input type="checkbox"/> N	

(33) ADDITIONAL LOCALLY COLLECTED INFORMATION
 *COMPLETE BLOCK (33) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.

NFPA CLASSIFICATION _____
 UN/DOT # _____ Refer to shipping papers or MSDS
 DOT HAZARD CLASS _____ Refer to shipping papers or MSDS
 UFC HAZARD CLASS _____



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CALIFORNIA CHEMICAL INVENTORY FORM - DESCRIPTION PAGE

FORM 3

(1) ADD DELETE REVISE NO CHANGE

PAGE (2) 18 OF (3) 46

BUSINESS NAME (4) ELASCO INC
 CHEMICAL LOCATION (Address, Area, Building, etc.) (5) 11377 MARKON DR. GARDEN GROVE, CA 92841
 MAP # (if more than one) (6) 1 GRID # (7) C-D, 2-5; D-H, 3-4

CHEMICAL NAME (8) MDI PREPOLYMER TRADE SECRET (11) Y N
 COMMON NAME (9) ELASTOTHANE F995 AHM/*EHS (12) Y N
 CAS # (10) 101-68-8
 FIRE CODE HAZARD CLASSES* (13) 14, 3(C3B)
 *IF EHS BOX IS "Y" ALL AMOUNTS MUST BE IN LBS

TYPE
 PHYSICAL STATE
 FED HAZARD CATEGORIES
 STATE WASTE CODE
 DAYS ON SITE
 LARGEST CONTAINER
 STORAGE CONTAINER
 PRESSURE STORAGE
 STORAGE TEMPERATURE
 (29) % WT

*COMPLETE BLOCK (13) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.
 (14) PURE MIXTURE WASTE CHECK IF RADIOACTIVE (15) (16) _____
 (17) SOLID LIQUID GAS CURIES _____
 (18) FIRE REACTIVE PRESSURE RELEASE ACUTE HEALTH CHRONIC HEALTH
 (19) UNITS (22) GAL CU FT LBS TONS MAX DAILY AMT (23) _____
 (20) *If EHS, amounts must be in lbs. AVG DAILY AMT (24) _____
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 STEEL DRUM FIBER DRUM PLASTIC CONTAINER Other
 PLASTIC/NONMETALLIC DRUM BAG(S) IN MACHINERY OR EQUIP.
 (27) AMBIENT ABOVE AMBIENT BELOW AMBIENT
 (28) AMBIENT ABOVE AMBIENT BELOW AMBIENT CRYOGENIC

1. < 15
 2. _____
 3. _____

(30) HAZARDOUS COMPONENTS	(31) EHS/AHM	(32) CAS #
<u>Methyl Di phenyl Isocyanate</u>	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	<u>101-6868</u>
	<input type="checkbox"/> Y <input type="checkbox"/> N	
	<input type="checkbox"/> Y <input type="checkbox"/> N	

(33) **ADDITIONAL LOCALLY COLLECTED INFORMATION**
 *COMPLETE BLOCK (33) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.

NFPA CLASSIFICATION _____
 UN/DOT # _____ Refer to shipping papers or MSDS
 DOT HAZARD CLASS _____ Refer to shipping papers or MSDS
 UFC HAZARD CLASS _____

NFPA 704 HAZARD DIAMOND
 FIRE RED

HEALTH BLUE → 3
 FIRE RED 1
 REACTIVE YELLOW ← 1
 SPECIAL HAZARD ↗ 0 ↖ WHITE OX/TK

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CALIFORNIA CHEMICAL INVENTORY FORM - DESCRIPTION PAGE

FORM 3

(1) ADD DELETE REVISE NO CHANGE

PAGE (2) 16 OF (3) 46

BUSINESS NAME (4) ELASCO INC
 CHEMICAL LOCATION (5) 11377 MARKON DR. GARDEN GROVE, CA 92841
 MAP # (if more than one) (6) 1 GRID # (7) C-D, 2-5; D-H, 3-4

CHEMICAL NAME (8) MDI PREPOLYMER TRADE SECRET (11) Y N
 COMMON NAME (9) ELASTOTHANE E970 AHM / EHS (12) Y N
 CAS # (10) 101-68-8
 FIRE CODE HAZARD CLASSES* (13) 14, 3(C3B)

*IF EHS BOX IS "Y"
ALL AMOUNTS MUST BE IN LBS

TYPE
 PHYSICAL STATE
 FED HAZARD CATEGORIES
 STATE WASTE CODE
 DAYS ON SITE
 LARGEST CONTAINER
 STORAGE CONTAINER
 PRESSURE STORAGE
 STORAGE TEMPERATURE
 (29) % WT

*COMPLETE BLOCK (13) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.

(14) PURE MIXTURE WASTE CHECK IF RADIOACTIVE (15) (16) _____
 (17) SOLID LIQUID GAS CURIES _____
 (18) FIRE REACTIVE PRESSURE RELEASE ACUTE HEALTH CHRONIC HEALTH
 (19) UNITS (22) GAL CU FT LBS TONS MAX DAILY AMT (23) _____
 (20) *If EHS, amounts must be in lbs. AVG DAILY AMT (24) _____
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 (26) ABOVE GROUND TANK - INSIDE CAN BOX(S) TANK WAGON
 UNDER GROUND TANK CARBOY CYLINDER RAIL CAR
 TANK INSIDE BUILDING SILO GLASS CONTAINER
 STEEL DRUM FIBER DRUM PLASTIC CONTAINER Other
 PLASTIC/NONMETALLIC DRUM BAG(S) IN MACHINERY OR EQUIP.
 (27) AMBIENT ABOVE AMBIENT BELOW AMBIENT
 (28) AMBIENT ABOVE AMBIENT BELOW AMBIENT CRYOGENIC

1. <u>< 15</u>
2.
3.

(30) HAZARDOUS COMPONENTS	(31) EHS/AHM	(32) CAS #
<u>Methyl Di phenyl Isocyanate</u>	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	<u>101-6868</u>
	<input type="checkbox"/> Y <input type="checkbox"/> N	
	<input type="checkbox"/> Y <input type="checkbox"/> N	

(33) **ADDITIONAL LOCALLY COLLECTED INFORMATION**
 *COMPLETE BLOCK (33) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.

NFPA CLASSIFICATION _____ NFPA 704 HAZARD DIAMOND FIRE RED

UN/DOT # _____ Refer to shipping papers or MSDS

DOT HAZARD CLASS _____ Refer to shipping papers or MSDS

UFC HAZARD CLASS _____

HEALTH BLUE → 1 (HEALTH) 1 (REACTIVE) ← REACTIVE YELLOW
 SPECIAL HAZARD ↗ 0 (SPECIAL HAZARD) ↘ WHITE OX/WX

MAKE AS MANY COPIES OF CHEMICAL INVENTORY FORM AS NEEDED

CALIFORNIA CHEMICAL INVENTORY FORM - DESCRIPTION PAGE

FORM 3

(1) ADD DELETE REVISE NO CHANGE

PAGE (2) 6 OF (3) 46

BUSINESS NAME (4) ELASCO INC
 CHEMICAL LOCATION (Address, Area, Building, etc.) (5) 11377 MARKON DR. GARDEN GROVE, CA 92841
 MAP # (if more than one) (6) 1 GRID # (7) C-D,2-5;D-H,3-4

CHEMICAL NAME (8) MDI PREPOLYMER
 COMMON NAME (9) VIBRATHANE B908
 CAS # (10) 101-68-8
 FIRE CODE HAZARD CLASSES* (13) 14, 3(C3B)

TRADE SECRET (11) Y N
 AHM / EHS (12) Y N
 *IF EHS BOX IS "Y" ALL AMOUNTS MUST BE IN LBS

*COMPLETE BLOCK (13) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.

TYPE (14) PURE MIXTURE WASTE
 PHYSICAL STATE (17) SOLID LIQUID GAS
 FED HAZARD CATEGORIES (18) FIRE REACTIVE PRESSURE RELEASE ACUTE HEALTH CHRONIC HEALTH
 STATE WASTE CODE (19) _____
 DAYS ON SITE (20) _____
 LARGEST CONTAINER (21) _____
 STORAGE CONTAINER (26) _____
 PRESSURE STORAGE (27) AMBIENT ABOVE AMBIENT BELOW AMBIENT
 STORAGE TEMPERATURE (28) AMBIENT ABOVE AMBIENT BELOW AMBIENT CRYOGENIC
 (29) % WT

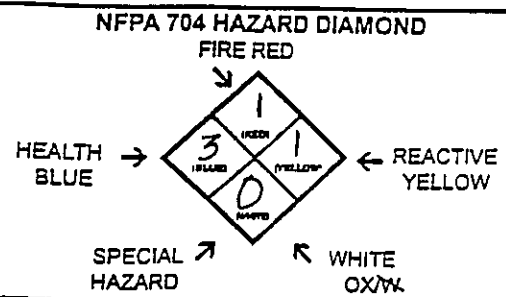
CHECK IF RADIOACTIVE (15) (16) _____
 CURIES (18) _____
 UNITS (22) GAL CU FT LBS TONS MAX DAILY AMT (23) _____
 *If EHS, amounts must be in lbs. AVG DAILY AMT (24) _____
 ANNUAL WASTE AMT (25) _____
 (26) ABOVE GROUND TANK - INSIDE CAN BOX(S) TANK WAGON
 UNDER GROUND TANK CARBOY CYLINDER RAIL CAR
 TANK INSIDE BUILDING SILO GLASS CONTAINER
 STEEL DRUM FIBER DRUM PLASTIC CONTAINER Other
 PLASTIC/NONMETALLIC DRUM BAG(S) IN MACHINERY OR EQUIP.

1. < 15
 2. _____
 3. _____

(30) HAZARDOUS COMPONENTS	(31) EHS/AHM	(32) CAS #
Methyl Di phenyl Isocyanate	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	101-6868
	<input type="checkbox"/> Y <input type="checkbox"/> N	
	<input type="checkbox"/> Y <input type="checkbox"/> N	

(33) **ADDITIONAL LOCALLY COLLECTED INFORMATION**
 *COMPLETE BLOCK (33) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.

NFPA CLASSIFICATION _____
 UN/DOT # _____
Refer to shipping papers or MSDS
 DOT HAZARD CLASS _____
Refer to shipping papers or MSDS
 UFC HAZARD CLASS _____



MAKE AS MANY COPIES OF CHEMICAL INVENTORY FORM AS NEEDED

CALIFORNIA CHEMICAL INVENTORY FORM - DESCRIPTION PAGE

(1) ADD DELETE REVISE NO CHANGE

PAGE (2) 26 OF (3) 46

BUSINESS NAME (4) ELASCO INC
 CHEMICAL LOCATION (5) (Address, Area, Building, etc.) 11377 MARKON DR. GARDEN GROVE, CA 92841
 MAP # (if more than one) (6) 1 GRID # (7) C-D, 2-5; D-H, 3-4

CHEMICAL NAME (8) 1,4 BUTANEDIOL TRADE SECRET (11) Y N
 COMMON NAME (9) 1,4 BDO AHM / *EHS (12) Y N
 CAS # (10) 110-63-4
 FIRE CODE HAZARD CLASSES* (13) 14, 3 (C3B), IRRITANT
 *IF EHS BOX IS "Y" ALL AMOUNTS MUST BE IN LBS

TYPE (14) PURE MIXTURE WASTE CHECK IF RADIOACTIVE (15) (16) _____
 PHYSICAL STATE (17) SOLID LIQUID GAS CURIES _____
 FED HAZARD CATEGORIES (18) FIRE REACTIVE PRESSURE RELEASE ACUTE HEALTH CHRONIC HEALTH
 STATE WASTE CODE (19) _____ UNITS (22) GAL CU FT LBS TONS MAX DAILY AMT (23) _____
 DAYS ON SITE (20) _____ *If EHS, amounts must be in lbs. AVG DAILY AMT (24) _____
 LARGEST CONTAINER (21) _____ ANNUAL WASTE AMT (25) _____
 STORAGE CONTAINER (26) ABOVE GROUND TANK - INSIDE CAN BOX(S) TANK WAGON
 UNDER GROUND TANK CARBOY CYLINDER RAIL CAR
 TANK INSIDE BUILDING SILO GLASS CONTAINER
 STEEL DRUM FIBER DRUM PLASTIC CONTAINER Other
 PLASTIC/NONMETALLIC DRUM BAG(S) IN MACHINERY OR EQUIP.
 PRESSURE STORAGE (27) AMBIENT ABOVE AMBIENT BELOW AMBIENT
 STORAGE TEMPERATURE (28) AMBIENT ABOVE AMBIENT BELOW AMBIENT CRYOGENIC

(29) % WT	(30) HAZARDOUS COMPONENTS	(31) EHS/AHM	(32) CAS #
1.		<input type="checkbox"/> Y <input type="checkbox"/> N	
2.		<input type="checkbox"/> Y <input type="checkbox"/> N	
3.		<input type="checkbox"/> Y <input type="checkbox"/> N	

(33) ADDITIONAL LOCALLY COLLECTED INFORMATION
 *COMPLETE BLOCK (33) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.

NFPA CLASSIFICATION _____

UN/DOT # _____ Refer to shipping papers or MSDS

DOT HAZARD CLASS _____ Refer to shipping papers or MSDS

UFC HAZARD CLASS _____

NFPA 704 HAZARD DIAMOND

HEALTH BLUE → 2 (BLUE) ← REACTIVE YELLOW 0
 FIRE RED 1 (RED) ← WHITE OX/WX 0
 SPECIAL HAZARD 0 (WHITE)

MAKE AS MANY COPIES OF CHEMICAL INVENTORY FORM AS NEEDED



Du Pont Chemicals

2731CR

Revised 27-MAY-1993

Printed 6-FEB-1995

1,4-BUTANEDIOL

CHEMICAL PRODUCT/COMPANY IDENTIFICATION

Material Identification

Corporate MSDS Number	DU000281
CAS Number	110-63-4
Formula	HO(CH ₂) ₄ -OH
Molecular Weight	90.12
CAS Name	1,4-BUTANEDIOL

Tradenames and Synonyms

BDO
 1,4-BD
 4G
 1,4-DIHYDROXYBUTANE
 1,4-TETRAMETHYLENE GLYCOL
 1,4-BUTYLENE GLYCOL

Company Identification

MANUFACTURER/DISTRIBUTOR
 DuPont
 1007 Market Street
 Wilmington, DE 19898

PHONE NUMBERS

Product Information	1-800-441-9442
Transport Emergency	CHEMTREC: 1-800-424-9300
Medical Emergency	1-800-441-3637

COMPOSITION/INFORMATION ON INGREDIENTS

Components

Material	CAS Number	%
1,4-BUTANEDIOL	110-63-4	100

(Continued)

HAZARDS IDENTIFICATION

Potential Health Effects

Causes skin and eye irritation. Gross overexposure by ingestion may cause kidney damage or death.

HUMAN HEALTH EFFECTS:

Skin contact may cause skin irritation with discomfort or rash. Eye contact may cause eye irritation with discomfort, tearing, or blurring of vision. Ingestion may cause temporary nervous system depression with anesthetic effects such as dizziness, headache, confusion, incoordination, and loss of consciousness. Gross overexposure by ingestion may cause kidney damage.

Individuals with preexisting diseases of the central nervous system, or possibly the kidneys, may have increased susceptibility to the toxicity of excessive exposures.

Carcinogenicity Information

None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, OSHA or ACGIH as a carcinogen.

FIRST AID MEASURES

First Aid

INHALATION

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

SKIN CONTACT

Flush skin with water after contact. Wash contaminated clothing before reuse.

EYE CONTACT

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

INGESTION

If swallowed, do not induce vomiting. Immediately give two glasses of water or activated charcoal slurry. Never give anything by mouth to an unconscious person. Call a physician.

NOTE:

To prepare activated charcoal slurry, suspend 50 grams activated charcoal in 400 mL of water and mix thoroughly. Give 5 mL/kg of body weight, or 350 mL for an average adult.

(Continued)

FIRE FIGHTING MEASURES

Flammable Properties

Flash Point 155 C (311 F)
Method COC
Autoignition 355 C (671 F)

Flammable Limits in Air, % by Volume

LEL: None at room temperature
UEL: None at room temperature

Fire and Explosion Hazards:

Product must be preheated for ignition to occur.

Extinguishing Media

Water, Foam, Dry Chemical, CO2, Sand.

Dirt.

Fire Fighting Instructions

Use water spray to cool tanks or drums exposed to fire. Evacuate area and keep personnel upwind. Wear self-contained breathing apparatus.

ACCIDENTAL RELEASE MEASURES

Safeguards (Personnel)

NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

Accidental Release Measures

Dike spill. If liquid, soak up with noncombustible absorbant and transfer to covered containers or, if solid, sweep up and shovel into covered containers for recovery or disposal. Flush spill area with water. Comply with Federal, State, and local regulations on reporting releases.

HANDLING AND STORAGE

Handling (Personnel)

Avoid contact with eyes or skin. Wash thoroughly after handling.

Storage

Keep away from heat, sparks, and flame. Do not store with powerful inorganic oxidants, such as nitric acid or hydrogen peroxide. Keep containers tightly closed. Limit steam pressure for heating tank cars, tank trucks, and storage tanks to 40 psig to avoid possibility of overheating.

(Continued)

EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls

Use sufficient ventilation to keep employee exposure below recommended limits.

Personal Protective Equipment

EYE/FACE PROTECTION

Wear safety glasses or coverall chemical splash goggles.

RESPIRATOR

A NIOSH/MSHA approved air purifying respirator with a dust/mist cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air-purifying respirators is limited. Use a positive pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection.

PROTECTIVE CLOTHING

Wear impervious clothing, such as gloves, apron, boots, or whole bodysuit as appropriate. If there is potential for contact with hot/molten material, wear heat resistant impervious clothing and footwear.

Exposure Guidelines

Exposure Limits

1,4-BUTANEDIOL

PEL (OSHA)

None Established

TLV (ACGIH)

None Established

AEL * (Du Pont)

30 ppm, 8 & 12 Hr. TWA

* AEL is Du Pont's Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits which are lower than the AEL are in effect, such limits shall take precedence.

PHYSICAL AND CHEMICAL PROPERTIES

Physical Data

Boiling Point	228 C (442 F) @ 760 mm Hg
Vapor Pressure	<1 mm Hg @ 37.7 C (99.9 F)
Vapor Density	3.2 (Air = 1)
Melting Point	19-20 C (66-68 F)
Evaporation Rate	(Butyl Acetate = 1) Less than 1
Solubility in Water	100 WT%
pH	Neutral
Odor	Odorless
Form	Oily liquid/crystalline solid depending on room temperature
Color	Colorless liquid to white solid
Specific Gravity	1.0

(Continued)

STABILITY AND REACTIVITY

Chemical Stability

Unstable with heat.

Flammable tetrahydrofuran (THF) begins to form at about 150 C (302 F).

Incompatibility with Other Materials

Incompatible with powerful inorganic oxidizers, such as concentrated nitric acid or strong hydrogen peroxide.

Decomposition

Will not occur, except as above.

Polymerization

Polymerization will not occur.

TOXICOLOGICAL INFORMATION

Animal Data

Inhalation 4-hour ALC: 15 mg/L in rats

Skin absorption LD50 : >5,000 mg/kg in rats

Oral LD50 : 1,780 mg/kg in rats

The compound is a slight skin and eye irritant, but is not a skin sensitizer in animals. Toxic effects described in animals from exposure by ingestion of a single dose include narcosis, constriction of the pupils, and death due to central nervous system paralysis. Repeated administration of 0.5% of the compound in the drinking water of rats resulted in nonspecific effects such as weight loss. By inhalation, rats exposed to 0.2 or 1.1 mg/L showed no compound-related effects. At 5.2 mg/L, the animals had lower body weights, hematological and clinical chemical changes, and thymic alterations. The compound does not produce genetic damage in bacterial cell cultures.

ECOLOGICAL INFORMATION

Ecotoxicological Information

AQUATIC TOXICITY:

96 hour LC50 - Fathead minnows: 33,000 mg/L

DISPOSAL CONSIDERATIONS

Waste Disposal

Comply with Federal, State, and local regulations. If approved, drain to chemical sewer or flush to waste water treatment system.

(Continued)

TRANSPORTATION INFORMATION**Shipping Information**
Shipping ContainersTank Cars.
Tank Trucks.Drums
Bottles1,4-BUTANEDIOL IS NOT REGULATED AS A HAZARDOUS MATERIAL BY
DOT OR IMO.

REGULATORY INFORMATION**U.S. Federal Regulations**

TSCA Inventory Status Reported/Included.

TITLE III HAZARD CLASSIFICATIONS SECTIONS 311, 312

Acute : Yes
Chronic : No
Fire : No
Reactivity : No
Pressure : No

LISTS:

SARA Extremely Hazardous Substance -No
CERCLA Hazardous Material -No
SARA Toxic Chemical -No

CANADIAN WHMIS CLASSIFICATION:

Class D Division 2 Subdivision B - Toxic Material
Skin or eye irritant.

OTHER INFORMATION**NFPA, NPCA-HMIS**NFPA Rating
Health 1
Flammability 1
Reactivity 0NPCA-HMIS Rating
Health 1
Flammability 1
Reactivity 0Personal Protection rating to be supplied by user depending on use
conditions.**Additional Information**For further information, see the DuPont 1,4-Butanediol
Data Sheet.

(Continued)

The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

Responsibility for MSDS DuPont Chemicals
Address Engineering & Product Safety
 P. O. Box 80709, Chestnut Run
 Wilmington, DE 19880-0709
Telephone 302-999-4946

Indicates updated section.

End of MSDS

013-G2456

FORMREZ G-2456

Witco

HAZ MAT # 6
OCT 20 1992 RECD

WITCO MATERIAL SAFETY DATA SHEET

Formrez G24-56

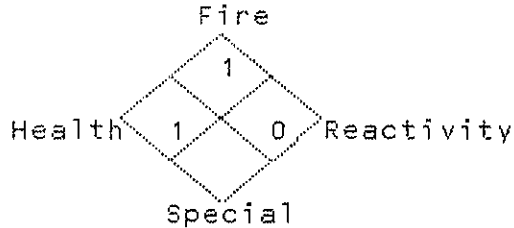
PAGE 1

Product Code: 081 0576

CAS NO: 26570-73-0

NFPA HAZARD RATINGS

4	-	Extreme
3	-	High
2	-	Moderate
1	-	Slight
0	-	Insignificant



HMIS HAZARD INDEX

Hazardous Materials Identification System	4 - Severe
	3 - Serious
	2 - Moderate
	1 - Slight
	0 - Minimal

HMIS RATINGS

Health.....	1
Flammability.....	1
Reactivity.....	0
Personal protection.....	C*

*See last page for Code Table.

DIVISION AND LOCATION---SECTION I

Division: ORGANICS

Location: HOUSTON, TX

3200 BROOKFIELD ST., HOUSTON, TX, 77045

Emergency Telephone Number: 713-433-7281 (Day) 908-826-6600 (Night)

Transportation Emergency: CHEMTREC 1-(800) 424-9300 (U.S. and Canada)

CHEMICAL AND PHYSICAL PROPERTIES---SECTION II

Chemical Name:

polyester

Formula: no data available

Hazardous Decomposition Products:

carbon monoxide and carbon dioxide from burning.

Incompatibility (Keep away from):

strong oxidizers such as hydrogen peroxide, bromine, and chromic acid.

Toxic and Hazardous Ingredients:

none

Form: liquid

Odor: bland

Appearance: viscous liquid

Color: gardner 1

Specific Gravity (water=1): 1.08 to 1.12

Boiling Point: greater than 200°C

Melting Point: no data available

Solubility in Water (by weight %): insoluble at 25°C

Volatile (by weight %): not applicable

Evaporation Rate: not applicable

Vapor Pressure (mm Hg at 20°C): less than 1

Vapor Density (air=1): no data available

pH (as is): no data available

(Continued on next page)

Witco

WITCO MATERIAL SAFETY DATA SHEET

Formrez G24-56

PAGE 2

Product Code: 081 0576

(Section II continued)

Stability: Product is stable under normal conditions

Viscosity SUS at 100°F: greater than 100

=====

FIRE AND EXPLOSION DATA---SECTION III

=====

Special Fire Fighting Procedures:

Firefighters must be equipped to prevent breathing of vapors or products of combustion. Wear an approved self-contained breathing apparatus and protective clothing.

Unusual Fire and Explosion Hazards:

none

Flashpoint: (Method Used) Cleveland open cup greater than 200°F

Flammable limits %: not applicable

Extinguishing agents:

Drychemical or Waterspray or Waterfog or CO₂ or Foam or Sand/Earth

=====

HEALTH HAZARD DATA---SECTION IV

=====

Permissible concentrations (air):

not applicable

Chronic effects of overexposure:

no data available

Acute toxicological properties:

no data available

Emergency First Aid Procedures:

Eyes: Immediately flush with large quantities of water for at least 15 minutes and call a physician.

Skin Contact: Flush with large amounts of water for 15 minutes.

Inhalation: not applicable

If Swallowed: Call a physician.

=====

SPECIAL PROTECTION INFORMATION---SECTION V

=====

Ventilation Type Required (Local,mechanical,special):

mechanical

Respiratory Protection (Specify type):

not applicable

Protective Gloves:

rubber or plastic, solvent resistant

Eye Protection:

chemical safety goggles

Other Protective Equipment:

neoprene protective type apron.

(Continued on next page)

Witco

WITCO MATERIAL SAFETY DATA SHEET

Formrez G24-56

PAGE 3

Product Code: 081 0576

HANDLING OF SPILLS OR LEAKS---SECTION VI

Procedures for Clean-Up:

Absorb with an inert material such as sand, soil or vermiculite; sweep up and dispose of in accordance with federal, state and local regulations.

Waste Disposal:

Dispose of in accordance with all applicable federal, state and local regulations.

SPECIAL PRECAUTIONS---SECTION VII

Precautions to be taken in handling and storage:

Store between 40° F and 120° F.

Container should be kept closed to avoid contamination.

TRANSPORTATION DATA---SECTION VIII

O.T.: Not Regulated

Reportable Quantity: not applicable

Freight Classification: Plastic material O/T expanded, synthetic resin liquid

Special Transportation Notes:

none

ENVIRONMENTAL/SAFETY REGULATIONS---SECTION IX

Section 313 (Title III Superfund Amendment and Reauthorization Act):

This product does not contain any chemical subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

COMMENTS

PENNSYLVANIA WORKER AND COMMUNITY RIGHT TO KNOW ACT: This product does not contain any ingredient(s) listed in Appendix A Hazardous Substance List.

This product contains the following ingredients at 3% concentration or

(Continued on next page)

Witco

WITCO MATERIAL SAFETY DATA SHEET

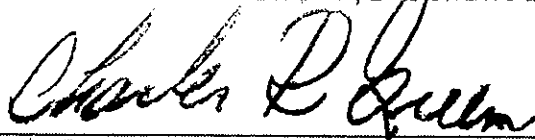
Formrez G24-56

PAGE 4

Product Code: 081 0576

(COMMENTS continued)

greater:
hexanedioic acid, polymer with 1,4-butanediol and 1,2-ethanediol
26570-73-0



Prepared by: Charles Green
Title: Divisional Manager-Government Regs.
Original Date: _____ Sent to: _____
Revision Date: 02/09/90 _____
Supersedes: _____
Date Sent: _____

We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind, express or implied, and we assume no responsibility for any loss, damage, or expense, direct or consequential, arising out of their use.

- *****
LETTER DESIGNATIONS OF PERSONAL PROTECTIVE EQUIPMENT *
* Safety Glasses.....A *
* Safety Glasses, Gloves.....B *
* Safety Glasses, Gloves, Synthetic Apron.....C *
* Face Shield, Gloves, Synthetic Apron.....D *
* Safety Glasses, Gloves, Dust Respirator.....E *
* Safety Glasses, Gloves, Synthetic Apron, Dust Respirator.....F *
* Safety Glasses, Gloves, Vapor Respirator.....G *
* Splash Goggles, Gloves, Synthetic Apron, Vapor Respirator.....H *
* Safety Glasses, Gloves, Combination Dust and Vapor Respirator.....I *
* Splash Goggles, Gloves, Synthetic Apron, Combination Dust and Vapor Respirator.....J *
* Airline Hood or Mask, Gloves, Full Protective Suit, Boots.....K *
* Situations Requiring Specialized Handling.....X *

CALIFORNIA CHEMICAL INVENTORY FORM - DESCRIPTION PAGE

(1) ADD DELETE REVISE NO CHANGE

PAGE (2) 28 OF 3) 46

BUSINESS NAME (4) ELASCO INC
 CHEMICAL LOCATION (5) (Address, Area, Building, etc.) 11377 MARKON DR. GARDEN GROVE, CA 92841
 MAP # (if more than one) (6) 1 GRID # (7) C-D, 2-5; D-H, 3-4

CHEMICAL NAME (8) TRIMETHYL PROPANE TRADE SECRET (11) Y N
 COMMON NAME (9) TMP AHM / *EHS (12) Y N
 CAS # (10) 110-63-4
 FIRE CODE HAZARD CLASSES* (13) 14, 3 (C3B)
 *IF EHS BOX IS "Y" ALL AMOUNTS MUST BE IN LBS

*COMPLETE BLOCK (13) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.

TYPE (14) PURE MIXTURE WASTE CHECK IF RADIOACTIVE (15) (16) _____
 PHYSICAL STATE (17) SOLID LIQUID GAS CURIES _____
 FED HAZARD CATEGORIES (18) FIRE REACTIVE PRESSURE RELEASE ACUTE HEALTH CHRONIC HEALTH
 STATE WASTE CODE ** (19) _____ UNITS (22) GAL CU FT LBS TONS MAX DAILY AMT (23) _____
 DAYS ON SITE (20) _____ *If EHS, amounts must be in lbs. AVG DAILY AMT (24) _____
 LARGEST CONTAINER (21) _____ ANNUAL WASTE AMT (25) _____
 STORAGE CONTAINER (26) ABOVE GROUND TANK - INSIDE CAN BOX(S) TANK WAGON
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 TANK INSIDE BUILDING SILO GLASS CONTAINER
 STEEL DRUM FIBER DRUM PLASTIC CONTAINER Other
 PLASTIC/NONMETALLIC DRUM BAG(S) IN MACHINERY OR EQUIP.
 PRESSURE STORAGE (27) AMBIENT ABOVE AMBIENT BELOW AMBIENT
 STORAGE TEMPERATURE (28) AMBIENT ABOVE AMBIENT BELOW AMBIENT CRYOGENIC
 (29) % WT _____

- 1.
- 2.
- 3.

(30) HAZARDOUS COMPONENTS	(31) EHS/AHM	(32) CAS #
	<input type="checkbox"/> Y <input type="checkbox"/> N	
	<input type="checkbox"/> Y <input type="checkbox"/> N	
	<input type="checkbox"/> Y <input type="checkbox"/> N	

(33) **ADDITIONAL LOCALLY COLLECTED INFORMATION**
 *COMPLETE BLOCK (33) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.

NFPA CLASSIFICATION

UN/DOT # _____ Refer to shipping papers or MSDS

DOT HAZARD CLASS _____ Refer to shipping papers or MSDS

UFC HAZARD CLASS _____

NFPA 704 HAZARD DIAMOND FIRE RED

HEALTH BLUE → 1 (BLUE) 0 (YELLOW) ← REACTIVE YELLOW

SPECIAL HAZARD ↗ 0 (WHITE) ↖ 0 (WHITE) OX/TK

010-TMP
TRIMETHYLOPROPANE

HAZ MAT
11

Hoechst Celanese

Chemical Group
Hoechst Celanese Corporation
P.O. Box 569320 / Dallas, Texas 75356-9320
Information phone: 214 689 4000
* Emergency phone: 800 424 9300 (CHEMTREC)

APR 21 REC'D
1992

TRIMETHYLOPROPANE,
FLAKE

TMP

Issued February 16, 1990

#91

Identification

Product name: Trimethylolpropane flake
Chemical name: Trimethylolpropane
Chemical family: Polyol
Formula: $\text{CH}_3\text{CH}_2\text{C}(\text{CH}_2\text{OH})_3$
Molecular weight: 134
CAS number: 77-99-6

CAS name: 1,3-Propanediol,
2-ethyl-2-(hydroxymethyl)

Synonyms: 1,3-Propanediol,
2-ethyl-2-(hydroxymethyl)

Department of Transportation information
Shipping name: Trimethylolpropane
Hazard classification: Not regulated
United Nations number: None assigned
Emergency Response Guide no.: None assigned

Physical data

Boiling point (760 mm Hg): 289°C
(552°F)
Freezing point: 58.8°C (138°F)
Bulk density: 35.3-38.5 lb/cu ft
Vapor pressure (20°C): <1 mm Hg
Solubility in water (% by WT @ 20°C):
Complete
Appearance and odor: White, waxy,
odorless flakes.

Hazardous ingredients

Trimethylolpropane, >98.5%

Fire and explosion
hazard data

Flammable limits in air, % by volume:
Not applicable

Flash point (test method):
Cleveland open cup (ASTM D92): 355°F
(179°C)

Extinguishing media:
Use CO₂ or dry chemical for small fires,
alcohol-type aqueous film-forming foam
or water spray for large fires.

Special fire-fighting procedures:

* If potential for exposure to vapors
or products of combustion exists,
wear complete personal protective
equipment and respirator approved
by both NIOSH and MSHA:

Component information (See Glossary at end of MSDS for definitions)⁽¹⁾

Component, wt. % (CAS number)	Exposure levels			Subject to SARA §313 reporting?
	OSHA PEL TWA	ACGIH TLV* TWA	IDLH	
* Trimethylolpropane, 98% (77-99-6)	15 mg/m ³ , total dust; 5 mg/m ³ , respirable fraction	10 mg/m ³ , total dust ⁽²⁾	NVE ⁽³⁾	No

(1) All components listed as required by federal, California, New Jersey and Pennsylvania regulations.
(2) Hoechst Celanese has adopted the ACGIH TLV.
(3) No value established.

Self-contained breathing apparatus
with full facepiece operated in pressure
demand or other positive pressure
mode.

Supplied-air respirator with full
facepiece and operated in pressure-
demand or other positive pressure
mode in combination with an auxiliary
self-contained breathing apparatus
operated in pressure-demand or other
positive pressure mode.

Water spray can be used to reduce
intensity of flames and to dilute spills
to nonflammable mixture. Use water
spray to cool fire-exposed structures
and vessels.

Unusual fire and explosion hazards:
Can form an explosive organic dust
cloud. Do not use compressed air to
transfer this material.

Reactivity data

Stability:
Stable

Hazardous polymerization:
Will not occur.

Conditions to avoid:
Flame.

Materials to avoid:
Nitric acid; oxygen, hydrogen peroxide
and other strong oxidizing agents.

Hazardous combustion or
decomposition products:
Carbon monoxide.

Health data

Effects of exposure/toxicity data

Acute
Ingestion (swallowing): Practically non-toxic
to animals (oral LD₅₀, rats: 14 g/kg).
Inhalation (breathing): No information
regarding toxicity to animals by
inhalation.
Skin contact: Essentially non-irritating.
Slightly toxic to animals by absorption
(dermal LD₅₀, rabbits: >10 g/kg).
Eye contact: Essentially non-irritating.

Chronic
* Mutagenicity: *In vitro*, does not show
mutagenic potential in Ames test.
In vivo, no information.
Carcinogenicity: No information.
Reproduction: No information.

* Medical conditions aggravated by
exposure:
Significant exposure to this chemical
may adversely affect people with
chronic disease of the respiratory
system, skin and/or eyes.

(continued)

Special hazard
designations

	HMS	NFPA	Key
Health:	1	1	0 - Minimal
Flammability:	1	1	1 - Slight
Reactivity:	0	0	2 - Moderate
Personal protective equipment:	G	—	3 - Serious 4 - Severe

SARA §311 hazard categories

Acute health: No
Chronic health: No
Fire: No
Sudden release of pressure: No
Reactive: No

* No revised information; previous version dated January 1, 1988.

CALIFORNIA CHEMICAL INVENTORY FORM - DESCRIPTION PAGE

(1) ADD DELETE REVISE NO CHANGE

PAGE (2) 23 OF 3) 46

BUSINESS NAME (4) ELASCO INC
 CHEMICAL LOCATION (5) (Address, Area, Building, etc.) 11377 MARKON DR. GARDEN GROVE, CA 92841
 MAP # (if more than one) (6) 1 GRID # (7) C-D, 2-5; D-H, 3-4

CHEMICAL NAME (8) Poly Tetrahydrofuran TRADE SECRET (11) Y N
 COMMON NAME (9) Terathane 1000/2000 Polymeg 1000/2000 AHM / *EHS (12) Y N
 CAS # (10) 25190-06-01
 FIRE CODE HAZARD CLASSES* (13) 14, 3 (C3B)
 *IF EHS BOX IS "Y" ALL AMOUNTS MUST BE IN LBS

*COMPLETE BLOCK (13) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.

TYPE (14) PURE MIXTURE WASTE CHECK IF RADIOACTIVE (15) (16) _____
 PHYSICAL STATE (17) SOLID LIQUID GAS CURIES _____
 FED HAZARD CATEGORIES (18) FIRE REACTIVE PRESSURE RELEASE ACUTE HEALTH CHRONIC HEALTH
 STATE WASTE CODE (19) _____ UNITS (22) GAL CU FT LBS TONS MAX DAILY AMT (23) _____
 DAYS ON SITE (20) _____ *If EHS, amounts must be in lbs. AVG DAILY AMT (24) _____
 LARGEST CONTAINER (21) _____ ANNUAL WASTE AMT (25) _____
 STORAGE CONTAINER (26) ABOVE GROUND TANK - INSIDE CAN BOX(S) TANK WAGON
 UNDER GROUND TANK CARBOY CYLINDER RAIL CAR
 TANK INSIDE BUILDING SILO GLASS CONTAINER
 STEEL DRUM FIBER DRUM PLASTIC CONTAINER Other
 PLASTIC/NONMETALLIC DRUM BAG(S) IN MACHINERY OR EQUIP.
 PRESSURE STORAGE (27) AMBIENT ABOVE AMBIENT BELOW AMBIENT
 STORAGE TEMPERATURE (28) AMBIENT ABOVE AMBIENT BELOW AMBIENT CRYOGENIC

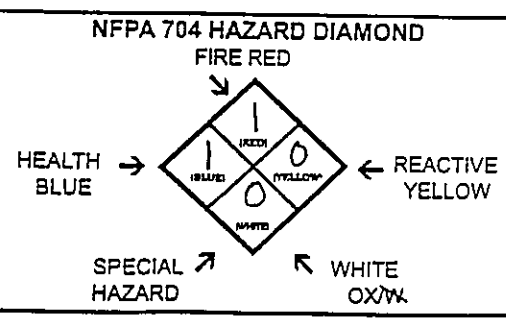
(29) % WT

1.
2.
3.

(30) HAZARDOUS COMPONENTS	(31) EHS/AHM	(32) CAS #
	<input type="checkbox"/> Y <input type="checkbox"/> N	
	<input type="checkbox"/> Y <input type="checkbox"/> N	
	<input type="checkbox"/> Y <input type="checkbox"/> N	

(33) **ADDITIONAL LOCALLY COLLECTED INFORMATION**
 *COMPLETE BLOCK (33) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.

NFPA CLASSIFICATION _____
 UN/DOT # _____ Refer to shipping papers or MSDS
 DOT HAZARD CLASS _____ Refer to shipping papers or MSDS
 UFC HAZARD CLASS _____



MAKE AS MANY COPIES OF CHEMICAL INVENTORY FORM AS NEEDED



Du Pont Chemicals

6037CR

Revised 26-MAR-1993

Printed 6-FEB-1995

"TERATHANE" CL

CHEMICAL PRODUCT/COMPANY IDENTIFICATION

Material Identification

"TERATHANE" is a registered trademark of DuPont.

Corporate MSDS Number DU005949

CAS Number 31831-53-5

Grade 1,000; 2,000; 3,000

Tradenames and Synonyms

COPOLYMER OF "TERATHANE"/POLYCAPROLACTONE

Company Identification

MANUFACTURER/DISTRIBUTOR

DuPont
1007 Market Street
Wilmington, DE 19898

PHONE NUMBERS

Product Information 1-800-441-9442
Transport Emergency CHEMTREC: 1-800-424-9300
Medical Emergency 1-800-441-3637

COMPOSITION/INFORMATION ON INGREDIENTS

Components
Material

CAS Number %

31831-53-5

2-OXEPANONE, POLYMER WITH 1,4-BUTANEDIOL 100

HAZARDS IDENTIFICATION

Potential Health Effects

The health hazards of this product have not been determined but are expected to be similar to "TERATHANE" Polyether

(Continued)

HAZARDS IDENTIFICATION(Continued)

Glycol.

"TERATHANE" Polyether Glycol may cause skin and eye irritation.

HUMAN HEALTH EFFECTS:

Skin contact may cause irritation with discomfort or rash.
Eye contact may cause eye irritation with discomfort, tearing, or blurring of vision.

Carcinogenicity Information

None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, OSHA or ACGIH as a carcinogen.

FIRST AID MEASURES**# First Aid****INHALATION**

If affected by inhalation, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

SKIN CONTACT

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing. Call a physician.

EYE CONTACT

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

INGESTION

If swallowed, do not induce vomiting. Immediately give two glasses of water or activated charcoal slurry. Never give anything by mouth to an unconscious person. Call a physician.

NOTE:

To prepare activated charcoal slurry, suspend 50 grams activated charcoal in 400 mL water and mix thoroughly. Give 5 mL/kg, or 350 mL for an average adult.

FIRE FIGHTING MEASURES**# Flammable Properties**

Flash Point	199 C (390 F)
Method	OC

Autoignition and Autodecomposition Temperatures:

(Continued)

FIRE FIGHTING MEASURES(Continued)

See "Fire and Explosion Hazards" below.

Fire and Explosion Hazards:

Spills on high-surface-area materials, such as fibrous insulation, can decompose rapidly, releasing very flammable tetrahydrofuran, carbon monoxide, etc., and may ignite at temperatures as low as 100 deg C (212 deg F).

Extinguishing Media

Water, Dry Chemical.

Carbon Dioxide (CO2). Alcohol Foam.

Fire Fighting Instructions

Water spray or deluge should be used to cool spills on fibrous insulation, etc. Otherwise, fire fighting method suitable for oil fires should be used.

ACCIDENTAL RELEASE MEASURES

Safeguards (Personnel)

NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

Spill Clean Up

Shovel or sweep up.

Accidental Release Measures

Flush area with water.

HANDLING AND STORAGE

Handling (Personnel)

Avoid contact with eyes, skin, or clothing. Wash thoroughly after handling.

Storage

Do not store with strong inorganic oxidants such as nitric acid.

Absorbs moisture; keep container closed. Store at temperatures preferably over 30 deg C (86 deg F) to prevent solidification.

EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls

Normal ventilation for standard manufacturing procedures is generally adequate.

(Continued)

EXPOSURE CONTROLS/PERSONAL PROTECTION(Continued)**Personal Protective Equipment**

Wear coverall chemical splash goggles and rubber gloves.

Exposure Guidelines**Exposure Limits****"TERATHANE" CL**

PEL (OSHA)	None Established
TLV (ACGIH)	None Established

PHYSICAL AND CHEMICAL PROPERTIES**# Physical Data**

Vapor Pressure	Negligible
Vapor Density	Negligible
Melting Point	30-33 C (86-91 F)
Evaporation Rate	(Butyl Acetate = 1)
	Not volatile
Solubility in Water	Insoluble
pH	Neutral
Odor	Odorless
Form	Soft wax
Color	Colorless
Specific Gravity	1.027 @ 35C (95F)

Appearance : Opaque

STABILITY AND REACTIVITY**Incompatibility with Other Materials**

Incompatible with strong oxidizers such as nitric acid, and concentrated hydrogen peroxide.

Polymerization

Polymerization will not occur.

Other Hazards

Instability : Unstable at temperatures above about 200 deg C (390 deg F) or at temperatures as low as 100 deg C (212 deg F) when in contact with high-surface area material in the presence of air, such as fibrous insulation.

Decomposition : Can release very flammable tetrahydrofuran, carbon monoxide, and carbon dioxide. (See "Fire and Explosion Hazards" below.)

(Continued)

TOXICOLOGICAL INFORMATION

Animal Data

Inhalation 4-hour LC50: >3.4 mg/L in rats
Oral LD50 : >11,000 mg/kg in rats

"TERATHANE" Polyether Glycol is a skin irritant and a mild eye irritant. Toxic effects described in animals from exposure by inhalation or ingestion include liver enlargement. Tests in bacterial and mammalian cell cultures demonstrate no mutagenic activity.

DISPOSAL CONSIDERATIONS

Waste Disposal

Comply with Federal, State, and local regulations.

TRANSPORTATION INFORMATION

Shipping Information

Shipping Containers

55-gallon Drums

5-gallon Pails

1-gallon Sample Cans

1-quart Jars

NOT REGULATED AS A HAZARDOUS MATERIAL BY DOT OR IMO.

REGULATORY INFORMATION

U.S. Federal Regulations

TSCA Inventory Status Reported/Included.

TITLE III HAZARD CLASSIFICATIONS SECTIONS 311, 312

Acute : Yes

Chronic : No

Fire : No

Reactivity : No

Pressure : No

LISTS:

SARA Extremely Hazardous Substance	-No
CERCLA Hazardous Material	-No
SARA Toxic Chemical	-No

(Continued)

OTHER INFORMATION**NFPA, NPCA-HMIS**

NPCA-HMIS Rating
Health 1
Flammability 1
Reactivity 1

Personal Protection rating to be supplied by user depending on use conditions.

Additional Information**CAUTION:**

DO NOT USE IN MEDICAL APPLICATIONS INVOLVING PERMANENT
IMPLANTATION IN THE HUMAN BODY.

The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

Responsibility for MSDS DuPont Chemicals
Address Engineering & Product Safety
 P. O. Box 80709, Chestnut Run
 Wilmington, DE 19880-0709
Telephone 302-999-4946

Indicates updated section.

End of MSDS

Material Safety Data Sheet

Page : 1

Original Date: 03/02/1992
 Revision Date: 08/01/1997

BASF CORPORATION
 3000 CONTINENTAL DRIVE NORTH
 MOUNT OLIVE, NJ 07828
 (973) 426-4671

Emergency Telephone: (800) 424-9300 (CHEMTREC)
 (800) 832-HELP (BASF Hotline)
 BOTH NUMBERS ARE AVAILABLE DAYS, NIGHTS, WEEKENDS, & HOLIDAYS.
 SECTION 1 - PRODUCT INFORMATION

POLY THF MW 2000
 Product ID: NCI 585789
 Common Chemical Name:
 Alpha-hydro-omega-hydroxy-poly(oxy 1,4 butanediyl)
 Synonyms:
 PTHF 2000, Polytetramethylene Ether Glycol
 Molecular Formula:
 $HO(-CH(2)CH(2)CH(2)CH(2)-)_nH$
 Chemical Family: Polyether
 Molecular Wt.: 2,000.0

SECTION 2 - INGREDIENTS

Chemical Name:	CAS	Amount
Polytetrahydrofuran	25190-06-1	100.0 %
PEL/TLV NOT ESTABLISHED		

SECTION 3 - PHYSICAL PROPERTIES

Color: Colorless
 Form/Appearance: LIQUID/WAXY
 Odor: Odorless
 Specific Gravity: Typical 0.97 Low/High U.O.M.
 pH: NOT AVAILABLE
 Boiling Pt: Typical NOT AVAILABLE Low/High Deg. @ Pressure
 Freezing Pt: NOT AVAILABLE
 Decomp. Tmp: NOT AVAILABLE
 Solubility in Water Description: Insoluble
 Vapor Pressure: 1 MILLIBARS (X) 20 DEG. C XX
 Other Physical Properties:
 SOFTENING POINT: 40 C

POLY THF MW 2000
NCI 585789

SECTION 4 - FIRE AND EXPLOSION DATA

Page : 2

	Typical	Low/High	Deg.	Method
Flash Point:	246			C DIN 51376
Autoignition:	NOT AVAILABLE			
Extinguishing Media:	Use water fog, foam, CO2 or dry chemical extinguishing media.			
Fire Fighting Procedures:	Firefighters should be equipped with self-contained breathing apparatus and turn out gear.			
Unusual Hazards:	Not applicable.			

SECTION 5 - HEALTH EFFECTS

Routes of entry for solids and liquids include eye and skin contact, ingestion and inhalation. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquified gases.

Toxicology Test Data:

Rat, Oral LD50 - > 5000 MG/KG
Slightly Toxic/Practically Nontoxic
Rabbit, Primary Skin Irritation -
Nonirritating
Rabbit, Eye Irritation -
Nonirritating

Acute Overexposure Effects:

Contact with the eyes may result in moderate irritation. Prolonged or repeated skin contact may result in irritation. This Poly THF product is a waxy solid below its softening point. It is difficult to generate dusts from the product. If dusts are generated, inhalation may result in respiratory irritation.

Chronic Overexposure Effects:

There are no known chronic effects associated with this material.

First Aid Procedures - Skin:

Wash affected areas with soap and water. Remove and launder contaminated clothing before reuse. If irritation develops, get medical attention.

First Aid Procedures - Eyes:

Immediately rinse eyes with running water for 15 minutes. If irritation develops, get medical attention.

First Aid Procedures - Ingestion:

If swallowed, dilute with water and immediately induce vomiting. Never give fluids or induce vomiting if the victim is unconscious or having convulsions. Get immediate medical attention.

First Aid Procedures - Inhalation:

Move to fresh air. Aid in breathing, if necessary, and get immediate medical attention.

First Aid Procedures - Notes to Physicians:

Not applicable.

First Aid Procedures - Aggravated Medical Conditions:

No data is available which addresses medical conditions that are generally recognized as being aggravated by exposure to this product.

POLY THF MW 2000
NCI 585789

Page : 3

SECTION 5 - HEALTH EFFECTS (cont)

Please refer to Section 5 (Effects of Overexposure) for effects observed in animals.

First Aid Procedures - Special Precautions:
Not applicable.

SECTION 6 - REACTIVITY DATA

Stability Data:

Stable

Incompatibility:

No data available.

Conditions/Hazards to Avoid:

See Reactivity - Incompatibility section.

Hazardous Decomposition/Polymerization:

Hazardous Decomposition Products: No Data Available.

Polymerization: Does not occur.

Corrosive Properties:

Not corrosive.

Oxidizer Properties:

Not an oxidizer

SECTION 7 - PERSONAL PROTECTION

Clothing:

Gloves, coveralls, apron, boots as necessary to minimize contact.

Eyes:

Chemical goggles; also wear a face shield if splashing hazard exists.

Respiration:

If vapors or mists are generated, wear a NIOSH/MSHA approved organic vapor/mist respirator. If dusts are generated, wear a NIOSH/MSHA approved dust respirator.

Ventilation:

Use local exhaust to control vapors/mists.

Explosion Proofing:

See Section 4 - Fire and Explosion Data.

Other Personal Protection Data:

Eyewash fountains and safety showers must be easily accessible.

Shower after handling.

SECTION 8 - SPILL-LEAK/ENVIRONMENTAL

General:

Spills should be contained, solidified and placed in suitable containers for disposal in a licensed facility. This material is not regulated by RCRA or CERCLA ("Superfund"). Wear appropriate respiratory protection and protective clothing and provide adequate ventilation during clean-up.

Waste Disposal:

Incinerate or bury in a licensed facility. Do not discharge into waterways or sewer systems without proper authority.

Container Disposal:

Dispose of in a licensed facility. Recommend crushing or other means to prevent unauthorized reuse.

POLY THF MW 2000
NCI 585789

Page : 4

SECTION 9 - STORAGE AND HANDLING

General:

Keep container tightly closed to avoid moisture pick-up. Blanket partially filled container with dry nitrogen to prevent moisture contamination. To melt contents, heat to 70 C (158 F), until liquified and product flows nicely. Store at or above 40 C (104 F) to prevent resolidification. Avoid contact with strong acids. Agitate before use if using partial containers.

Other Storage and Handling Data:

Consult other sections of this MSDS for information on reactivity and flammability.

SECTION 10 - REGULATORY INFORMATION

TSCA Inventory Status

Listed on Inventory: YES

RCRA Haz. Waste No. :

Hazard Ratings:

HMIS

Health: 1 Fire: 0 Reactivity: 0 Special: NA

This product is not hazardous according to the OSHA Hazard Communication Standard.

SECTION 11 - TRANSPORTATION INFORMATION

DOT Proper Shipping Name:

REFER TO BASF BILL OF LADING

DOT Technical Name:

REFER TO BASF BILL OF LADING

DOT Primary Hazard Class:

REFER TO BASF BILL OF LADING

DOT Secondary Hazard Class:

REFER TO BASF BILL OF LADING

DOT Label Required:

REFER TO BASF BILL OF LADING

DOT Placard Required:

REFER TO BASF BILL OF LADING

DOT Poison Constituent:

REFER TO BASF BILL OF LADING

BASF Commodity Codes:

NA NA UN/NA Code: None E/R Guide:

Bill of Lading Description:

FOR THE MOST UP-TO-DATE D.O.T. SHIPPING DESCRIPTION, PLEASE REFER TO THE BASF BILL OF LADING!

WHILE BASF CORPORATION BELIEVES THE DATA SET FORTH HEREIN ARE ACCURATE AS THE DATE HEREOF, BASF CORPORATION MAKES NO WARRANTY WITH RESPECT THERETO AND EXPRESSINGLY DISCLAIMS ALL LIABILITY FOR RELIANCE THEREON. SUCH DATA ARE OFFERED SOLELY FOR CONSIDERATION, INVESTIGATION, AND VERIFICATION.

BASF Corporation

BASF

POLY THF MW 2000
NCI 585789

Page : 5
SECTION 11 - TRANSPORTATION INFORMATION (cont)

END OF DATA SHEET

Material Safety Data Sheet

Page : 1

Original Date: 03/02/1992

Revision Date: 01/21/1998

BASF CORPORATION
3000 CONTINENTAL DRIVE NORTH

MOUNT OLIVE, NJ 07828
(973) 426-4671

EMERGENCY TELEPHONE: (800) 924-9300 CHEMTREC
(800) 832-HELP (BASF Hotline)
BOTH NUMBERS ARE AVAILABLE DAYS, NIGHTS, WEEKENDS, & HOLIDAYS.

SECTION 1 - PRODUCT INFORMATION

POLY THF MW 1000

Product ID: NCI 585788

Common Chemical Name:

Alpha-hydro-omega-hydroxy-poly(oxy 1,4 butanediyl)

Synonyms:

PTHF 1000, Polytetramethylene Ether Glycol

Molecular Formula:

HO(-CH(2)CH(2)CH(2)CH(2)-)nH

Chemical Family: Polyether

Molecular Wt.: 1,000.0

SECTION 2 - INGREDIENTS

Chemical Name:	CAS	Amount
Polytetrahydrofuran	25190-06-1	100.0 %
PEL/TLV NOT ESTABLISHED		

SECTION 3 - PHYSICAL PROPERTIES

Color:	Colorless			
Form/Appearance:	LIQUID/WAXY			
Odor:	Odorless			
Specific Gravity:	Typical	Low/High	U.O.M.	
pH:	0.97			
Boiling Pt:	NOT AVAILABLE	Low/High	Deg.	@ Pressure
Freezing Pt:	NOT AVAILABLE			
Decomp. Imp:	NOT AVAILABLE			
Solubility in Water Description:	Insoluble			
Vapor Pressure:	1	MILLIBARS (X	20	DEG. C XX
Other Physical Properties:	SOFTENING POINT: 26 C			

POLY THF MW 1000
NCI 585788

Page : 2

SECTION 4 - FIRE AND EXPLOSION DATA

	Typical	Low/High	Deg.	Method
Flash Point:	240			C DIN 51376
Autoignition:	NOT AVAILABLE			
Extinguishing Media:	Use water fog, foam, CO2 or dry chemical extinguishing media.			
Fire Fighting Procedures:	Firefighters should be equipped with self-contained breathing apparatus and turn out gear.			
Unusual Hazards:	Not applicable.			

SECTION 5 - HEALTH EFFECTS

Routes of entry for solids and liquids include eye and skin contact, ingestion and inhalation. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquified gases.

Toxicology Test Data:

Rat, Oral LD50 - > 5000 MG/KG
Slightly Toxic/Practically Nontoxic
Rabbit, Primary Skin Irritation -
Nonirritating
Rabbit, Eye Irritation -
Nonirritating

Acute Overexposure Effects:

Contact with the eyes may result in moderate irritation. Prolonged or repeated skin contact may result in irritation. This Poly THF product is a waxy solid below its softening point. It is difficult to generate dusts from the product. If dusts are generated, inhalation may result in respiratory irritation.

Chronic Overexposure Effects:

There are no known chronic effects associated with this material.

First Aid Procedures - Skin:

Wash affected areas with soap and water. Remove and launder contaminated clothing before reuse. If irritation develops, get medical attention.

First Aid Procedures - Eyes:

Immediately rinse eyes with running water for 15 minutes. If irritation develops, get medical attention.

First Aid Procedures - Ingestion:

If swallowed, dilute with water and immediately induce vomiting. Never give fluids or induce vomiting if the victim is unconscious or having convulsions. Get immediate medical attention.

First Aid Procedures - Inhalation:

Move to fresh air. Aid in breathing, if necessary, and get immediate medical attention.

First Aid Procedures - Notes to Physicians:

Not applicable.

First Aid Procedures - Aggravated Medical Conditions:

No data is available which addresses medical conditions that are generally recognized as being aggravated by exposure to this product.

POLY THF MW 1000
NCI 585788

Page : 3

SECTION 5 - HEALTH EFFECTS (cont)

Please refer to the Toxicological Information section for effects observed in animals.

First Aid Procedures - Special Precautions:
Not applicable.

SECTION 6 - REACTIVITY DATA

Stability Data:

Stable

Incompatibility:

No data available.

Conditions/Hazards to Avoid:

See Reactivity - Incompatibility section.

Hazardous Decomposition/Polymerization:

Hazardous Decomposition Products: No Data Available.

Polymerization: Does not occur.

Corrosive Properties:

Not corrosive.

Oxidizer Properties:

Not an oxidizer

SECTION 7 - PERSONAL PROTECTION

Clothing:

Gloves, coveralls, apron, boots as necessary to minimize contact.

Eyes:

Chemical goggles; also wear a face shield if splashing hazard exists.

Respiration:

If vapors or mists are generated, wear a NIOSH/MSHA approved organic vapor/mist respirator. If dusts are generated, wear a NIOSH/MSHA approved dust respirator.

Ventilation:

Use local exhaust to control vapors/mists.

Explosion Proofing:

See Section 4 - Fire and Explosion Data.

Other Personal Protection Data:

Eyewash fountains and safety showers must be easily accessible.
Shower after handling.

SECTION 8 - SPILL-LEAK/ENVIRONMENTAL

General:

Spills should be contained, solidified and placed in suitable containers for disposal in a licensed facility. This material is not regulated by RCRA or CERCLA ("Superfund"). Wear appropriate respiratory protection and protective clothing and provide adequate ventilation during clean-up.

Waste Disposal:

Incinerate or bury in a licensed facility. Do not discharge into waterways or sewer systems without proper authority.

Container Disposal:

Dispose of in a licensed facility. Recommend crushing or other means to prevent unauthorized reuse.

POLY THF MW 1000
NCI 585788

Page : 4

SECTION 9 - STORAGE AND HANDLING

General:

Keep container tightly closed to avoid moisture pick-up. Blanket partially filled container with dry nitrogen to prevent moisture contamination. To melt contents, heat to 70 C (158 F), until liquified and product flows nicely. Store at or above 40 C (104 F) to prevent resolidification. Avoid contact with strong acids. Agitate before use if using partial containers.

Other Storage and Handling Data:

Consult other sections of this MSDS for information on reactivity and flammability.

SECTION 10 - REGULATORY INFORMATION

TSCA Inventory Status

Listed on Inventory: YES

RCRA Haz. Waste No .:

CERCLA: NO Reportable Qty.: (If YES)

State Regulatory Information: (By Component)

CAS: 25190-06-1

NJ/PA/MA RTK
NO

NAME: Polytetrahydrofuran

Hazard Ratings:

HMIS	Health:	Fire:	Reactivity:	Special:
1	1	0	0	NA

This product is not hazardous according to the OSHA Hazard Communication Standard.

SECTION 11 - TRANSPORTATION INFORMATION

DOT Proper Shipping Name:

N/A

DOT Technical Name:

N/A

DOT Primary Hazard Class:

N/A

DOT Secondary Hazard Class:

N/A

DOT Label Required:

N/A

DOT Placard Required:

N/A

DOT Poison Constituent:

N/A

BASF Commodity Codes: NA NA UN/NA Code: None E/R Guide:

Bill of Lading Description:

NOT REGULATED BY THE D.O.T.

"IMPORTANT: WHILE THE DESCRIPTIONS, DESIGNS, DATA AND INFORMATION CONTAINED HEREIN ARE PRESENTED IN GOOD FAITH AND BELIEVED TO BE ACCURATE, IT IS PROVIDED FOR YOUR GUIDANCE ONLY. BECAUSE MANY FACTORS

POLY THF MW 1000
NCI 585788

Page : 5

SECTION 11 - TRANSPORTATION INFORMATION (cont)

MAY AFFECT PROCESSING OR APPLICATION/USE, WE RECOMMEND THAT YOU MAKE TESTS TO DETERMINE THE SUITABILITY OF A PRODUCT FOR YOUR PARTICULAR PURPOSE PRIOR TO USE. NO WARRANTIES OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE MADE REGARDING PRODUCTS DESCRIBED OR DESIGNS, DATA OR INFORMATION SET FORTH, OR THAT THE PRODUCTS, DESIGNS, DATA OR INFORMATION MAY BE USED WITHOUT INFRINGING THE INTELLECTUAL PROPERTY RIGHTS OF OTHERS. IN NO CASE SHALL THE DESCRIPTIONS, INFORMATION, DATA OR DESIGNS PROVIDED BE CONSIDERED A PART OF OUR TERMS AND CONDITIONS OF SALE. FURTHER, YOU EXPRESSLY UNDERSTAND AND AGREE THAT THE DESCRIPTIONS, DESIGNS, DATA, AND INFORMATION FURNISHED BY BASF HEREUNDER ARE GIVEN GRATIS AND BASF ASSUMES NO OBLIGATION OR LIABILITY FOR THE DESCRIPTION, DESIGNS, DATA AND INFORMATION GIVEN OR RESULTS OBTAINED, ALL SUCH BEING GIVEN AND ACCEPTED AT YOUR RISK".

END OF DATA SHEET

CALIFORNIA CHEMICAL INVENTORY FORM - DESCRIPTION PAGE

(1) ADD DELETE REVISE NO CHANGE

PAGE (2) 29 OF 3) 46

BUSINESS NAME (4) ELASCO INC
 CHEMICAL LOCATION (5) (Address, Area, Building, etc.) 11377 MARKON DR. GARDEN GROVE, CA 92841
 MAP # (if more than one) (6) 1 GRID # (7) C-D, 2-5; D-H, 3-4

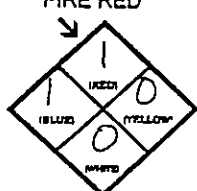
CHEMICAL NAME (8) Poly ether Poly ol Blend TRADE SECRET (11) Y N
 COMMON NAME (9) B-side AHM / *EHS (12) Y N
 CAS # (10) 110-63-4
 FIRE CODE HAZARD CLASSES* (13) 14, 3 (C3B)
 *IF EHS BOX IS "Y" ALL AMOUNTS MUST BE IN LBS

TYPE (14) PURE MIXTURE WASTE CHECK IF RADIOACTIVE (15) (16) _____
 PHYSICAL STATE (17) SOLID LIQUID GAS CURIES _____
 FED HAZARD CATEGORIES (18) FIRE REACTIVE PRESSURE RELEASE ACUTE HEALTH CHRONIC HEALTH
 STATE WASTE CODE (19) _____ UNITS (22) GAL CU FT LBS TONS MAX DAILY AMT (23) _____
 DAYS ON SITE (20) _____ *if EHS, amounts must be in lbs. AVG DAILY AMT (24) _____
 LARGEST CONTAINER (21) _____ ANNUAL WASTE AMT (25) _____
 STORAGE CONTAINER (26) ABOVE GROUND TANK - INSIDE CAN BOX(S) TANK WAGON
 UNDER GROUND TANK CARBOY CYLINDER RAIL CAR
 TANK INSIDE BUILDING SILO GLASS CONTAINER
 STEEL DRUM FIBER DRUM PLASTIC CONTAINER Other
 PLASTIC/NONMETALLIC DRUM BAG(S) IN MACHINERY OR EQUIP.
 PRESSURE STORAGE (27) AMBIENT ABOVE AMBIENT BELOW AMBIENT
 STORAGE TEMPERATURE (28) AMBIENT ABOVE AMBIENT BELOW AMBIENT CRYOGENIC

(29) % WT	(30) HAZARDOUS COMPONENTS	(31) EHS/AHM	(32) CAS #
1.		<input type="checkbox"/> Y <input type="checkbox"/> N	
2.		<input type="checkbox"/> Y <input type="checkbox"/> N	
3.		<input type="checkbox"/> Y <input type="checkbox"/> N	

(33) **ADDITIONAL LOCALLY COLLECTED INFORMATION**
 *COMPLETE BLOCK (33) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.

NFPA CLASSIFICATION _____
 UN/DOT # _____ Refer to shipping papers or MSDS
 DOT HAZARD CLASS _____ Refer to shipping papers or MSDS
 UFC HAZARD CLASS _____

NFPA 704 HAZARD DIAMOND
 FIRE RED
 HEALTH BLUE →  ← REACTIVE YELLOW
 SPECIAL HAZARD ↗ WHITE OX/WX ↖

MAKE AS MANY COPIES OF CHEMICAL INVENTORY FORM AS NEEDED



HAZ MAT #12
#13

11377 Markon Drive • Garden Grove, CA 92641-1809
(714) 891-1795 • (800) 827-7887 • Fax: (714) 895-7031

MATERIAL SAFETY DATA SHEET

ISSUE DATE: 8-14-95

I PRODUCT IDENTIFICATION

PRODUCT NAME	B-SIDE BLEND
CHEMICAL FAMILY	POLYETHER GLYCOL
TRADE NAMES	PTMEG/BDO
CAS NUMBER	25190-06-1

II COMPONENTS

POLYETHER POLYOL/GLYCOL BLEND 100%
CONTAINS NO HAZARDOUS CHEMICALS UNDER OSHA 29 CFR 1910.1200

III PHYSICAL DATA

APPEARANCE	WAXY SOLID AT ROOM TEMPERATURE
VAPOR PRESSURE	NEGLIGIBLE
VAPOR DENSITY	NOT VOLATILE
ODOR	NONE
NFPA RATING	HEALTH 1 FLAMMABILITY 1 REACTIVITY 0
MELTING POINT	45 DEG. C.

IV HAZARDOUS REACTIVITY

INCOMPATIBILITY	INCOMPATIBLE WITH STRONG OXIDIZERS SUCH AS NITRIC ACID AND CONCENTRATED HYDROGEN PEROXIDE
DECOMPOSITION	CAN RELEASE VERY FLAMMABLE TETRAHYDROFURAN, AND CARBON MONOXIDE.
POLYMERIZATION	POLYMERIZATION WILL NOT OCCUR



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V FIRE AND EXPLOSION DATA

FLASH POINT	160 DEG. C.
FIRE HAZARDS	MUST BE HEATED TO AT LEAST 100 DEG. C. FOR IGNITION TO OCCUR
EXTINGUISHING MEDIA	WATER, FOAM, DRY CHEMICAL, CO ₂ , DIRT, SAND
SPECIAL INSTRUCTIONS	WATER SPRAY OR DELUGE SHOULD BE USED TO COOL SPILLS ON FIBROUS INSULATION, ECT. OTHERWISE, ANY FIRE FIGHTING METHOD SUITABLE FOR OIL FIRES SHOULD BE USED

VI HEALTH HAZARD INFORMATION

MAY CAUSE SKIN AND EYE IRRITATION

ANIMAL DATA

INHALATION 4 HOUR LC₅₀: >3.4 MG/L IN RATS
ORAL LD₅₀ : >11,000 MG/KG IN RATS

HUMAN HEALTH EFFECTS

OVEREXPOSURE CHARACTERIZED BY SKIN IRRITATION WITH
DISCOMFORT OR RASH, OR EYE IRRITATION WITH DISCOMFORT,
TEARING OR BLURRING OF VISION.

NONE OF THE COMPONENTS IN THIS MATERIAL ARE LIST AS A
CARCINOGEN

SAFETY PRECAUTIONS: AVOID CONTACT WITH EYES, SKIN, OR
CLOTHING. WASH THOROUGHLY AFTER HANDLING

VII FIRST AID

INHALATION

IF AFFECTED BY INHALATION, REMOVE TO FRESH AIR. IF NOT
BREATHING, GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS
DIFFICULT, GIVE OXYGEN

SKIN/EYE CONTACT

FLUSH WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES WHILE
REMOVING ANY CONTAMINATED CLOTHING. CALL A PHYSICIAN.

IF MATERIAL IS HOT, TREAT FOR THERMAL BURNS.

INGESTION

IF SWALLOWED, NO HAZARDS ARE EXPECTED, HOWEVER IF SYMPTOMS
OCCUR, CONSULT A PHYSICIAN.

VIII PERSONAL PROTECTION

GOOD VENTILATION SHOULD BE MAINTAINED AS A PRECAUTION
WEAR SAFETY GLASSES WITH SIDE SHIELDS; AND IMPERVIOUS GLOVES
USE THERMAL RESISTANT GLOVES AS NEEDED



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IX DISPOSAL INFORMATION

FOR SPILL CLEAN UP, USED APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT

FOR LARGE SPILLS, FLUSH WITH COLD WATER TO "FREEZE" MATERIAL THEN SCOOP UP.

FOR SMALL SPILLS, SOAK UP WITH SAND EARTH OR "OIL DRY"

IN ALL CASES COMPLY WITH FEDERAL, STATE AND LOCAL REGULATIONS FOR DISPOSAL AND REPORTING OF RELEASES.

X SHIPPING INFORMATION

NOT REGULATED AS A HAZARDOUS MATERIAL BY DOT OR IMO.

HAR MAT # 3



MATERIAL SAFETY DATA SHEET

BAYER CORPORATION
POLYMERS DIVISION
100 BAYER ROAD
PITTSBURGH, PA 15205
TELEPHONE : 412-777-2000

ELASCO INC
11377 MARKON DR
GARDEN GROVE CA 92641

ORDER NO. : 2457485-00
P.O. NUMBER : 15152
CUSTOMER NO : 006469-002

DATE : 04/13/95

ATTN: SAFETY DEPARTMENT

THANK YOU FOR YOUR RECENT ORDER OF:

<u>PRODUCT NAME</u>	<u>PRODUCT CODE</u>	<u>ACCOUNTING CODE</u>
MONDUR M (FUSED)	C005	0020667-000

ENCLOSED IS THE CURRENT MSDS FOR ABOVE PRODUCTS. TIMELY COMMUNICATION OF HEALTH AND SAFETY INFORMATION IN A MATERIAL SAFETY DATA SHEET (MSDS) IS AN IMPORTANT PART OF THE BAYER CORPORATION PRODUCT SAFETY PROGRAM. WE PROVIDE THIS INFORMATION TO OUR CUSTOMERS AND ENCOURAGE THEM TO BECOME FAMILIAR WITH THE CONTENT OF THE MSDS AND THE LAWS PERTAINING TO ITS USE IN THE WORKPLACE. A NEW MSDS WILL BE MAILED TO YOU AT THE TIME OF YOUR RE-ORDER IF THE ATTACHED MSDS IS REVISED.

UNDER THE OSHA HAZARD COMMUNICATION STANDARD AND SOME STATE RIGHT TO KNOW LAWS, CERTAIN REQUIREMENTS RELATED TO MSDS'S MUST BE MET. DISTRIBUTORS RECEIVING THIS INFORMATION ARE OBLIGATED TO CONVEY A COPY OF THE MSDS TO THEIR CUSTOMERS AND AFFILIATES. EMPLOYERS USING THIS MATERIAL IN THEIR OPERATIONS MUST MAKE THE MSDS AVAILABLE TO ALL EMPLOYEES WORKING WITH OR OTHERWISE HANDLING THIS PRODUCT.

SHOULD YOU HAVE ANY QUESTIONS OR WISH TO DISCUSS THE CONTENT OF THE MSDS, PLEASE CALL THE RESPONSIBLE GROUP IDENTIFIED IN THE LAST SECTION OF THE MSDS.

* EFFECTIVE APRIL 1, 1995, ALL MILES INC. BUSINESS BEGAN *
* OPERATING UNDER THE CORPORATE NAME OF BAYER CORPORATION. *

ATTACHMENT



MATERIAL SAFETY DATA SHEET

MILES INC.
POLYMERS DIVISION
Mobay Road
Pittsburgh, PA 15205-9741

TRANSPORTATION EMERGENCY
CALL CHEMTREC: 800-424-9300
DISTRICT OF COLUMBIA: 202-483-7616

NON-TRANSPORTATION
MILES EMERGENCY PHONE...: (412) 923-1800
MILES INFORMATION PHONE.: (800) 662-2927

I. PRODUCT IDENTIFICATION:

PRODUCT NAME.....: Mondur M (Fused)
PRODUCT CODE.....: C-005
CHEMICAL FAMILY.....: Aromatic Isocyanate
CHEMICAL NAME.....: 1,1'-Methylenebis(4-isocyanatobenzene)
SYNONYMS.....: 4,4'-Diphenylmethane Diisocyanate (MDI); 4,4'-Methylene
Diphenylisocyanate
CAS NUMBER.....: 101-68-8
FORMULA.....: C15H10N2O2

II. HAZARDOUS INGREDIENTS:

INGREDIENT NAME /CAS NUMBER	EXPOSURE LIMITS	CONCENTRATION (%)
4,4'-Diphenylmethane Diisocyanate (MDI) 101-68-8	OSHA : .020 ppm Ceiling .200 mg/m3 Ceiling ACGIH: .005 ppm TWA .051 mg/m3 TWA	Upper Bound 99%
2,4'-Diphenylmethane Diisocyanate (MDI) 5873-54-1	OSHA : Not Established ACGIH: Not Established	Upper Bound 2%

III. PHYSICAL PROPERTIES:

PHYSICAL FORM.....: Fused Solid
COLOR.....: White to Light Yellow
ODOR.....: Slightly musty odor
MOLECULAR WEIGHT.....: 250
pH: Not Established
BOILING POINT.....: 381 F (194 C) to 390 F (199 C) @ 5 mmHg
MELTING/FREEZING POINT.....: 99 F (37 C)

V. HUMAN HEALTH DATA (Continued)

exposure to isocyanate at levels well below the TLV. These symptoms, which can include chest tightness, wheezing, cough, shortness of breath or asthma attack, could be immediate or delayed (up to several hours after exposure). Similar to many non-specific asthmatic responses, there are reports that once sensitized an individual can experience these symptoms upon exposure to dust, cold air or other irritants. This increased lung sensitivity can persist for weeks and in severe cases for several years. Overexposure to isocyanates has also been reported to cause lung damage (including decrease in lung function) which may be permanent. Sensitization can either be temporary or permanent.

ACUTE SKIN CONTACT.....: Isocyanates react with skin protein and moisture and can cause irritation which may include the following symptoms: reddening, swelling, rash, scaling or blistering. Cured material is difficult to remove.

CHRONIC SKIN CONTACT.....: Prolonged contact can cause reddening, swelling, rash, scaling, blistering, and in some cases, skin sensitization. Individuals who have skin sensitization can develop these symptoms from contact with liquid or vapors. Animal tests have indicated that respiratory sensitization can result from skin contact with MDI. This data reinforces the need to prevent direct skin contact with MDI. (See Section XII Animal Toxicity Data, SENSITIZATION.)

ACUTE EYE CONTACT.....: Liquid, aerosols or vapors are irritating and can cause tearing, reddening and swelling. If left untreated, corneal damage can occur and injury is slow to heal. However, damage is usually reversible. See Section VI for treatment.

CHRONIC EYE CONTACT.....: None Found

ACUTE INGESTION.....: Can result in irritation and corrosive action in the mouth, stomach tissue and digestive tract. Symptoms can include sore throat, abdominal pain, nausea, vomiting and diarrhea.

CHRONIC INGESTION.....: None Found

CARCINOGENICITY.....: Neither MDI nor polymeric MDI are listed by the NTP, IARC or regulated by OSHA as carcinogens.

NTP.....: Not listed

IARC.....: Not listed

OSHA.....: Not regulated

OTHER.....: See results of two year inhalation study in Section XII Animal Toxicity Data, CARCINOGENICITY.

MEDICAL CONDITIONS

AGGRAVATED BY EXPOSURE.....: Asthma, other respiratory disorders (bronchitis, emphysema, bronchial hyperreactivity), skin allergies, eczema.

EXPOSURE LIMITS.....: Exposure limits have not been established for this product. Use the exposure limits in Section II of the MSDS for MDI:
OSHA PEL: 0.02 ppm Ceiling (MDI). ACGIH TLV: 0.005 ppm (0.051 mg/m3)
Time Weighted Average (TWA).

VII. EMPLOYEE PROTECTION (Continued)

has poor warning properties, since the concentration at which MDI can be smelled is substantially higher than the maximum exposure limit. Observe OSHA regulations for respirator use (29 CFR 1910.134).

VENTILATION REQUIREMENTS.....: Local exhaust should be used to maintain levels below the TLV whenever MDI is processed, heated or spray applied. Standard reference sources regarding industrial ventilation (ie., ACGIH Industrial Ventilation) should be consulted for guidance about adequate ventilation.

MONITORING.....: Isocyanate exposure levels must be monitored. Monitoring of airborne isocyanates in the breathing zone of individuals should become part of the overall employee exposure characterization program. Monitoring techniques have been developed by NIOSH, and OSHA. Upon request, Miles Inc. can make available methods which are modifications of these NIOSH and OSHA methods.

MEDICAL SURVEILLANCE.....: Medical supervision of all employees who handle or come in contact with isocyanates is recommended. These should include preemployment and periodic medical examinations with pulmonary function tests (FEV, FVC as a minimum). Persons with asthmatic-type conditions, chronic bronchitis, other chronic respiratory diseases or recurrent skin eczema or sensitization should be excluded from working with isocyanates. Once a person is diagnosed as sensitized to an isocyanate, no further exposure can be permitted.

ADDITIONAL PROTECTIVE MEASURES.....: Safety showers and eyewash stations should be available. Educate and train employees in safe use of product. Follow all label instructions. For additional information, contact Miles Product Safety Department for Polymers.

VIII. REACTIVITY DATA:

STABILITY.....: This is a stable material.

HAZARDOUS POLYMERIZATION...: May occur; Contact with moisture, other materials which react with isocyanates, or temperatures above 400 F (204 C), may cause polymerization.

INCOMPATIBILITIES.....: Water, amines, strong bases, alcohols. Will cause some corrosion to copper alloys and aluminum.

INSTABILITY CONDITIONS.....: Contamination with water.

DECOMPOSITION PRODUCTS.....: By high heat and fire: carbon monoxide, oxides of nitrogen, traces of HCN, MDI vapors or aerosols.

IX. SPILL AND LEAK PROCEDURES:

SPILL OR LEAK PROCEDURES...: Evacuate and ventilate spill area; dike spill to prevent entry into water system; wear full protective equipment, including respiratory equipment during clean-up. (See Section VII). Major Spill: Call Miles Inc. at 412/923-1800. If transportation spill, call CHEMTREC

XI. SHIPPING INFORMATION:

TECHNICAL SHIPPING NAME.....: Diphenylmethane Diisocyanate (MDI)
FREIGHT CLASS BULK.....: Diphenylmethane-4,4'-Diisocyanate
FREIGHT CLASS PACKAGE.....: Chemicals, NOI (Isocyanate), NMFC 60000
PRODUCT LABEL.....: Product Label Established

DOT (HM-181) (DOMESTIC SURFACE)

HAZARD CLASS OR DIVISION: Non-Regulated

IMO / IMDG CODE (OCEAN)

HAZARD CLASS DIVISION NUMBER...: Non-Regulated

ICAO / IATA (AIR)

HAZARD CLASS DIVISION NUMBER...: Non-Regulated

XII. ANIMAL TOXICITY DATA:

TOXICITY DATA FOR: Diphenylmethane Diisocyanate (Monomeric and Polymeric)

ACUTE TOXICITY

ORAL LD50.....: Greater than 15,800 mg/kg (Rats)

DERMAL LD50.....: Greater than 7,900 mg/kg (Rabbits)

INHALATION LC50....: Approximately 370-490 mg/m³ for an aerosol of polymeric MDI (Rat 4 Hr.). An LC50 (2 hr.) of greater than 400 mg/m³ was determined on a dust of monomeric MDI (Rat).

EYE EFFECTS.....: Slightly irritating. A maximum primary eye irritation score for a polymeric MDI of 12.0/110 (24 hr.) was obtained. This score is fairly typical for a number of MDI products.

SKIN EFFECTS.....: Slight to moderate irritant. Primary dermal irritation scores are typically below 3.4/8.0 (Draize).

SENSITIZATION.....: MDI has been shown to produce dermal sensitization in several species (guinea pigs, mice, rabbits and dogs). Intradermal or topical application followed by inhalation challenge have resulted in a respiratory sensitization response in guinea pigs. In addition, there is some evidence to suggest that cross-sensitization between different types of diisocyanates may occur.

CHRONIC TOXICITY.....: In a chronic inhalation exposure study, rats were exposed to an aerosol of polymeric MDI for 6 hours per day, 5 days per week for a period for two years. The exposure concentrations were 0, 0.2, 1.0 and 6.0 mg/m³. Microscopic examination of tissues revealed the effects of irritation to the nasal cavity and lungs in animals exposed to 1.0 and 6.0 mg/m³. The No Observable Effect Level (NOEL) was 0.2 mg/m³.

Product Code: C-005
Approval date: 01/01/95

MSDS Page 7
Continued on next page

CALIFORNIA CHEMICAL INVENTORY FORM - DESCRIPTION PAGE

(1) ADD DELETE REVISE NO CHANGE

PAGE (2) **30** OF (3) **46**

BUSINESS NAME (4) **ELASCO INC**
 CHEMICAL LOCATION (5) (Address, Area, Building, etc.) **11377 MARKON DR. GARDEN GROVE, CA 92841**
 MAP # (if more than one) (6) **1** GRID # (7) **C-D, 2-5; D-H, 3-4**

CHEMICAL NAME (8) **Dipropylene Glycol Diazabicyclo octate**
 COMMON NAME (9) **Dabco LV 33 CATALYST**
 CAS # (10) **Mixture**
 FIRE CODE HAZARD CLASSES* (13) **14, 3(C3B)**

TRADE SECRET (11) Y N
 AHM/*EHS (12) Y N
 *IF EHS BOX IS "Y" ALL AMOUNTS MUST BE IN LBS

*COMPLETE BLOCK (13) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.

TYPE (14) PURE MIXTURE WASTE CHECK IF RADIOACTIVE (15) (16) _____
 PHYSICAL STATE (17) SOLID LIQUID GAS CURIES _____
 FED HAZARD CATEGORIES (18) FIRE REACTIVE PRESSURE RELEASE ACUTE HEALTH CHRONIC HEALTH
 STATE WASTE CODE (19) _____ UNITS (22) GAL CU FT LBS TONS MAX DAILY AMT (23) _____
 DAYS ON SITE (20) _____ *If EHS, amounts must be in lbs. AVG DAILY AMT (24) _____
 LARGEST CONTAINER (21) _____ ANNUAL WASTE AMT (25) _____
 STORAGE CONTAINER (26) ABOVE GROUND TANK - INSIDE CAN BOX(S) TANK WAGON
 UNDER GROUND TANK CARBOY CYLINDER RAIL CAR
 TANK INSIDE BUILDING SILO GLASS CONTAINER
 STEEL DRUM FIBER DRUM PLASTIC CONTAINER Other
 PLASTIC/NONMETALLIC DRUM BAG(S) IN MACHINERY OR EQUIP.
 PRESSURE STORAGE (27) AMBIENT ABOVE AMBIENT BELOW AMBIENT
 STORAGE TEMPERATURE (28) AMBIENT ABOVE AMBIENT BELOW AMBIENT CRYOGENIC

(29) % WT	(30) HAZARDOUS COMPONENTS	(31) EHS/AHM	(32) CAS #
1. 67	Dipropylene Glycol	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	280-557-9
2. 33	DIAZABICYCLO <2,2,2> OCTATE	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	25265-71-8
3.		<input type="checkbox"/> Y <input type="checkbox"/> N	

(33) **ADDITIONAL LOCALLY COLLECTED INFORMATION**
 *COMPLETE BLOCK (33) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.

NFPA CLASSIFICATION

UN/DOT # _____ Refer to shipping papers or MSDS

DOT HAZARD CLASS _____ Refer to shipping papers or MSDS

UFC HAZARD CLASS _____

NFPA 704 HAZARD DIAMOND

FIRE RED

HEALTH BLUE → ← REACTIVE YELLOW

SPECIAL HAZARD ↗ ↖ WHITE OX/WX

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Air Products and Chemicals, Inc.
7201 Hamilton Boulevard
Allentown, PA 18195-1501
Telephone (215) 481-4911



SECTION 1 - MATERIAL IDENTIFICATION

PRODUCT NAME DABCO[®] 33-LV CATALYST
 [®]DABCO is a registered trademark of Air
 Products and Chemicals, Inc.

PRODUCT CODE 33-LV

MSDS REVISION NUMBER 4006 -06

MANUFACTURER Air Products and Chemicals, Inc
 7201 Hamilton Blvd., Allentown, PA 18195-1501

TELEPHONE NUMBER 800-345-3148

EMERGENCY TELEPHONE NUMBER(S)
 800-523-9374 (Continental U.S.)
 215-481-7711 (Outside Continental U.S.)
 800-322-9092 (Pennsylvania Only)

DATE PREPARED NOVEMBER 1992

REVISION NOTES Updated Transportation Information

C.A.S. CHEMICAL NAME Mixture
SYNONYMS 33-LV
CHEMICAL FAMILY Tertiary Amine
EMPIRICAL FORMULA Mixture
INTENDED USE Polyurethane Catalyst

SECTION 2 - INGREDIENTS

%	CAS Number and Chemical Name
33	280-57-9 DIAZABICYCLO(2,2,2)OCTANE, 1,4-
67	25265-71-8 DIPROPYLENE GLYCOL

OSHA (ACGIH) EXPOSURE LIMITS

CAS#	TWA		STEL		CEILING	
	ppm	mg/m ³	ppm	mg/m ³	ppm	mg/m ³
280-57-9	N/E (N/E)	N/E (N/E)	N/E (N/E)	N/E (N/E)	N/E (N/E)	N/E (N/E)
25265-71-8	N/E (N/E)	N/E (N/E)	N/E (N/E)	N/E (N/E)	N/E (N/E)	N/E (N/E)

N/E = Not Established. All values in () are U.S. ACGIH (American Conf. of Gov. Indust. Hygienists) - TLV; All others are OSHA - PEL.

SECTION 3 - HEALTH HAZARDS

EMERGENCY OVERVIEW

HMS HEALTH RATING 2 FLAMMABILITY 1 REACTIVITY 0

Mobile liquid, Colorless, Ammoniacal.

Severe eye irritant. Moderate skin irritant.

Ignition will give rise to a Class B fire. In case of fire use:

Water Spray, Carbon Dioxide (CO2), Dry Chemical, Alcohol Foam.

ROUTES OF EXPOSURE

- Eye Contact
- Skin Contact
- Ingestion
- Skin Absorption
- Inhalation

EXPOSURE STANDARDS

No standards established for the product. See Section 2 for exposure standards on ingredients.

HEALTH HAZARDS

Severe eye irritant. Moderate skin irritant. Mild respiratory tract irritant.

TARGET ORGANS

Eye, Respiratory system, Skin.

SIGNS AND SYMPTOMS OF EXPOSURE (Acute effects)

Contact with eyes causes severe irritation and pain. Contact with the skin may cause dryness (defatting), itching and/or rash. Inhalation of vapors may cause irritation in the respiratory tract. Product vapor in low concentrations can cause lacrimation, conjunctivitis and corneal edema when absorbed into the tissue of the eye from the atmosphere. Corneal edema may give rise to a perception of "blue haze" or "fog" around lights. The effect is transient and has no known residual effect. Ingestion may cause: headache, nausea, vomiting.

SIGNS AND SYMPTOMS OF EXPOSURE (Possible Longer Term Effects)

Repeated and/or prolonged exposures may result in: adverse respiratory effects (such as cough, tightness of chest or shortness of breath), adverse eye effects (such as conjunctivitis or corneal damage).

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE

Asthma. Eye disease.

IRRITATION EFFECTS DATA

Severe irritant to the eyes of a rabbit. Not a primary skin

irritant.

ACUTE TOXICITY EFFECTS DATA

Oral LD50 (rat): 3200 mg/kg
Dermal LD50 (rabbit): >2000 mg/kg
Inhalation LC50 (rat): >8 mg/l / 1H

OTHER ACUTE EFFECTS

No Data

CHRONIC/SUBCHRONIC DATA

No delayed, subchronic or chronic test data are known.

SECTION 4 - FIRST AID

EYE CONTACT

Hold eyelids apart and immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

SKIN CONTACT

Remove product and immediately flush affected area with water for at least 15 minutes.

INHALATION

Move patient to fresh air. If breathing has stopped or is labored give assisted respiration (e.g. mouth-to-mouth). Supplemental oxygen may be indicated. Call a physician.

INGESTION

If swallowed, call a physician immediately. Remove stomach contents by gastric suction or induce vomiting only as directed by medical personnel. Never give anything by mouth to an unconscious person.

SECTION 5 - FIRE AND EXPLOSION DATA

CHARACTERISTICS:

Flash Point	>110C (>230F)
Flash Point Method(s)	Pensky-Martin Closed Cup
Upper Explosion Limit (UEL)	No Data
Lower Explosion Limit (LEL)	No Data
Autoignition Temperature	No Data
Fire Hazard Classification (OSHA/NFPA)	Combustible Liquid, Class IIIB

EXTINGUISHING MEDIA

Ignition will give rise to a Class B fire. In case of fire use:
Water Spray, Carbon Dioxide (CO2), Dry Chemical, Alcohol Foam.

SPECIAL FIRE FIGHTING PROCEDURES

If water pollution occurs, notify appropriate authorities.
Firefighters should wear butyl rubber boots, gloves, and body suit and a self-contained breathing apparatus. Contain runoff water in dikes. Prevent stream contamination. Retain expended liquids from fire fighting for later disposal.

UNUSUAL FIRE AND EXPLOSION HAZARDS

No known unusual hazards in a fire/explosion situation. May generate carbon monoxide gas. May generate toxic nitrogen oxide gases.

SECTION 6 - REACTIVITY HAZARD DATA

CHEMICAL STABILITY

CONDITIONS TO AVOID (if unstable)

Not applicable

INCOMPATIBILITY (Materials to Avoid)

Mineral acids (i.e. sulfuric, phosphoric, etc.)

HAZARDOUS DECOMPOSITION PRODUCTS (from burning, heating, or reaction with other materials)

Carbon Monoxide in a fire. Carbon Dioxide in a fire. Nitrogen Oxides in a fire. Nitrogen oxide can react with water vapors to form corrosive nitric acid (TLV=2 ppm). Irritating and toxic fumes at elevated temperatures.

HAZARDOUS POLYMERIZATION

Will not occur

CONDITIONS TO AVOID (if polymerization may occur)

Not applicable

SECTION 7 - SPILL, LEAK AND WASTE DISPOSAL INFORMATION

CONTAINMENT TECHNIQUES (Removal of ignition sources, diking etc)

Stop the leak, if possible. Ventilate the space involved. Reduce vapor spreading with a water spray. Shut off or remove all ignition sources. Construct a dike to prevent spreading. Collect run-off water and transfer to drums or tanks for later disposal. Protect workers with water spray.

CLEAN-UP PROCEDURES

Transfer to containers by suction, preparatory for later disposal. Place in metal containers for recovery or disposal. Absorb residual material on vermiculite and scoop up for disposal. Remove from the spill location. Flush area with water spray.

Cover minor spills with sodium bisulfate to neutralize and reduce

vapors.

Clean-up personnel must be equipped with self contained breathing apparatus and butyl rubber protective clothing.

OTHER EMERGENCY ADVICE

Avoid skin contact. Wear protective clothing. Open enclosed spaces to outside atmosphere. Potential for carbon monoxide and/or nitrous oxides generation in a fire must be recognized. Prevent spilled product from entering streams or drinking water supplies.

WASTE DISPOSAL

Recover, reclaim or recycle when practicable. Dilute with organic solvent and incinerate using effluent gas scrubber. Comply with all Federal, State and Local Regulations. Dispose of in a permitted waste management facility if incineration or landfill is not practicable.

ENVIRONMENTAL EFFECTS

SECTION 8 - PERSONAL PROTECTION/EXPOSURE CONTROLS

EYE PROTECTION

Splash-proof eye goggles. In emergency situations, use eye goggles with a full face shield.

HAND PROTECTION

Nitrile rubber gloves. In emergency situations, wear impermeable gloves with cuffs to prevent spread of material to area above the wrists.

RESPIRATORY PROTECTION

Not required under normal conditions. For emergency situations use self-contained breathing apparatus with pressure demand mode.

PROTECTIVE CLOTHING

Appropriate protective clothing. Long sleeved clothing.

ENGINEERING CONTROLS

Adequate general and local exhaust.

WORK AND HYGIENIC PRACTICES

Wash at the end of each workshift and before eating, smoking or using the toilet. Promptly remove clothing that becomes contaminated. Wash promptly if skin becomes contaminated.

SECTION 9 - STORAGE AND HANDLING

STORAGE

Keep in cool, dry, ventilated storage and in closed containers.

Keep away from: acids, oxidizers, moisture. Protect containers against physical damage.

HANDLING

Avoid contact with skin or eyes. Avoid breathing of vapors. Handle in well ventilated work space.

OTHER PRECAUTIONS

Work areas must be well ventilated to maintain vapor concentration below a level which is irritating. Emergency showers and eye wash stations should be readily accessible.

SECTION 10 - TYPICAL PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL FORM	Mobile liquid
COLOR	Colorless
ODOR	Ammoniacal
pH	slightly Alkaline
VAPOR PRESSURE (mm Hg)	2 @ 37C 17 @ 93C 65 @ 149C
VAPOR DENSITY (Air = 1)	No Data
BOILING POINT	>149C (>300F)
FREEZING/MELTING POINT	No Data
SOLUBILITY IN WATER	Completely
SPECIFIC GRAVITY (Water = 1)	1.03 @ 25C (77F)
EVAPORATION RATE (Butylacetate = 1)	<1
VISCOSITY (CPS)	700 CPS @ 2C (36F)
MOLECULAR WEIGHT	No Data

SECTION 11 - TRANSPORTATION INFORMATION

DOT SHIPPING NAME	Chemicals, N.O.I. - Not DOT Regulated
DOT Bulk Shipping Name	Chemicals, N.O.I. - Not DOT Regulated
IMO SHIPPING DATA	Not classed as dangerous goods according to international regulations for transport by sea or air
ICAO/IATA SHIPPING DATA	Not classed as dangerous goods according to international transport regulations

SECTION 12 - U.S. FEDERAL REGULATIONS

TOXIC SUBSTANCES CONTROL ACT (TSCA)-

Air Products and Chemicals, Inc.
7201 Hamilton Boulevard
Allentown, PA 18195-1501
Telephone (215) 481-4911



All components are included in the EPA Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

OSHA Hazard Communication Standard (29CFR1910.1200) hazard class(es)
Irritant

EPA SARA Title III Section 312 (40CFR370) hazard class
Immediate Health Hazard

EPA SARA Title III Section 313 (40CFR372) toxic chemicals above "de minimis" level are
None

SECTION 13 - STATE REGULATIONS

Proposition 65 substance(s) listed by the state of California under the "Safe Drinking Water and Toxic Enforcement Act of 1986"
None

New Jersey Trade Secret Registry Number(s)
None

SECTION 14 - INTERNATIONAL REGULATIONS

CANADA

DSL
Included on Inventory
WHMIS Hazard Classification
Class D Division 2B
WHMIS Trade Secret Registry Number(s)
Not applicable
WHMIS HAZARDOUS INGREDIENTS
Included in Section 2
WHMIS Symbol
Stylized T

EUROPEAN ECONOMIC COMMUNITY (EEC)

EINICS Master Inventory
Included on Inventory
EEC SYMBOL
Irritant
EEC Council Directives relating to the classification, packaging and labeling of dangerous substances and preparations Risk (R) and Safety (S) phrases
Irritating to eyes (R36).
Avoid contact with eyes (S25). In case of contact with eyes, rinse immediately with plenty of water and seek medical advice (S26). Wear eye/face protection (S39).

CALIFORNIA CHEMICAL INVENTORY FORM - DESCRIPTION PAGE

(1) ADD DELETE REVISE NO CHANGE

PAGE (2) 32 OF (3) 46

BUSINESS NAME (4) ELASCO INC
 CHEMICAL LOCATION (5) (Address, Area, Building, etc.) 11377 MARKON DR. GARDEN GROVE, CA 92841
 MAP # (if more than one) (6) 1 GRID # (7) C 2; EY

CHEMICAL NAME (8) Methyl Ethyl Ketone TRADE SECRET (11) Y N
 COMMON NAME (9) MEK AHM / *EHS (12) Y N
 CAS # (10) 78-93-3
 FIRE CODE HAZARD CLASSES* (13) 11 - F1B
 *IF EHS BOX IS "Y" ALL AMOUNTS MUST BE IN LBS

*COMPLETE BLOCK (13) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.

TYPE (14) PURE MIXTURE WASTE CHECK IF RADIOACTIVE (15) (16) _____
 PHYSICAL STATE (17) SOLID LIQUID GAS CURIES _____
 FED HAZARD CATEGORIES (18) FIRE REACTIVE PRESSURE RELEASE ACUTE HEALTH CHRONIC HEALTH
 STATE WASTE CODE (19) _____ UNITS (22) GAL CU FT LBS TONS MAX DAILY AMT (23) _____
 DAYS ON SITE (20) _____ *If EHS, amounts must be in lbs. AVG DAILY AMT (24) _____
 LARGEST CONTAINER (21) _____ ANNUAL WASTE AMT (25) _____
 STORAGE CONTAINER (26) ABOVE GROUND TANK - INSIDE CAN BOX(S) TANK WAGON
 UNDER GROUND TANK CARBOY CYLINDER RAIL CAR
 TANK INSIDE BUILDING SILO GLASS CONTAINER
 STEEL DRUM FIBER DRUM PLASTIC CONTAINER Other
 PLASTIC/NONMETALLIC DRUM BAG(S) IN MACHINERY OR EQUIP.
 PRESSURE STORAGE (27) AMBIENT ABOVE AMBIENT BELOW AMBIENT
 STORAGE TEMPERATURE (28) AMBIENT ABOVE AMBIENT BELOW AMBIENT CRYOGENIC
 (29) % WT

(30) HAZARDOUS COMPONENTS	(31) EHS/AHM	(32) CAS #
1.	<input type="checkbox"/> Y <input type="checkbox"/> N	
2.	<input type="checkbox"/> Y <input type="checkbox"/> N	
3.	<input type="checkbox"/> Y <input type="checkbox"/> N	

(33) **ADDITIONAL LOCALLY COLLECTED INFORMATION**
 *COMPLETE BLOCK (33) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.

NFPA CLASSIFICATION
 UN/DOT # UN 1193
 Refer to shipping papers or MSDS
 DOT HAZARD CLASS _____
 Refer to shipping papers or MSDS
 UFC HAZARD CLASS _____

NFPA 704 HAZARD DIAMOND
 FIRE RED
 HEALTH BLUE
 REACTIVE YELLOW
 SPECIAL HAZARD
 WHITE OX/W

MAKE AS MANY COPIES OF CHEMICAL INVENTORY FORM AS NEEDED

HAE MAT # 17



MATERIAL SAFETY DATA SHEET

EXXON CHEMICAL AMERICAS

A Division of EXXON CHEMICAL COMPANY, A Division of EXXON CORPORATION

METHYL ETHYL KETONE

PAGE: 1
DATE PREPARED: MAR 1, 1995
MSDS NO.: 92050000

SECTION 1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Methyl Ethyl Ketone

CHEMICAL NAME:

2-Butanone

CAS 78-93-3

CHEMICAL FAMILY:

Ketone

PRODUCT DESCRIPTION:

Clear colorless liquid.

CONTACT ADDRESS:

EXXON CHEMICAL AMERICAS
P.O. BOX 3272, HOUSTON, TEXAS 77253-3272

**	EMERGENCY TELEPHONE NUMBERS: (24 Hours)	**
**	CHEMTREC (800) 424-9300	**
**	EXXON CHEMICAL AMERICAS (800) 726-2015	**

NON EMERGENCY TELEPHONE NUMBERS : (8am-5pm M-F)
 FOR HEALTH AND SAFETY INFORMATION CALL : (713) 870-6884
 FOR GENERAL PRODUCT INFORMATION CALL : (713) 870-6000

SECTION 2 COMPOSITION/INFORMATION ON INGREDIENTS

This product is hazardous as defined in 29 CFR1910.1200.

OSHA HAZARD

Flammable

PEL; TLV

Eye irritant

SECTION 3 HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS

EYE CONTACT:

Severely irritating. If not removed promptly, will injure eye tissue, which may result in permanent damage.

SKIN CONTACT:

Frequent or prolonged contact may irritate and cause dermatitis. Low order of toxicity.

INHALATION:

Vapor concentrations above recommended exposure levels are irritating to the eyes and the respiratory tract, may cause headaches and dizziness, are anesthetic and may have other central nervous system effects. Low order of toxicity.

INGESTION:

Low order of toxicity. Small amounts of the liquid aspirated into the respiratory system during ingestion, or from vomiting, may cause bronchiopneumonia or pulmonary edema.

CHRONIC EFFECTS

There is no evidence that exposure to Methyl Ethyl Ketone (MEK) alone causes progressive or irreversible neurotoxic effects. However, simultaneous over-exposure to MEK and n-Hexane can potentiate the known irreversible neurotoxic effects of n-Hexane. There is no reported human evidence that these neurotoxic effects occur when exposure to both chemicals is maintained below



MATERIAL SAFETY DATA SHEET

EXXON CHEMICAL AMERICAS

A Division of EXXON CHEMICAL COMPANY, A Division of EXXON CORPORATION

METHYL ETHYL KETONE

PAGE: 2
DATE PREPARED: MAR 1, 1995
MSDS NO.: 92050000

established OSHA and ACGIH limits.

SECTION 4 FIRST AID MEASURES

EYE CONTACT:

Immediately flush eyes with large amounts of water for at least 15 minutes. Get prompt medical attention.

SKIN CONTACT:

Immediately flush with large amounts of water; use soap if available. Remove contaminated clothing, including shoes, after flushing has begun.

INHALATION:

Using proper respiratory protection, immediately remove the affected victim from exposure. Administer artificial respiration if breathing is stopped. Keep at rest. Call for prompt medical attention.

INGESTION:

If swallowed, DO NOT induce vomiting. Keep at rest. Get prompt medical attention.

SECTION 5 FIRE-FIGHTING MEASURES

FLASHPOINT: 25 Deg F. **METHOD:** TCC **NOTE:** TOC: -2 C **IMCO:** -1 C
FLAMMABLE LIMITS: LEL: 1.8 UEL: 11.5 @ 77 Deg F.
AUTOIGNITION TEMPERATURE: 860 Deg F.

GENERAL HAZARD

Flammable Liquid, can release vapors that form flammable mixtures at temperatures at or above the flashpoint.

"Empty" containers retain product residue (liquid and/or vapor) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner, or properly disposed of.

FIRE FIGHTING

Use water spray to cool fire exposed surfaces and to protect personnel. Shut off "fuel" to fire. If a leak or spill has not ignited, use water spray to disperse the vapors.

Either allow fire to burn under controlled conditions or extinguish with alcohol type foam and dry chemical. Try to cover liquid spills with foam.

DECOMPOSITION PRODUCTS UNDER FIRE CONDITIONS

No unusual

SECTION 6 ACCIDENTAL RELEASE MEASURES

LAND SPILL

Eliminate sources of ignition. Prevent additional discharge of material, if possible to do so without hazard. For small spills implement cleanup procedures; for large spills implement cleanup procedures and, if in public area, keep public away and advise authorities. Also, if this product is subject to CERCLA reporting (see Section 15 REGULATORY INFORMATION) notify the National Response Center.

Prevent liquid from entering sewers, watercourses, or low areas. Contain spilled liquid with sand or earth. Do not use combustible materials such as sawdust.

Recover by pumping (use an explosion proof or hand pump) or with a



MATERIAL SAFETY DATA SHEET

EXXON CHEMICAL AMERICAS

A Division of EXXON CHEMICAL COMPANY, A Division of EXXON CORPORATION

METHYL ETHYL KETONE

PAGE: 3
DATE PREPARED: MAR 1, 1995
MSDS NO.: 92050000

suitable absorbent.

Consult an expert on disposal of recovered material and ensure conformity to local disposal regulations.

WATER SPILL

Eliminate sources of ignition. Warn occupants and shipping in surrounding and downwind areas of fire and explosion hazard and request all to stay clear.

Consult an expert on disposal of recovered material and ensure conformity to local disposal regulations.

SECTION 7 STORAGE AND HANDLING

ELECTROSTATIC ACCUMULATION HAZARD:

No, but use proper grounding procedure

STORAGE TEMPERATURE, °F:

Ambient

LOADING/UNLOADING TEMPERATURE, °F:

Ambient

STORAGE/TRANSPORT PRESSURE, mmHg:

Atmospheric

LOADING/UNLOADING VISCOSITY, cSt:

0.5

STORAGE AND HANDLING:

Keep container closed. Handle and open containers with care.

Store in a cool, well ventilated place away from incompatible materials.

Do NOT handle or store near an open flame, heat or other sources of ignition. Protect material from direct sunlight.

This material is not a static accumulator, but use proper grounding procedures.

Do NOT pressurize, cut, heat, or weld containers. Empty product containers may contain product residue. Do NOT reuse empty containers without commercial cleaning or reconditioning.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE CONTROLS

The use of mechanical dilution ventilation is recommended whenever this product is used in a confined space, is heated above ambient temperatures, or is agitated.

Use explosion-proof ventilation equipment.

PERSONAL PROTECTION

For open systems where contact is likely, wear long sleeves, chemical resistant gloves, and chemical goggles.

Where contact may occur, wear a face shield.

Where concentrations in air may exceed the limits given in this Section and engineering, work practice or other means of exposure reduction are not adequate, NIOSH/MSHA approved respirators may be necessary to prevent overexposure by inhalation.

WORKPLACE EXPOSURE GUIDELINES

OSHA REGULATION 29CFR1910.1000 REQUIRES THE FOLLOWING PERMISSIBLE EXPOSURE LIMITS:

A TWA of 200 ppm (590 mg/m³) and a STEL of 300 ppm (885 mg/m³) for Methyl Ethyl Ketone (2-Butanone).



MATERIAL SAFETY DATA SHEET

EXXON CHEMICAL AMERICAS

A Division of EXXON CHEMICAL COMPANY, A Division of EXXON CORPORATION

METHYL ETHYL KETONE

PAGE: 4
DATE PREPARED: MAR 1, 1995
MSDS NO.: 92050000

The recommended permissible exposure levels indicated above reflect the levels revised by OSHA in 1989 or in subsequent regulatory activity. Although the 1989 levels have since been vacated by the 11th Circuit Court of Appeals, Exxon Chemical recommends that the lower exposure levels be observed as reasonable worker protection.

THE ACGIH RECOMMENDS THE FOLLOWING THRESHOLD LIMIT VALUES:

A TWA of 200 ppm (590 mg/m³), and a STEL of 300 ppm (885 mg/m³) for Methyl Ethyl Ketone.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

SPECIFIC GRAVITY, at °F: 0.81 at 68	VAPOR PRESSURE, mmHg at °F: 83 at 75 173 at 100
SOLUBILITY IN WATER, wt. % at °F: 26.30 at 68	VISCOSITY OF LIQUID, cSt at °F: 0.5 at 68
SP. GRAV. OF VAPOR, at 1 atm (Air=1): Greater than 1.00	FREEZING/MELTING POINT, °F: Less Than 32
EVAPORATION RATE, n-Bu Acetate=1: 6.0	BOILING POINT, °F: 175 to 177

SECTION 10 STABILITY AND REACTIVITY

STABILITY:
Stable

CONDITIONS TO AVOID INSTABILITY:
Not Applicable

HAZARDOUS POLYMERIZATION:
Will not occur

CONDITIONS TO AVOID HAZARDOUS POLYMERIZATION:
Not Applicable

MATERIALS AND CONDITIONS TO AVOID INCOMPATIBILITY:
Caustics, amines, alkanolamines, aldehydes, ammonia, strong oxidizing agents, and chlorinated compounds.

HAZARDOUS DECOMPOSITION PRODUCTS:
None

SECTION 11 TOXICOLOGICAL INFORMATION

Please refer to Section 3 for available information on potential health effects.

SECTION 12 ECOLOGICAL INFORMATION

No specific ecological data are available for this product. Please refer to Section 6 for information regarding accidental releases and Section 15 for regulatory reporting information.

SECTION 13 DISPOSAL CONSIDERATIONS

Please refer to Sections 5, 6, and 15 for disposal and regulatory information.



MATERIAL SAFETY DATA SHEET

EXXON CHEMICAL AMERICAS

A Division of EXXON CHEMICAL COMPANY, A Division of EXXON CORPORATION

METHYL ETHYL KETONE

PAGE: 5
DATE PREPARED: MAR 1, 1995
MSDS NO.: 92050000

SECTION 14 TRANSPORT INFORMATION

DEPARTMENT OF TRANSPORTATION (DOT):

DOT SHIPPING DESCRIPTION: METHYL ETHYL KETONE, 3, UN 1193, II

SECTION 15 REGULATORY INFORMATION

TSCA:

This product is listed on the TSCA Inventory at CAS Registry Number 78-93-3

CERCLA:

If the reportable quantity of this product is accidentally spilled, the incident is subject to the provisions of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and must be reported to the National Response Center by calling 800-424-8802.

The reportable spill quantity of this product is 5,000 pounds.

This product contains:

Methyl ethyl ketone.

SARA TITLE III:

Under the provisions of Title III, Sections 311/312 of the Superfund Amendments and Reauthorization Act, this product is classified into the following hazard categories: Immediate health, Delayed Health, Fire.

This information may be subject to the provisions of the Community Right-to-Know Reporting Requirements (40 CFR 370) if threshold quantity criteria are met.

This product contains the following Section 313 Reportable Ingredients:

COMPONENT	CAS NO.	MAXIMUM %
Methyl ethyl ketone	78-93-3	100.0

SECTION 16 OTHER INFORMATION

HAZARD RATING SYSTEMS:

This information is for people trained in:
National Paint & Coatings Association's (NPCA)
Hazardous Materials Identification System (HMIS)
National Fire Protection Association (NFPA 704)
Identification of the Fire Hazards of Materials

	NPCA-HMIS	NFPA 704	KEY
HEALTH	3	1	4 = Severe
FLAMMABILITY	3	3	3 = Serious
REACTIVITY	0	0	2 = Moderate
			1 = Slight
			0 = Minimal



MATERIAL SAFETY DATA SHEET

EXXON CHEMICAL AMERICAS

A Division of EXXON CHEMICAL COMPANY, A Division of EXXON CORPORATION

METHYL ETHYL KETONE

PAGE: 6
DATE PREPARED: MAR 1, 1995
MSDS NO.: 92050000

REVISION SUMMARY:

This MSDS has been reformatted to be consistent with ANSI Standard Z400.1-1993.

REFERENCE NUMBER:

HDHA-C-00025

SUPERSEDES ISSUE DATE:

November 19, 1993

THIS INFORMATION RELATES TO THE SPECIFIC MATERIAL DESIGNATED AND MAY NOT BE VALID FOR SUCH MATERIAL USED IN COMBINATION WITH ANY OTHER MATERIALS OR IN ANY PROCESS. SUCH INFORMATION IS TO THE BEST OF OUR KNOWLEDGE AND BELIEF, ACCURATE AND RELIABLE AS OF THE DATE COMPILED. HOWEVER, NO REPRESENTATION, WARRANTY OR GUARANTEE IS MADE AS TO ITS ACCURACY, RELIABILITY OR COMPLETENESS. IT IS THE USER'S RESPONSIBILITY TO SATISFY HIMSELF AS TO THE SUITABILITY AND COMPLETENESS OF SUCH INFORMATION FOR HIS OWN PARTICULAR USE. WE DO NOT ACCEPT LIABILITY FOR ANY LOSS OR DAMAGE THAT MAY OCCUR FROM THE USE OF THIS INFORMATION NOR DO WE OFFER WARRANTY AGAINST PATENT INFRINGEMENT.

LAST PAGE

CALIFORNIA CHEMICAL INVENTORY FORM -- DESCRIPTION PAGE

(1) ADD DELETE REVISE NO CHANGE

PAGE (2) 33 OF 3) 46

BUSINESS NAME (4) ELASCO INC
 CHEMICAL LOCATION (Address, Area, Building, etc.) (5) 11377 MARKON DR. GARDEN GROVE, CA 92841
 MAP # (if more than one) (6) 1 GRID # (7) C2; E4

CHEMICAL NAME (8) Toluene TRADE SECRET (11) Y N
 COMMON NAME (9) Toluene AHM / *EHS (12) Y N
 CAS # (10) 108-88-3
 FIRE CODE HAZARD CLASSES* (13) 11-FIB
 *IF EHS BOX IS "Y" ALL AMOUNTS MUST BE IN LBS

*COMPLETE BLOCK (13) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.
 TYPE (14) PURE MIXTURE WASTE CHECK IF RADIOACTIVE (15) (16) _____
 PHYSICAL STATE (17) SOLID LIQUID GAS CURIES _____
 FED HAZARD CATEGORIES (18) FIRE REACTIVE PRESSURE RELEASE ACUTE HEALTH CHRONIC HEALTH
 STATE WASTE CODE (19) _____ UNITS (22) GAL CU FT LBS TONS MAX DAILY AMT (23) _____
 DAYS ON SITE (20) _____ *If EHS, amounts must be in lbs. AVG DAILY AMT (24) _____
 LARGEST CONTAINER (21) _____ ANNUAL WASTE AMT (25) _____
 STORAGE CONTAINER (26) ABOVE GROUND TANK - INSIDE CAN BOX(S) TANK WAGON
 UNDER GROUND TANK CARBOY CYLINDER RAIL CAR
 TANK INSIDE BUILDING SILO GLASS CONTAINER
 STEEL DRUM FIBER DRUM PLASTIC CONTAINER Other
 PLASTIC/NONMETALLIC DRUM BAG(S) IN MACHINERY OR EQUIP.
 PRESSURE STORAGE (27) AMBIENT ABOVE AMBIENT BELOW AMBIENT
 STORAGE TEMPERATURE (28) AMBIENT ABOVE AMBIENT BELOW AMBIENT CRYOGENIC

(29) % WT	(30) HAZARDOUS COMPONENTS	(31) EHS/AHM	(32) CAS #
1.		<input type="checkbox"/> Y <input type="checkbox"/> N	
2.		<input type="checkbox"/> Y <input type="checkbox"/> N	
3.		<input type="checkbox"/> Y <input type="checkbox"/> N	

(33) ADDITIONAL LOCALLY COLLECTED INFORMATION
 *COMPLETE BLOCK (33) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.

NFPA CLASSIFICATION _____
 UN/DOT # _____ Refer to shipping papers or MSDS
 DOT HAZARD CLASS _____ Refer to shipping papers or MSDS
 UFC HAZARD CLASS _____

NFPA 704 HAZARD DIAMOND
 FIRE RED
 HEALTH BLUE
 REACTIVE YELLOW
 SPECIAL HAZARD
 WHITE OX/WX

MAKE AS MANY COPIES OF CHEMICAL INVENTORY FORM AS NEEDED



MATERIAL SAFETY DATA SHEET

EXXON CHEMICAL AMERICAS

A Division of EXXON CHEMICAL COMPANY, A Division of EXXON CORPORATION

TOLUENE

PAGE: 1
DATE PREPARED: MAR 1, 1995
MSDS NO.: 92931650

SECTION 1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: TOLUENE

CHEMICAL NAME:

Toluene

CAS 108-88-3

CHEMICAL FAMILY:

Aromatic Hydrocarbon

PRODUCT DESCRIPTION:

Aromatic odor.
Clear, colorless liquid.

CONTACT ADDRESS:

EXXON CHEMICAL AMERICAS
P.O. BOX 3272, HOUSTON, TEXAS 77253-3272

** EMERGENCY TELEPHONE NUMBERS: (24 Hours) **
** CHEMTREC (800) 424-9300 **
** EXXON CHEMICAL AMERICAS (800) 726-2015 **

NON EMERGENCY TELEPHONE NUMBERS : (8am-5pm M-F)
FOR HEALTH AND SAFETY INFORMATION CALL : (713) 870-6884
FOR GENERAL PRODUCT INFORMATION CALL : (713) 870-6000

SECTION 2 COMPOSITION/INFORMATION ON INGREDIENTS

The composition of this mixture may be proprietary information. In the event of a medical emergency, compositional information will be provided to a physician or nurse. This product is hazardous as defined in 29 CFR1910.1200, based on the following compositional information:

OSHA HAZARD	COMPONENT
Flammable	Toluene
OSHA PEL;ACGIH TLV	Toluene
Eye Irritant	Toluene

SECTION 3 HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS

EYE CONTACT:

Irritating, but does not injure eye tissue.

SKIN CONTACT:

Frequent or prolonged contact may irritate and cause dermatitis. Occasional brief contact with the liquid will not result in significant irritation unless evaporation is impeded. Skin contact may aggravate an existing dermatitis condition.

INHALATION:

High vapor/aerosol concentrations (greater than approximately 1000 ppm) are irritating to the eyes and the respiratory tract, may cause headaches, dizziness, anesthesia, drowsiness, unconsciousness, central nervous system effects, brain damage and possibly death.

INGESTION:

Small amounts of this product aspirated into the respiratory system during ingestion or vomiting may cause mild to severe pulmonary injury, possibly progressing to death.

CHRONIC EFFECTS

WARNING: Concentrated, prolonged or deliberate inhalation of this product may



MATERIAL SAFETY DATA SHEET

EXXON CHEMICAL AMERICAS

A Division of EXXON CHEMICAL COMPANY, A Division of EXXON CORPORATION

TOLUENE

PAGE: 3
DATE PREPARED: MAR 1, 1995
MSDS NO.: 92931650

SECTION 6 ACCIDENTAL RELEASE MEASURES

LAND SPILL

Eliminate sources of ignition. Prevent additional discharge of material, if possible to do so without hazard. For small spills implement cleanup procedures; for large spills implement cleanup procedures and, if in public area, keep public away and advise authorities. Also, if this product is subject to CERCLA reporting (see Section 15 REGULATORY INFORMATION) notify the National Response Center.

Prevent liquid from entering sewers, watercourses, or low areas. Contain spilled liquid with sand or earth. Do not use combustible materials such as sawdust.

Recover by pumping (use an explosion proof or hand pump) or with a suitable absorbent.

Consult an expert on disposal of recovered material and ensure conformity to local disposal regulations.

WATER SPILL

Eliminate sources of ignition. Warn occupants and shipping in surrounding and downwind areas of fire and explosion hazard and request all to stay clear.

Remove from surface with suitable adsorbents. If allowed by local authorities and environmental agencies, sinking and/or suitable dispersants may be used in non-confined waters.

Consult an expert on disposal of recovered material and ensure conformity to local disposal regulations.

SECTION 7 STORAGE AND HANDLING

ELECTROSTATIC ACCUMULATION HAZARD:

Yes, use proper grounding procedure

STORAGE TEMPERATURE, °F:

Ambient

STORAGE/TRANSPORT PRESSURE, mmHg:

Atmospheric

LOADING/UNLOADING TEMPERATURE, °F:

Ambient

LOADING/UNLOADING VISCOSITY, cSt:

0.7

STORAGE AND HANDLING:

Keep container closed. Handle and open containers with care.

Store in a cool, well ventilated place away from incompatible materials.

Do NOT handle or store near an open flame, heat or other sources of ignition. Protect material from direct sunlight.

Material will accumulate static charges which may cause an electrical spark (ignition source). Use proper grounding procedures.

Do NOT pressurize, cut, heat, or weld containers. Empty product containers may contain product residue. Do NOT reuse empty containers without commercial cleaning or reconditioning.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE CONTROLS

The use of local exhaust ventilation is recommended to control process emissions near the source. Laboratory samples should be stored and handled in a lab hood. Provide mechanical ventilation of confined spaces. See respiratory protection recommendations.

Use explosion-proof ventilation equipment.



MATERIAL SAFETY DATA SHEET

EXXON CHEMICAL AMERICAS

A Division of EXXON CHEMICAL COMPANY, A Division of EXXON CORPORATION

TOLUENE

PAGE: 5
DATE PREPARED: MAR 1, 1995
MSDS NO.: 92931650

SECTION 12 ECOLOGICAL INFORMATION

No specific ecological data are available for this product. Please refer to Section 6 for information regarding accidental releases and Section 15 for regulatory reporting information.

SECTION 13 DISPOSAL CONSIDERATIONS

Please refer to Sections 5, 6, and 15 for disposal and regulatory information.

SECTION 14 TRANSPORT INFORMATION

DEPARTMENT OF TRANSPORTATION (DOT):

DOT SHIPPING DESCRIPTION: TOLUENE, 3, UN 1294, II

SECTION 15 REGULATORY INFORMATION

TSCA:

This product is listed on the TSCA Inventory as a UVCB (Unknown, Variable Composition or Biological) Chemical at CAS Registry Number 108-88-3

CERCLA:

If the reportable quantity of this product is accidentally spilled, the incident is subject to the provisions of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and must be reported to the National Response Center by calling 800-424-8802.

The reportable spill quantity of this product is 1,000 pounds.

This product contains:
Toluene.

SARA TITLE III:

Under the provisions of Title III, Sections 311/312 of the Superfund Amendments and Reauthorization Act, this product is classified into the following hazard categories: Immediate health, Delayed Health, Fire.

This information may be subject to the provisions of the Community Right-to-Know Reporting Requirements (40 CFR 370) if threshold quantity criteria are met.

This product contains the following Section 313 Reportable Ingredients:

COMPONENT	CAS NO.	MAXIMUM %
Toluene	108-88-3	100.0

SECTION 16 OTHER INFORMATION

HAZARD RATING SYSTEMS:

This information is for people trained in:
National Paint & Coatings Association's (NPCA)
Hazardous Materials Identification System (HMIS)
National Fire Protection Association (NFPA 704)
Identification of the Fire Hazards of Materials

	NPCA-HMIS	NFPA 704	KEY
HEALTH	2	2	4 = Severe
FLAMMABILITY	3	3	3 = Serious
REACTIVITY	0	0	2 = Moderate
			1 = Slight
			0 = Minimal

CALIFORNIA CHEMICAL INVENTORY FORM - DESCRIPTION PAGE

(1) ADD DELETE REVISE NO CHANGE

PAGE (2) 34 OF 3) 46

BUSINESS NAME (4) ELASCO INC
 CHEMICAL LOCATION (5) (Address, Area, Building, etc.) 11377 MARKON DR. GARDEN GROVE, CA 92841
 MAP # (if more than one) (6) 1 GRID # (7) C-D, 2-5; D-H, 3-4

CHEMICAL NAME (8) DIBASIC ESTER TRADE SECRET (11) Y N
 COMMON NAME (9) DBE AHM / *EHS (12) Y N
 CAS # (10) Mixture
 FIRE CODE HAZARD CLASSES* (13) 14, 3 (C3B)
 *IF EHS BOX IS "Y" ALL AMOUNTS MUST BE IN LBS

*COMPLETE BLOCK (13) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.
 TYPE (14) PURE MIXTURE WASTE CHECK IF RADIOACTIVE (15) (16) _____
 PHYSICAL STATE (17) SOLID LIQUID GAS CURIES _____
 FED HAZARD CATEGORIES (18) FIRE REACTIVE PRESSURE RELEASE ACUTE HEALTH CHRONIC HEALTH
 STATE WASTE CODE (19) _____ UNITS (21) GAL CU FT LBS TONS MAX DAILY AMT (23) _____
 DAYS ON SITE (20) _____ *If EHS, amounts must be in lbs. AVG DAILY AMT (24) _____
 LARGEST CONTAINER (21) _____ ANNUAL WASTE AMT (25) _____
 STORAGE CONTAINER (26) ABOVE GROUND TANK - INSIDE CAN BOX(S) TANK WAGON
 UNDER GROUND TANK CARBOY CYLINDER RAIL CAR
 TANK INSIDE BUILDING SILO GLASS CONTAINER
 STEEL DRUM FIBER DRUM PLASTIC CONTAINER Other
 PLASTIC/NONMETALLIC DRUM BAG(S) IN MACHINERY OR EQUIP.
 PRESSURE STORAGE (27) AMBIENT ABOVE AMBIENT BELOW AMBIENT
 STORAGE TEMPERATURE (28) AMBIENT ABOVE AMBIENT BELOW AMBIENT CRYOGENIC

(29) % WT	(30) HAZARDOUS COMPONENTS	(31) EHS/AHM	(32) CAS #
1. <u>60</u>	<u>DIMETHYL SUCCINATE</u>	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	<u>119-40-0</u>
2. <u>20</u>	<u>DIMETHYL ADIPATE</u>	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	<u>627-93-0</u>
3. <u>20</u>	<u>DIMETHYL SUCCINATE</u>	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	<u>106-65-0</u>

(33) **ADDITIONAL LOCALLY COLLECTED INFORMATION**
 *COMPLETE BLOCK (33) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.

NFPA CLASSIFICATION _____
 UN/DOT # _____ Refer to shipping papers or MSDS
 DOT HAZARD CLASS _____ Refer to shipping papers or MSDS
 UFC HAZARD CLASS _____

NFPA 704 HAZARD DIAMOND
 FIRE RED
 HEALTH BLUE → (RED) → REACTIVE YELLOW
 SPECIAL HAZARD ↗ (WHITE) ↖ WHITE OX/WX

MAKE AS MANY COPIES OF CHEMICAL INVENTORY FORM AS NEEDED



Du Pont Chemicals

6020CR

Revised 30-SEP-1994

Printed 23-OCT-1994

DBE

CHEMICAL PRODUCT/COMPANY IDENTIFICATION

Material Identification

Corporate MSDS Number DU000276

Formula CH300C(CH2)n-COOCH3, n=2,3 and 4

Molecular Weight Avg. 159

Tradenames and Synonyms

ALIPHATIC DIBASIC ESTERS - DBE

DIBASIC ESTER

DIBASIC ESTER MIXTURE

Company Identification

MANUFACTURER/DISTRIBUTOR

DuPont

1007 Market Street

Wilmington, DE 19898

PHONE NUMBERS

Product Information 1-800-231-0998

Transport Emergency CHEMTREC: 1-800-424-9300

Medical Emergency 1-800-441-3637

COMPOSITION/INFORMATION ON INGREDIENTS

Components
Material
CAS Number
%

DIMETHYL GLUTARATE

1119-40-0

55-65

DIMETHYL ADIPATE

627-93-0

10-25

DIMETHYL SUCCINATE

106-65-0

15-25

(Continued)

FIRE FIGHTING MEASURES

Flammable Properties

Flash Point	100 C (212 F)
Method	TCC
Flammable limits in Air, % by Volume	
LEL	0.9
UEL	8.0
Autoignition	370 C (698 F)

Actual Autoignition Temperature (AIT) can be affected by the concentration of vapors and oxygen, vapor/air contact time, pressure, volume, catalytic impurities, etc. Process conditions should be analyzed to determine if the AIT's may be higher or lower.

Vapor forms explosive mixture with air. Hazardous gases/vapors produced in fire are carbon monoxide.

Extinguishing Media

Water Spray, Foam, Dry Chemical, CO2.

Fire Fighting Instructions

Keep personnel removed and upwind of fire. Wear self-contained breathing apparatus. Wear full protective equipment. Cool tank/container with water spray.

ACCIDENTAL RELEASE MEASURES

Safeguards (Personnel)

NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

Initial Containment

Remove source of heat, sparks, flame, impact, friction or electricity. Dike spill. Prevent material from entering sewers, waterways, or low areas.

Spill Clean Up

Recover free liquid for reuse or reclamation. Recover undamaged and minimally contaminated material for reuse and reclamation. Soak up with sawdust, sand, oil dry or other absorbent material.

HANDLING AND STORAGE

Handling (Personnel)

Avoid breathing vapors or mist. Avoid contact with eyes, skin, or clothing. Wash thoroughly after handling.

Storage

Do not mix with strong oxidants, acids, or alkalies. Store in a well ventilated place. Keep container tightly closed.

(Continued)

STABILITY AND REACTIVITY

Chemical Stability

Stable.

Incompatibility with Other Materials

Incompatible or can react with strong oxidizers, acids, alkalies.

Decomposition

Decomposes with heat.

Polymerization

Polymerization will not occur.

TOXICOLOGICAL INFORMATION

Animal Data

Inhalation 4-hour LC50: >11 mg/L in rats
Inhalation 1-hour LC50: >10.7 mg/L in rats
Skin absorption LD50 : >2,250 mg/kg in rabbits
Oral LD50 : 8,191 mg/kg in rats

The mixture is a mild to severe skin irritant and a moderate eye irritant, but is not a skin sensitizer in animals. Toxic effects described in animals from exposure by inhalation include upper respiratory tract irritation. A single 4-hour exposure to 60 ppm caused transient corneal opacity and transient increases in the distance from the cornea to the anterior surface of the lens of the eye. Toxicity described in animals from repeated exposure by inhalation include decreased weight gain, absolute and relative liver weight decrease, and degeneration of olfactory epithelium (nasal tissue). Toxicity described in animals from repeated exposure by ingestion include weight loss, but there were no pathological abnormalities noted.

A single application of 10 uL to the eye caused corneal opacity. The administration of 10-100 uL of a similar mixture caused corneal opacity, transient increases in corneal thickness, and transient corneal anesthesia. A single application of approximately 60 mg/kg to the skin caused transient increases in the distance from the cornea to the anterior surface of the lens of the eye.

The mixture does not produce genetic damage in animals, or in bacterial cell cultures, but it was positive in one study with cultured mammalian cells. Animal testing indicates that this mixture does not have developmental, or reproductive effects.

(Continued)

REGULATORY INFORMATION(Continued)

CERCLA Hazardous Substance : No
SARA Toxic Chemical : No

Canadian Regulations

CLASS D Division 2 Subdivision B - Toxic Material. Skin or Eye
Irritant.

OTHER INFORMATION**NFPA, NPCA-HMIS**

NPCA-HMIS Rating
Health 1
Flammability 1
Reactivity 0

Personal Protection rating to be supplied by user depending on use
conditions.

Additional Information

The hydrogen cyanide concentration in this product is so low (<10 ppm) as to be toxicologically insignificant when this product is used as a solvent. However, when this product is chemically reacted with alcohols, and methanol is recovered from that reaction and purified for reuse by distillation, concentration of highly volatile impurities such as hydrogen cyanide to toxicologically significant levels can occur in the waste stream from this process. Processors using this product as a raw material should be aware of this potential hazard.

The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

Responsibility for MSDS : DuPont Chemicals
Address : Engineering & Product Safety
> : P.O. Box 80709, Chestnut Run
> : Wilmington, DE 19880-0709
Telephone : (302) 999-4946

Indicates updated section.

End of MSDS

Material Safety Data Sheet

(revised 6/16/94)

Ted Johnson Propane Company
5140 North Elton Street
Baldwin Park, CA 91706
Phone: (800)576-4LPG

Emergency Contact: PERS (for spills, leaks, or accidents, only)
Emergency (24 hours) Phone: (800) 328-2482

SECTION #1 - IDENTIFICATION

Product: Propane (odorized)
Chemical Family: Aliphatic Hydrocarbon, Alkane Series
Synonyms: Dimethyl Methane, LP-Gas, LPG, HD-5 Propane

SECTION #2 - HAZARDOUS CHEMICAL COMPONENTS

Component: Propane
CAS Number: 74-98-6

Composition /and percentage of each (If Applicable)

>90 % Propane (C₃H₆), CAS#: 74-98-6, simple asphyxiant(ACGIH), TWA 1000ppm (OSHA)
< 5 % Propylene (C₃H₆), CAS#: 115-07-01, simple asphyxiant(ACGIH)
< 5 % Iso-Butane (C₄H₁₀), CAS#: 75-28-5, (ACGIH) TWA 800 ppm (BUTANE)
Ethyl Mercaptan may be added as a malodorant minimum 1 lb. to approximately 1.1 lbs.
per 10,000 gallons of liquid propane (ANSI/NFPA - 58-1982)

SECTION #3 - PHYSICAL DATA

Boiling Point: - 45°F
Vapor Pressure: 188 psi @100°F
Specific Gravity: .504 @ 60°F
Solubility (H₂O): <0.1%
Evaporation Rate: Gas at normal ambient conditions.
Freezing point; - 305°F
Molecular Weight: 44
Appearance: Colorless gas or liquid
Odor: Odorized propane contains a foul smelling warning agent (ethyl mercaptan).
Unodorized propane is odorless (natural state).

SECTION #4 - FIRE FIGHTING & EXPLOSIVE DATA

Flash Point: - 158°F
Auto ignition: 842°F
Lower Explosive Limit (%): 2.3
Upper Explosive Limit (%) 9.5

Extinguishing Media

Water spray, Dry chemical, CO2, or Halon

Special Fire Fighting Instructions

This product presents an extreme fire hazard. Liquid quickly evaporates, even at low temperatures, and forms vapor (fumes) which can catch fire and burn with explosive violence.

Evacuate the area. Stay upwind of vapors, Stop flow of gas. Use water to keep fire exposed containers and piping cool. Use water spray to disperse unignited gas. Invisible vapor spreads easily and can be set on fire by many sources such as pilot lights, welding equipment, and electrical motors or switches. If ignition has occurred and no water is available, tank or piping may overheat and fail. Approach containers from sides, not from ends.

Do not enter enclosed or confined fire space without proper protective equipment. This may include self-contained breathing apparatus to protect against hazardous effects of normal products of combustion or oxygen deficiency. Petroleum gases are heavier than air and travel along the ground or into drains to possible distant ignition sources and may cause an explosive flashback.

Combustion Products:

Normal combustion forms carbon dioxide and water vapor, incomplete combustion can produce carbon monoxide.

NFPA RATINGS:

Health:	1	(Scale: least -- 0, Slight -- 1, Moderate -- 2
Flammability:	4	High -- 3, Extreme --4)
Reactivity:	1	

These values are obtained using the guidelines or published evaluations from the National Fire Protection Association or the National Paint and Coating Association..

SECTION #5 - EXPOSURE EFFECTS AND FIRST AID

INHALATION

Route of Exposure - Inhalation:

Depending on the concentration of gas and duration of exposure. Small concentrations may produce rapid breathing and headaches. Moderate concentrations may produce mild intoxication, drowsiness,

dizziness, visual disturbances, muscular weakness, and lack of coordination. High concentrations produce intoxication followed by loss of consciousness, asphyxiation, and death.

First Aid - Inhalation:

Immediately move personnel to an area of fresh air. For respiratory distress, give air, oxygen or administer CPR if necessary. Obtain medical attention if breathing difficulties continue.

SKIN

Route of Exposure - Skin

In it's gas form, this material is non-irritating and is not expected to be absorbed through the skin; but direct contact with the liquified/pressurized gas and frost particles can cause freeze burns (similar to that of frost bite).

First Aid - Skin:

Frozen tissue should be flooded or soaked with warm water. DO NOT USE HOT WATER! Cryogenic burns which result in blistering or deeper tissue freezing should be promptly seen by a physician.

EYES

Route of Exposure -Eyes:

As a gas, this material is non-irritating; but direct contact with liquified /pressurized gas or frost particles may produce severe and possibly permanent eye damage from freeze burns.

First Aid - Eyes:

Vapors are not expected to present an eye irritation hazard. If contacted by liquid/solid, immediately flush eye(s) gently with warm water for at least 15 minutes. Seek medical attention if pain or redness persists.

INGESTION

Route of exposure - Ingestion:

Solid, liquified, and pressurized forms of this gas can cause freeze burns.

First Aide - Ingestion:

Induce vomiting with warm water (one quart), only if patient is conscious. Immediately obtain medical attention.

SECTION #6 -REACTIVITY & POLYMERIZATION

Stability: Stable

May react with strong oxidizing agents, such as, chlorates, nitrates, peroxides, etc. Combustion may produce carbon monoxide and other harmful substances.

Hazardous Polymerization: Not Expected

SECTION #7 - SPILL, LEAK, & DISPOSAL PROCEDURES

Steps to be taken in the event of spills, leaks, or release.

Eliminate all potential sources of ignition in vicinity of spill or released vapor. Evacuate the area immediately. Persons entering the contaminated area to correct the problem or to determine whether it is safe to resume normal activities must comply with all instructions in the Protective Measures & Equipment section. Ventilate enclosed areas to prevent formation of flammable or oxygen-deficient atmosphere. Water spray may be used to reduce vapors. Closed systems form white frost at the point of leak. Liquid spills will vaporize forming a cold, dense vapor cloud that does not readily disperse. Avoid vapor cloud even with proper respiratory equipment. If tanks are involved in a fire, all non-essential personnel to an area upwind at least 1/2 mile in all directions. Stop source of release with non-sparking tools before putting out any fire. Tanks involved in fire should be kept cool by keeping a steady flow of water on them.

Waste disposal method.

Releases are expected to cause only localized non-persistent environmental damage. Waste mixtures containing these gases should not be allowed to enter drains or sewers where there is a danger of the vapors becoming ignited. When it becomes necessary to dispose of these gases, it is preferable to do so as a vapor. Unused product may be used as an auxiliary fuel or disposed by burning in properly designed flare or incinerator. Venting of gas to the atmosphere should be avoided. Defective, empty, or partially used portable containers should be returned to the supplier with appropriate tags.

SECTION #8 - SPECIAL PROTECTIVE MEASURES & EQUIPMENT

Ventilation:

Local exhaust and general room ventilation may both be essential in work areas to prevent accumulation of explosive mixtures. If mechanical ventilation is used, electrical equipment must meet National Electrical Code requirements.

Eye Protection:

Use Chemical-type goggles and face shields when handling liquified gases. Safety glasses and/or face shields are recommended when handling high-pressure cylinders and piping systems and whenever vapors are discharged.

Skin Protection:

Prevent potential skin contact with cold liquid/solid/vapors. Use insulated, impervious plastic or neoprene-coated canvas gloves and protective gear to protect hands and other skin areas.

Respiratory Protection:

For excessive gas concentrations, use only NIOSH/NSHA- approved self-contained breathing apparatus.

Work/Hygienic Practices:

Emergency eye wash fountains and safety showers for first aid treatment of potential freeze burns should be available in the vicinity of any significant exposure from compressed gas release. Personnel should not enter areas where the atmosphere is below 19.5 volume percent oxygen without special procedures/equipment. Respirator use should comply with OSHA 29 CR 1910.134 or equivalent.

SECTION #9 - SPECIAL PRECAUTIONS - STORAGE & HANDLING

Store and use cylinders and tanks in well-ventilated areas, away from heat and sources of ignition.

No smoking near storage or use. Follow standard procedures for handling cylinders, tanks, loading/unloading. See NFPA #58 and API 2510.

SECTION #10 - SHIPPING INFORMATION

Proper Shipping Name: Propane
Hazard Class: 2.1
DOT ID. # UN1978
DOT Shipping Label: Flammable Gas

Proper Shipping Name: LPG
Hazard Class: 2.1
DOT ID #: UN1075
DOT Shipping Label: Flammable Gas

Acute (immediate) Health Effects: YES
Chronic (delayed) Health Effects: NO
Fire Hazard: YES
Sudden release of Pressure Hazard: YES
Reactivity Hazard: NO
Corrosive: NO

SECTION #11 - DISCLAIMER OF EXPRESSED AND IMPLIED WARRANTIES

This information relates only to the material designed and may not be valid for such material used in combination with any other materials or in any process. Such information is to the best of this company's knowledge believed to be accurate and reliable as of the date indicated. However, no representation, warranty, or guarantee is made as to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his own particular use.

Please note that this MSDS includes a section for information required under Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986, including the identification of 313 Toxic Chemicals. Your receipt of this MSDS fulfills our supplier notification obligation under SARA Section 313 (40CFR 372.45)

Ted Johnson Propane Company does offer to any interested parties, a safety class in which this MSDS is the center of attention. All sections of this document are covered and explained, along with other facts regarding the safe handling of LP-Gas (propane).

CALIFORNIA CHEMICAL INVENTORY FORM - DESCRIPTION PAGE

FORM 3

(1) ADD DELETE REVISE NO CHANGE

PAGE (2) 36 OF (3) 46

BUSINESS NAME (4) ELASCO INC
 CHEMICAL LOCATION (5) (Address, Area, Building, etc.) 11377 MARKON DR. GARDEN GROVE, CA 92841
 MAP # (if more than one) (6) 1 GRID # (7) C-D,2-5;D-H,3-4

CHEMICAL NAME (8) C₂H₂ Acetylene Gas TRADE SECRET (11) Y N
 COMMON NAME (9) Acetylene AHM / *EHS (12) Y N
 CAS # (10) 74-86-2
 FIRE CODE HAZARD CLASSES* (13) 10-F

*IF EHS BOX IS "Y"
ALL AMOUNTS MUST BE IN LBS

TYPE (14) PURE MIXTURE WASTE CHECK IF RADIOACTIVE (15) (16) _____
 PHYSICAL STATE (17) SOLID LIQUID GAS CURIES _____
 FED HAZARD CATEGORIES (18) FIRE REACTIVE PRESSURE RELEASE ACUTE HEALTH CHRONIC HEALTH
 STATE WASTE CODE (19) _____ UNITS (22) GAL CU FT LBS TONS MAX DAILY AMT (23) _____
 DAYS ON SITE (20) _____ *If EHS, amounts must be in lbs. AVG DAILY AMT (24) _____
 LARGEST CONTAINER (21) _____ ANNUAL WASTE AMT (25) _____
 STORAGE CONTAINER (26) ABOVE GROUND TANK - INSIDE CAN BOX(S) TANK WAGON
 UNDER GROUND TANK CARBOY CYLINDER RAIL CAR
 TANK INSIDE BUILDING SILO GLASS CONTAINER
 STEEL DRUM FIBER DRUM PLASTIC CONTAINER Other
 PLASTIC/NONMETALLIC DRUM BAG(S) IN MACHINERY OR EQUIP.
 PRESSURE STORAGE (27) AMBIENT ABOVE AMBIENT BELOW AMBIENT
 STORAGE TEMPERATURE (28) AMBIENT ABOVE AMBIENT BELOW AMBIENT CRYOGENIC

(29) % WT

1.
2.
3.

(30) HAZARDOUS COMPONENTS	(31) EHS/AHM	(32) CAS #
	<input type="checkbox"/> Y <input type="checkbox"/> N	
	<input type="checkbox"/> Y <input type="checkbox"/> N	
	<input type="checkbox"/> Y <input type="checkbox"/> N	

(33) ADDITIONAL LOCALLY COLLECTED INFORMATION
 *COMPLETE BLOCK (33) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.

NFPA CLASSIFICATION _____

UN/DOT # _____ Refer to shipping papers or MSDS

DOT HAZARD CLASS _____ Refer to shipping papers or MSDS

UFC HAZARD CLASS _____

NFPA 704 HAZARD DIAMOND
FIRE RED

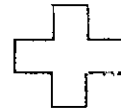
HEALTH BLUE → ← REACTIVE YELLOW

SPECIAL HAZARD ↗ ↖ WHITE OX/TK

MAKE AS MANY COPIES OF CHEMICAL INVENTORY FORM AS NEEDED

MATERIAL SAFETY DATA SHEET

An explanation of the terms used herein may be found in OSHA 29 CFR 1910.1200, available from OSHA regional or area offices.
(Essentially similar to US Department of Labor Form OMS No. 1219-0072)
Do Not Duplicate This Form, Request an Original.



I. PRODUCT IDENTIFICATION

PRODUCT	Acetylene		
CHEMICAL NAME	Acetylene	SYNONYMS	Acetylen, Ethine, Ethyne, Narcylene
FORMULA	C ₂ H ₂	CHEMICAL FAMILY	Alkyne
		MOLECULAR WEIGHT	26.038

TRADE NAME Acetylene (This product is intended for welding and cutting use.)

II. HAZARDOUS INGREDIENTS

This section covers the materials from which this product is manufactured. The fumes and gases produced during cutting with the normal use of this product are covered by Section VI. The term "hazardous" should be interpreted as a term required and defined in OSHA 29 CFR 1910.1200 and does not necessarily imply the existence of any hazard.

MATERIAL (CAS NO.)	Vol (%)	1992-1993 ACGIH TLV-TWA (OSHA-PEL)
Acetylene (74-86-2)	100	Simple asphyxiant (None currently established) Acetylene cylinders are filled with a porous material containing acetone into which the acetylene is dissolved. ACGIH has established a TLV-TWA of 750 ppm for acetone and a STEL of 1000 ppm.

III. PHYSICAL DATA

BOILING POINT, 760 mm. Hg	Not Applicable	SUBLIMATION POINT	-84°C (-119.2°F) @ 760 mm Hg
SPECIFIC GRAVITY (H ₂ O = 1)	Not Applicable	VAPOR PRESSURE AT 21°C.	635 psig
VAPOR DENSITY (air = 1)	0.91	SOLUBILITY IN WATER, % by wt.	Slight
PERCENT VOLATILES BY VOLUME	100	EVAPORATION RATE (Butyl acetate = 1)	Not applicable

APPEARANCE AND ODOR Colorless gas at normal temperature and pressure; garlic-like odor.

EMERGENCY PHONE NUMBERS

IN CASE OF EMERGENCIES involving this material, further information is available at all times:

Call CHEMTREC 800-424-9300 only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals. For routine information contact your supplier.

This product is subject to the Pennsylvania Worker and Community Right-To-Know Act (35 P.S. Sections 7301-7320).

Praxair requests the users of this product to study this Material Safety Data Sheet (MSDS) and become aware of product hazards and safety information. To promote safe use of this product a user should (1) notify its employees, agents and contractors of the information on this MSDS and any product hazards and safety information, (2) furnish this same information to each of its customers for the product, and (3) request such customers to notify their employees and customers for the product of the same product hazards and safety information.

PRAXAIR, INC.

Printed on recycled paper.



PRODUCT: Acetylene

L-4559-F
December 1992

IV-HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: See Section II. In addition, ACGIH 1992-1993 recommends a TLV-TWA of 0.5 mg/m³ for welding fumes not otherwise classified (NOC) which may be generated during welding with this product.

EFFECTS OF A SINGLE (ACUTE) OVEREXPOSURE:

SWALLOWING—An unlikely route of exposure, but frostbite of the lips and mouth may result from contact with the liquid. If the liquid is swallowed, may cause nausea.

SKIN ABSORPTION—No evidence of adverse effects from available information.

INHALATION—Asphyxiant. Moderate concentrations of vapor may cause headache, drowsiness, dizziness, nausea, vomiting, excitation, excess salivation, and unconsciousness.

SKIN CONTACT—No harmful effect expected from vapor. Liquid may cause frostbite.

EYE CONTACT—Vapor may cause irritation. Liquid may cause irritation and frostbite.

EFFECTS OF REPEATED (CHRONIC) OVEREXPOSURE: No evidence of adverse effects from available information.

OTHER EFFECTS OF OVEREXPOSURE: None currently known.

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE: A knowledge of the available toxicology information and of the physical and chemical properties of the material suggest that overexposure is unlikely to aggravate existing medical conditions.

EMERGENCY AND FIRST AID PROCEDURES:

SWALLOWING—If liquid is swallowed, do not induce vomiting. Call a physician.

SKIN—For exposure to liquid, flush with water and warm frostbite area with warm water (not to exceed 105°F). In case of massive exposure, remove clothing while showering with warm water. Call a physician.

INHALATION—Remove to fresh air. If breathing has stopped, give artificial respiration; if breathing is difficult, oxygen may be given; call a physician.

EYES—In case of splash contamination, immediately flush eyes thoroughly with water for at least 15 minutes. Seek the advice of a physician, preferably an ophthalmologist, urgently.

NOTES TO PHYSICIAN: Aspirated acetone may cause severe lung damage. If a large quantity of material has been swallowed, stomach contents should be evacuated quickly in a manner which avoids aspiration. Otherwise, treatment should be directed at the control of symptoms and the clinical condition. No specific antidote is known.

WORKING WITH WELDING AND CUTTING MAY CREATE ADDITIONAL HEALTH HAZARDS.

FUMES AND GASES can be dangerous to your health and may cause serious lung disease.*

Keep your head out of the fumes. Do not breathe fumes and gases caused by the process. Use enough ventilation, local exhaust, or both to keep fumes and gases from your breathing zone and the general area. The type and amount of fumes and gases depend on the equipment and supplies used. Possible dangerous materials may be found in fluxes, coatings, gases, metals etc. Get a Material Safety Data Sheet (MSDS) for every material used. Air samples can be used to find out what respiratory protection is needed.

Short term overexposure to fumes may result in discomfort such as dizziness, nausea, or dryness or irritation of nose, throat, or eyes.

*NOTES TO PHYSICIAN:

Acute— Gases, fumes, and dusts may cause irritation to the eyes, lungs, nose, and throat. Some toxic gases associated with welding and related processes may cause pulmonary edema, asphyxiation, and death. Acute overexposure may include signs and symptoms such as watery eyes, nose and throat irritation, headache, dizziness, difficulty breathing, frequent coughing, or chest pains.

Chronic— Prolonged inhalation of air contaminants may lead to their accumulation in the lungs, a condition which may be seen as dense areas on chest x-rays. The severity of change is proportional to the length of exposure. The changes seen are not necessarily associated with symptoms or signs of reduced lung function or disease. In addition, the changes on x-rays may be caused by non-work related factors such as smoking, etc.

A detailed description of the Health Hazards and their consequences may be found in Praxair's free publication L-52-529, "Precautions and Safe Practices for Electric Welding and Cutting." You may obtain copies from your local supplier.

MIXTURES: When two or more gases, or liquefied gases are mixed, their hazardous properties may combine to create additional, unexpected hazards. Obtain and evaluate the safety information for each component before you produce the mixture. Consult an Industrial Hygienist, or other trained person when you make your safety evaluation of the end product. Remember, gases and liquids have properties which can cause serious injury or death.

PRODUCT: Acetylene

L-4559-F
December 1992

V. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (test method)	-17.8°C (0°F) T.C.C.	AUTOIGNITION TEMPERATURE	299°C (571°F)
FLAMMABLE LIMITS IN AIR, % by volume	LOWER	2.3%	UPPER 100%

EXTINGUISHING MEDIA: See paragraphs below.

SPECIAL FIRE FIGHTING PROCEDURES: Refer to CGA pamphlet SB-4, "Handling Acetylene Cylinders in Fire Situations."

Evacuate all personnel from danger area. Immediately cool containers with water spray from maximum distance taking care not to extinguish flames. Remove ignition sources if without risk. If flames are accidentally extinguished, explosive re-ignition may occur. Use self-contained breathing apparatus. Stop flow of gas if without risk while continuing cooling water spray. Remove all containers from area of fire if without risk. Allow fire to burn out. On-site fire brigades must comply with OSHA 29 CFR 1910.156.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Extremely flammable gas. Forms explosive mixtures with air and oxidizing agents. Container may rupture due to heat of fire. Do not extinguish flames due to possibility of explosive re-ignition. Flammable vapors may spread from leak. Explosive atmospheres may linger. Before entering area, especially confined areas, check atmosphere with approved explosion meter. No part of a container should be subjected to a temperature higher than 52°C (approximately 125°F). All containers are provided with a pressure relief device designed to vent contents when they are exposed to elevated temperature. Contact with copper, silver, or mercury or their alloys or halogens can cause explosion and be ignited by pilot lights, other flames, smoking, sparks, heaters, electrical equipment, static discharge or other ignition sources at locations distant from product handling point.

VI. REACTIVITY DATA

STABILITY		CONDITIONS TO AVOID: Stable as shipped. Avoid use at pressures above 15 psig.
UNSTABLE	STABLE	
X		

INCOMPATIBILITY (materials to avoid): Copper, silver, mercury or their alloys, oxidizing agents, acids, halogens, moisture.

HAZARDOUS DECOMPOSITION PRODUCTS: Thermal decomposition or burning may produce CO/CO₂H₂. The welding and cutting process may form reaction products such as carbon monoxide and carbon dioxide. Other decomposition products of normal operation originate from the volatilization, reaction or oxidation of the material being worked.

HAZARDOUS POLYMERIZATION		CONDITIONS TO AVOID: Elevated temperature and pressure and/or the presence of a catalyst.
May Occur	Will not Occur	
X		

VII. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Forms explosive mixtures with air (see Section V). Immediately evacuate all personnel from danger area. Use self-contained breathing apparatus where needed. Remove all sources of ignition if without risk. Reduce vapors with fog or fine water spray. Shut off leak if without risk. Ventilate area of leak or move leaking container to well-ventilated area. Flammable gas may spread from leak. Before entering area, especially confined areas, check atmosphere with appropriate device.

WASTE DISPOSAL METHOD: Prevent waste from contaminating surrounding environment. Keep personnel away. Discard any product, residue, disposable container or liner in an environmentally acceptable manner, in full compliance with federal, state and local regulations.

PRODUCT: Acetylene

L-4559-F
December 1992

VIII SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (specify type): Use air-purifying or air-supplied respirators where the local and/or general exhaust is not adequate to keep exposure below the applicable TLV. However, air supplied respirator is required while working in confined spaces. The respiratory protection use must conform with OSHA rules as specified in 29 CFR 1910.134.

VENTILATION	LOCAL EXHAUST —Use local exhaust system, if necessary, to maintain the concentration of hazardous fumes and gases below the applicable TLVs in the worker's breathing zone.
	MECHANICAL (general) —Under certain working conditions, general exhaust ventilation may be acceptable provided that it is adequate to maintain the concentration of hazardous fumes and gases below the TLVs in the worker's breathing zone.
	SPECIAL —Not applicable
	OTHER —Depends on specific use conditions, and location. Use adequate ventilation or personal respiratory protection. See Section IX and OSHA 29 CFR 1910.252.

PROTECTIVE GLOVES: Welding gloves recommended.

EYE PROTECTION: Wear goggles with filter lens selected as per ANSI Z49.1. Provide protective screens and goggles, if necessary, to protect others. Select as per OSHA 29 CFR 1910.33.

OTHER PROTECTIVE EQUIPMENT: As needed, wear hand, head, and body protection which help to prevent injury from radiation, and sparks. See ANSI Z49.1. At a minimum this includes welder's gloves and protective goggles, and may include arm protectors, aprons, hats, shoulder protection, as well as substantial clothing. Train the worker not to touch live electrical parts.

IX SPECIAL PRECAUTIONS

Fumes and gases cannot be classified simply. The composition and quantity of both are dependent upon the metal being worked, the process, procedure and electrodes used. Other conditions which also influence the composition and quantity of the fumes and gases to which workers may be exposed include: coatings on the metal being worked (such as paint, plating, or galvanizing), the number of workers and the volume of the work area, the quality and amount of ventilation, the position of the worker's head with respect to the fume plume, as well as the presence of contaminants in the atmosphere (such as chlorinated hydrocarbon vapors from cleaning and degreasing activities). Train workers to keep their head out of the fumes.

One recommended way to determine the composition and quantity of fumes and gases to which workers are exposed is to take an air sample from inside the worker's helmet if worn or in the worker's breathing zone. See ANSI/AWSF1.1, available from the American Welding Society, 550 N.W. Le Jeune Rd., Miami, FL 33126.

Read and understand the manufacturer's instructions and the precautionary label on the product. See American National Standard Z49.1, "Safety In Welding and Cutting" published by the American Welding Society and OSHA Publication 2206 (29 CFR 1910), US Government Printing Office, Washing, DC 20402 for more details. For further safety and health information refer to Praxair's free safety booklet L-2035.

OTHER HANDLING AND STORAGE CONDITIONS: Heat and sparks during use could be the source of ignition of combustible materials. Prevent fires. Refer to NFPA 518, "Cutting and Welding Processes" and NFPA 50 "Oxygen-Fuel Gas Systems." Use piping and equipment adequately designed to withstand pressures to be encountered. Gas can cause rapid suffocation due to oxygen deficiency. Store and use with adequate ventilation. Close valve when not in use and when empty. Never work on a pressurized system. Do not strike arc on cylinder. The defect produced by an arc burn could lead to cylinder rupture. Do not ground cylinder or allow to become part of an electrical circuit. Store in cool, dry, well-ventilated area. Do not store near open flames. Electrical equipment should be explosion proof. Do not store with oxygen or other oxidizers. Protect cylinders from physical damage. Store cylinders in upright position secured to prevent falling over. Refer to CGA pamphlets P-1 and G-1 for recommendations.

The opinions expressed herein are those of qualified experts within Praxair, Inc. We believe that the information contained herein is current as of the date of this Material Safety Data Sheet. Since the use of this information and these opinions and the conditions of use of the product are not within the control of Praxair, Inc., it is the user's obligation to determine the conditions of safe use of the product.



GENERAL OFFICES

Praxair, Inc.
39 Old Ridgebury Road
Danbury, CT 06810-5113

HMZ MAT 23
-071



Material Safety Data Sheet

CHEVRON AW Hydraulic Oil 32

CPS234225

Page 1 of 6

NICKEY PETROLEUM CO INC
1335 SANTIAGO
SANTA ANA, CA 92702
Print Date: November 24, 1989

MATERIAL ORDERED FOR:
FOB EL SEGUNDO REFINERY
PACKAGE LUBES ONLY
EL SEGUNDO, CA 90245

This Material Safety Data Sheet contains environmental, health and toxicology information for your employees. Please make sure this information is given to them. It also contains information to help you meet community right-to-know/emergency response reporting requirements under SARA Title III and many other laws. If you resell this product, this MSDS must be given to the buyer or the information incorporated in your MSDS. Discard any previous edition of this MSDS.

The Chevron MSDS has been revised to include a first aid statement for accidental injection under the skin.

1. PRODUCT IDENTIFICATION

CHEVRON AW Hydraulic Oil 32

- A HAZARD WARNING IS NOT REQUIRED FOR THIS PRODUCT UNDER OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1910.1200)

CHEVRON PRODUCT NUMBER(S): CPS234225
PRODUCT INFORMATION: (800)582-3835

Revision Number: 12 Revision Date: 11/18/89 MSDS Number: 000032
NDA - No Data Available NA - Not Applicable

Prepared According to the OSHA Hazard Communication Standard (29 CFR 1910.1200) by the Chevron Environmental Health Center, Inc., P.O. Box 4054, Richmond, CA 94804.

2. FIRST AID

EYE CONTACT:

No first aid procedures are required. However, as a precaution flush eyes with fresh water for 15 minutes. Remove contact lenses if worn.

SKIN CONTACT:

Note to Physician: Injection under the skin of materials similar to this product is associated with accidents involving high-pressure equipment. When ejected from this type of equipment, the material can easily penetrate the skin and leave a small, sometimes bloodless, puncture wound. Yet, because of its driving force, material injected into a fingertip can be deposited into the palm of the hand. Within 24 hours, there is usually a great deal of swelling, discoloration, and intense throbbing pain in the affected part. Immediate treatment at surgical emergency center is recommended. No first aid procedures are required. As a precaution, wash skin thoroughly with soap and water. Remove and wash contaminated clothing.

INHALATION:

Since this material is not expected to be an immediate inhalation problem, no first aid procedures are required.

INGESTION:

If swallowed, give water or milk to drink and telephone for medical advice. Consult medical personnel before inducing vomiting. If medical advice cannot be obtained, then take the person and product container to the nearest medical emergency treatment center or hospital.

3. IMMEDIATE HEALTH EFFECTS

EYE CONTACT:

This substance is not expected to cause prolonged or significant eye irritation. This hazard evaluation is based on the data from similar materials.

SKIN IRRITATION:

This substance is not expected to cause prolonged or significant skin irritation. This hazard evaluation is based on data from similar materials.

DERMAL TOXICITY:

The systemic toxicity of this substance has not been determined. However, it should be practically non-toxic to internal organs if it gets on the skin. This hazard evaluation is based on data from similar materials.

RESPIRATORY/INHALATION:

The systemic toxicity of this substance has not been determined. However, it should be practically non-toxic to internal organs if inhaled. This hazard evaluation is based on data from similar materials.

INGESTION:

The systemic toxicity of this substance has not been determined. However, it should be practically non-toxic to internal organs if swallowed. This hazard evaluation is based on data from similar materials.

Revision Number: 12

Revision Date: 11/18/89

MSDS Number: 000032

NDA - No Data Available

NA - Not Applicable

4. PROTECTIVE EQUIPMENT

EYE PROTECTION:

No special eye protection is usually necessary.

SKIN PROTECTION:

No special skin protection is usually necessary. Avoid prolonged or frequently repeated skin contact with this material. Skin contact can be minimized by wearing protective clothing.

RESPIRATORY PROTECTION:

No special respiratory protection is normally required. However, if operating conditions create airborne concentrations which exceed the recommended exposure standards, the use of an approved respirator is required.

VENTILATION:

Use adequate ventilation to keep the airborne concentrations of this material below the recommended exposure standard.

5. FIRE PROTECTION

FLASH POINT: (COC) >375F (190C)

AUTOIGNITION: NDA

FLAMMABILITY: NA

EXTINGUISHING MEDIA:

CO₂, Dry Chemical, Foam and Water Fog.

NFPA RATINGS: Health 0; Flammability 1; Reactivity 0; Special NDA;

HMIS RATINGS: Health 0; Flammability 1; Reactivity 0; Other NDA;

(Least-0, Slight-1, Moderate-2, High-3, Extreme-4). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association or, if applicable, the National Paint and Coating Association, and do not necessarily reflect the hazard evaluation of the Chevron Environmental Health Center. Read the entire document and label before using this product.

FIRE FIGHTING PROCEDURES:

For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.

COMBUSTION PRODUCTS:

Normal combustion forms carbon dioxide and water vapor and may produce oxides of sulfur and phosphorus. Incomplete combustion can produce carbon monoxide.

6. STORAGE, HANDLING, AND REACTIVITY

HAZARDOUS DECOMPOSITION PRODUCTS:

NDA.

STABILITY:

Stable.

HAZARDOUS POLYMERIZATION:

Polymerization will not occur.

INCOMPATIBILITY:

May react with strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

SPECIAL PRECAUTIONS:

CAUTION! Do not use pressure to empty drum or explosion may result. **DO NOT** weld, heat or drill container. Residue may ignite with explosive violence if heated sufficiently.

7. PHYSICAL PROPERTIES

SOLUBILITY: Soluble in hydrocarbon solvents; insoluble in water.

APPEARANCE: Pale yellow liquid.

BOILING POINT: 360 - 540+C

MELTING POINT: NA

EVAPORATION: NA

SPECIFIC GRAVITY: 0.87 @ 15.6/15.6C

VAPOR PRESSURE: NA

PERCENT VOLATILE (VOLUME %): NA

VAPOR DENSITY (AIR=1): NA

VISCOSITY: 32.0 cSt @ 40C (Min.)

POUR POINT: -30C (-22F).

8. SPILL RESPONSE AND DISPOSAL

CHEMTREC EMERGENCY PHONE NUMBER: (800) 424-9300 (24 hour).

SPILL/LEAK PRECAUTIONS:

This material is not expected to present any environmental problems other than those associated with oil spills.

Stop the source of the leak or release. Clean up releases as soon as possible. Contain liquid to prevent further contamination of soil, surface water or groundwater. Clean up small spills using appropriate techniques such as sorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Follow prescribed procedures for reporting and responding to larger releases.

DISPOSAL METHODS:

Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations. Contact local environmental or health authorities for approved disposal of this material.

9. EXPOSURE STANDARDS, REGULATORY LIMITS AND COMPOSITION

COMPOSITION COMMENT:

Revision Number: 12

Revision Date: 11/18/89

MSDS Number: 000032

NDA - No Data Available

NA - Not Applicable

All the components of this material are on the Toxic Substances Control Act Chemical Substances Inventory.

Based upon information reviewed to date, this product fits the ACGIH definition for mineral oil mist. The ACGIH TLV is 5mg/m³, the OSHA PEL is 5mg/m³.

The percent compositions are given to allow for the various ranges of the components present in the whole product and may not equal 100%.

PERCENT/CAS# COMPONENT/REGULATORY LIMITS

100.0 % CHEVRON AW Hydraulic Oil 32

CONTAINING

> 99.0 % LUBRICATING BASE OIL

The BASE OIL may be a mixture of any of the following: CAS 64741884, CAS 64741895, CAS 64741964, CAS 64741975, CAS 64742014, CAS 64742525, CAS 64742536, CAS 64742547, CAS 64742627, CAS 64742650, CAS 72623837.

< 1.0 % ADDITIVES

TLV - Threshold Limit Value	PEL - Permissible Exposure Limit
STEL - Short-term Exposure Limit	TPQ - Threshold Planning Quantity
RQ - Reportable Quantity	CPS - CUSA Product Code
CC - Chevron Chemical Company	CAS - Chemical Abstract Service Number

10. REGULATORY INFORMATION

DOT SHIPPING NAME: NOT DESIGNATED AS A HAZARDOUS MATERIAL BY THE FEDERAL DOT

DOT HAZARD CLASS: NOT APPLICABLE

DOT IDENTIFICATION NUMBER: NOT APPLICABLE

SARA 311 CATEGORIES:

1. Immediate (Acute) Health Effects; NO
2. Delayed (Chronic) Health Effects; NO
3. Fire Hazard; NO
4. Sudden Release of Pressure Hazard; NO
5. Reactivity Hazard; NO

WHEN A COMPONENT OF THIS MATERIAL IS SHOWN IN THIS SECTION, THE REGULATORY LIST ON WHICH IT APPEARS IS INDICATED.

REGULATORY LISTS:

01=SARA 313	02=MASS RTK	03=NTP Carcinogen
04=CA Prop. 65	05=MI 406	06=IARC Group 1
07=IARC Group 2A	08=IARC Group 2B	09=SARA 302/304
10=PA RTK	11=NJ RTK	12=CERCLA 302.4
13=MN RTK	14=ACGIH TLV	15=ACGIH STEL

Revision Number: 12 Revision Date: 11/18/89 MSDS Number: 000032
 NDA - No Data Available NA - Not Applicable

16=ACGIH Calculated TLV 17=OSHA PEL 18=OSHA STEL
19=Chevron TLV 20=EPA Carcinogen 21=TSCA SECT 4
22=TSCA SECT 5 SNUR 23=TSCA SECT 6 RULE 24=TSCA SECT 12 EXPORT
25=TSCA SECT 8A CAIR 26=TSCA SECT 8D REPORT 27=TSCA SECT 8E
28=Canadian WHMIS

11. PRODUCT TOXICOLOGY DATA

EYE IRRITATION:

NDA. The hazard evaluation was based on data from similar materials.

SKIN IRRITATION:

NDA. The hazard evaluation was based on data from similar materials.

DERMAL TOXICITY:

NDA. The hazard evaluation was based on data from similar materials.

RESPIRATORY/INHALATION:

NDA. The hazard evaluation was based on data from similar materials.

INGESTION:

NDA. The hazard evaluation was based on data from similar materials.

12. ADDITIONAL HEALTH DATA

ADDITIONAL HEALTH DATA COMMENT:

This product contains petroleum base oils which may be refined by various processes including severe solvent extraction, severe hydrocracking, or severe hydrotreating. None of the oils require a cancer warning under the OSHA Hazard Communication Standard (29 CFR 1910.1200). These oils have not been listed in the National Toxicology Program (NTP) Annual Report nor have they been classified by the International Agency for Research on Cancer (IARC) as; carcinogenic to humans (Group 1), probably carcinogenic to humans (Group 2A), or possibly carcinogenic to humans (Group 2B).

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since the information contained herein may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modification of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

045-SOL10L

HAZ MAT #24

Comb

Emergency Phone Number (800) 457-2022

Material Safety Data Sheet



CHEVRON Soluble Oil B

CPS233703

Page 1 of 7

NICKEY PETROLEUM CO INC
1335 SANTIAGO
SANTA ANA, CA 92702
Print Date: November 24, 1989

MATERIAL ORDERED FOR:
FOB EL SEGUNDO REFINERY
PACKAGE LUBES ONLY
EL SEGUNDO, CA 90245

This Material Safety Data Sheet contains environmental, health and toxicology information for your employees. Please make sure this information is given to them. It also contains information to help you meet community right-to-know/emergency response reporting requirements under SARA Title III and many other laws. If you resell this product, this MSDS must be given to the buyer or the information incorporated in your MSDS. Discard any previous edition of this MSDS.

The Chevron MSDSS have been reformatted and expanded to provide you with useful hazard warnings and health evaluations and to facilitate your compliance with local, State and Federal regulations.

1. PRODUCT IDENTIFICATION

CHEVRON Soluble Oil B

- CAUTION!**
- MAY CAUSE EYE IRRITATION
 - MAY BE HARMFUL IF SWALLOWED
 - KEEP OUT OF REACH OF CHILDREN

CHEVRON PRODUCT NUMBER(S): CPS233703
PRODUCT INFORMATION: (800)582-3835

Revision Number: 5 Revision Date: 09/22/89 MSDS Number: 002966
NDA - No Data Available NA - Not Applicable

Prepared According to the OSHA Hazard Communication Standard (29 CFR 1910.1200) by the Chevron Environmental Health Center, Inc., P.O. Box 4054, Richmond, CA 94804.

2. FIRST AID

EYE CONTACT:

Flush eyes immediately with fresh water for at least 15 minutes while holding the eyelids open. Remove contact lenses if worn. No additional first aid should be necessary, however, if irritation persists, see a doctor.

SKIN CONTACT:

No first aid procedures are required. As a precaution, wash skin thoroughly with soap and water. Remove and wash contaminated clothing.

INHALATION:

Since this material is not expected to be an immediate inhalation problem, no first aid procedures are required.

INGESTION:

If swallowed, give water or milk to drink and telephone for medical advice. Consult medical personnel before inducing vomiting. If medical advice cannot be obtained, then take the person and product container to the nearest medical emergency treatment center or hospital.

3. IMMEDIATE HEALTH EFFECTS

EYE CONTACT:

The eye irritation potential of this substance has not been determined. However, it may be slightly irritating to the eyes and could cause prolonged (days) impairment of your vision. The degree of the injury will depend on the amount of material that gets into the eye and the speed and thoroughness of the first aid treatment. Signs and symptoms may include pain, tears, swelling, redness, and blurred vision. This hazard evaluation is based on the known toxicity of the ingredients in this substance.

SKIN IRRITATION:

This substance is not expected to cause prolonged or significant skin irritation. This hazard evaluation is based on data from similar materials.

DERMAL TOXICITY:

The systemic toxicity of this substance has not been determined. However, it should be practically non-toxic to internal organs if it gets on the skin. This hazard evaluation is based on data from similar materials. Read the Additional Health Data section (12) of this document for more information.

RESPIRATORY/INHALATION:

The systemic toxicity of this substance has not been determined. However, it should be practically non-toxic to internal organs if inhaled. This hazard evaluation is based on data from similar materials.

INGESTION:

The oral toxicity of this substance has not been determined. However, it may be slightly toxic to internal organs if swallowed. The degree of injury will depend on the amount absorbed from the gut. This hazard evaluation is based on the known toxicity of the ingredients in this

substance. Read the Additional Health Data section (12) of this document for more information.

4. PROTECTIVE EQUIPMENT

EYE PROTECTION:

Do not get this material in your eyes. Eye contact can be avoided by wearing chemical goggles.

SKIN PROTECTION:

No special skin protection is usually necessary. Avoid prolonged or frequently repeated skin contact with this material. Skin contact can be minimized by wearing protective clothing.

RESPIRATORY PROTECTION:

No special respiratory protection is normally required. However, if operating conditions create high airborne concentrations, the use of an approved respirator is recommended.

VENTILATION:

Use adequate ventilation to keep the airborne concentrations of this material below the recommended exposure standard.

5. FIRE PROTECTION

FLASH POINT: (COC) 320F (160C)

AUTOIGNITION: NDA

FLAMMABILITY: NDA

EXTINGUISHING MEDIA:

CO₂, Dry Chemical, Foam, Water Fog

NFPA RATINGS: Health 1; Flammability 1; Reactivity 0; Special NDA;

HMIS RATINGS: Health 1; Flammability 1; Reactivity 0; Other NDA;

(Least-0, Slight-1, Moderate-2, High-3, Extreme-4). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association or, if applicable, the National Paint and Coating Association, and do not necessarily reflect the hazard evaluation of the Chevron Environmental Health Center. Read the entire document and label before using this product.

FIRE FIGHTING PROCEDURES:

For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.

COMBUSTION PRODUCTS:

Normal combustion forms carbon dioxide, water vapor and may produce oxides of sulfur.

6. STORAGE, HANDLING, AND REACTIVITY

HAZARDOUS DECOMPOSITION PRODUCTS:

NDA

STABILITY:

Revision Number: 5

Revision Date: 09/22/89

MSDS Number: 002966

NDA - No Data Available

NA - Not Applicable

Stable.

HAZARDOUS POLYMERIZATION:

Polymerization will not occur.

INCOMPATIBILITY:

May react with strong oxidizing agents, such as chlorates, nitrates, peroxides, etc. Avoid contact with nitrites.

SPECIAL PRECAUTIONS:

READ AND OBSERVE ALL PRECAUTIONS ON PRODUCT LABEL.

DO NOT weld, heat or drill container. Residue may ignite with explosive violence if heated sufficiently. CAUTION! Do not use pressure to empty drum or explosion may result.

7. PHYSICAL PROPERTIES

SOLUBILITY: Forms a stable emulsion with water.

APPEARANCE: Pale lemon yellow liquid

BOILING POINT: NDA

MELTING POINT: NA

EVAPORATION: NA

SPECIFIC GRAVITY: 0.92 @ 15.6/15.6C

VAPOR PRESSURE: NA

PERCENT VOLATILE (VOLUME %): NA

VAPOR DENSITY (AIR=1): NA

VISCOSITY: 28 cSt @ 40C (Min.)

8. SPILL RESPONSE AND DISPOSAL

CHEMTREC EMERGENCY PHONE NUMBER: (800) 424-9300 (24-hour).

SPILL/LEAK PRECAUTIONS:

This material is not expected to present any environmental problems other than those associated with oil spills.

Stop the source of the leak or release. Clean up releases as soon as possible. Contain liquid to prevent further contamination of soil, surface water or groundwater. Clean up small spills using appropriate techniques such as sorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Follow prescribed procedures for reporting and responding to larger releases. However, because of its dispersant properties, this material forms emulsions with water.

DISPOSAL METHODS:

Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations. Contact local environmental or health authorities for approved disposal of this material.

9. EXPOSURE STANDARDS, REGULATORY LIMITS AND COMPOSITION

COMPOSITION COMMENT:

All the components of this material are on the Toxic Substances Control Act Chemical Substances Inventory.

Based upon information reviewed to date, this product fits the ACGIH definition for mineral oil mist. The ACGIH TLV is 5mg/m³, the OSHA PEL is 5mg/m³. This substance is subject to the provisions of the Pennsylvania Worker and Community Right-to-Know Act. Specific chemical identities are trade secret under the provisions of 35 Pennsylvania Statute Section 7311.

The percent compositions are given to allow for the various ranges of the components present in the whole product and may not equal 100%.

PERCENT/CAS# COMPONENT/REGULATORY LIMITS

100.0 % CHEVRON Soluble Oil B

CONTAINING

80.0 % DISTILLATES, HYDROTREATED HEAVY NAPHTHENIC
CAS64742525

20.0 % ADDITIVES INCLUDING THE FOLLOWING

CAS111762 ETHANOL, 2-BUTOXY
25ppm ACGIH TLV
25ppm OSHA PEL

CAS111466 DIETHYLENE GLYCOL

CAS107415 2-METHYL-2,4-PENTANEDIOL
25ppm ACGIH TLV

TLV - Threshold Limit Value	PEL - Permissible Exposure Limit
STEL - Short-term Exposure Limit	TPQ - Threshold Planning Quantity
RQ - Reportable Quantity	CPS - CUSA Product Code
CC - Chevron Chemical Company	CAS - Chemical Abstract Service Number

10. REGULATORY INFORMATION

DOT SHIPPING NAME: NOT DESIGNATED AS A HAZARDOUS MATERIAL BY THE
FEDERAL DOT

DOT HAZARD CLASS: NOT APPLICABLE

DOT IDENTIFICATION NUMBER: NOT APPLICABLE

SARA 311 CATEGORIES: 1. Immediate (Acute) Health Effects; YES

Revision Number: 5 Revision Date: 09/22/89 MSDS Number: 002966
NDA - No Data Available NA - Not Applicable

2. Delayed (Chronic) Health Effects; NO
3. Fire Hazard; NO
4. Sudden Release of Pressure Hazard; NO
5. Reactivity Hazard; NO

WHEN A COMPONENT OF THIS MATERIAL IS SHOWN IN THIS SECTION, THE REGULATORY LIST ON WHICH IT APPEARS IS INDICATED.

2-METHYL-2,4-PENTANEDIOL	02,10,14,28,
DIETHYLENE GLYCOL	10,
ETHANOL, 2-BUTOXY	02,10,14,17,25,26,28,

REGULATORY LISTS:

01-SARA 313	02-MASS RTK	03-NTP Carcinogen
04-CA Prop. 65	05-MI 406	06-IARC Group 1
07-IARC Group 2A	08-IARC Group 2B	09-SARA 302/304
10-PA RTK	11-NJ RTK	12-CERCLA 302.4
13-MN RTK	14-ACGIH TLV	15-ACGIH STEL
16-ACGIH Calculated TLV	17-OSHA PEL	18-OSHA STEL
19-Chevron TLV	20-EPA Carcinogen	21-TSCA SECT 4
22-TSCA SECT 5 SNUR	23-TSCA SECT 6 RULE	24-TSCA SECT 12 EXPORT
25-TSCA SECT 8A CAIR	26-TSCA SECT 8D REPORT	27-TSCA SECT 8E
28-Canadian WHMIS		

11. PRODUCT TOXICOLOGY DATA

EYE IRRITATION:

NDA. The hazard evaluation was based on data on the components.

SKIN IRRITATION:

NDA. The hazard evaluation was based on data from similar materials.

DERMAL TOXICITY:

NDA. The hazard evaluation was based on data from similar materials.

RESPIRATORY/INHALATION:

NDA. The hazard evaluation was based on data from similar materials.

INGESTION:

NDA. The hazard evaluation was based on data from similar materials.

12. ADDITIONAL HEALTH DATA

ADDITIONAL HEALTH DATA COMMENT:

This product contains petroleum base oils which may be refined by various processes including severe solvent extraction, severe hydrocracking, or severe hydrotreating. None of the oils require a cancer warning under the OSHA Hazard Communication Standard (29 CFR 1910.1200). These oils have not been listed in the National Toxicology Program (NTP) Annual Report nor have they been classified by the International Agency for Research on Cancer (IARC) as; carcinogenic to humans (Group 1), probably carcinogenic to humans (Group 2A), or possibly carcinogenic to humans (Group 2B).

Revision Number: 5

Revision Date: 09/22/89

MSDS Number: 002966

NDA - No Data Available

NA - Not Applicable

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since the information contained herein may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modification of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

CALIFORNIA CHEMICAL INVENTORY FORM - DESCRIPTION PAGE

FORM 3

(1) ADD DELETE REVISE NO CHANGE

PAGE (2) 40 OF (3) 46

BUSINESS NAME (4) ELASCO INC
 CHEMICAL LOCATION (5) 11377 MARKOV DR. GARDEN GROVE, CA 92841
 MAP # (if more than one) (6) 1 GRID # (7) C-D,2-5;D-H,3-4

CHEMICAL NAME (8) Phosphoric Acid TRADE SECRET (11) Y N
 COMMON NAME (9) Freemont 386 AHM/EHS (12) Y N
 CAS # (10) 7664-38-2
 FIRE CODE HAZARD CLASSES (13) 14
 *IF EHS BOX IS "Y" ALL AMOUNTS MUST BE IN LBS

*COMPLETE BLOCK (13) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.
 TYPE (14) PURE MIXTURE WASTE CHECK IF RADIOACTIVE (15) (16) _____
 PHYSICAL STATE (17) SOLID LIQUID GAS CURIES _____
 FED HAZARD CATEGORIES (18) FIRE REACTIVE PRESSURE RELEASE ACUTE HEALTH CHRONIC HEALTH
 STATE WASTE CODE (19) _____ UNITS (22) GAL CU FT LBS TONS MAX DAILY AMT (23) _____
 DAYS ON SITE (20) _____ *If EHS, amounts must be in lbs. AVG DAILY AMT (24) _____
 LARGEST CONTAINER (21) _____ ANNUAL WASTE AMT (25) _____
 STORAGE CONTAINER (26) ABOVE GROUND TANK - INSIDE CAN BOX(S) TANK WAGON
 UNDER GROUND TANK CARBOY CYLINDER RAIL CAR
 TANK INSIDE BUILDING SILO GLASS CONTAINER
 STEEL DRUM FIBER DRUM PLASTIC CONTAINER Other
 PLASTIC/NONMETALLIC DRUM BAG(S) IN MACHINERY OR EQUIP.
 PRESSURE STORAGE (27) AMBIENT ABOVE AMBIENT BELOW AMBIENT
 STORAGE TEMPERATURE (28) AMBIENT ABOVE AMBIENT BELOW AMBIENT CRYOGENIC

(29) % WT

1.
2.
3.

(30) HAZARDOUS COMPONENTS	(31) EHS/AHM	(32) CAS #
	<input type="checkbox"/> Y <input type="checkbox"/> N	
	<input type="checkbox"/> Y <input type="checkbox"/> N	
	<input type="checkbox"/> Y <input type="checkbox"/> N	

(33) ADDITIONAL LOCALLY COLLECTED INFORMATION
 *COMPLETE BLOCK (33) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.

NFPA CLASSIFICATION _____

UN/DOT # _____ Refer to shipping papers or MSDS

DOT HAZARD CLASS _____ Refer to shipping papers or MSDS

UFC HAZARD CLASS _____

NFPA 704 HAZARD DIAMOND
 FIRE RED

HEALTH BLUE → 1 (HEALTH) (BLUE) 0 (REACTIVITY) (YELLOW) ← REACTIVE YELLOW

SPECIAL HAZARD ↗ 0 (SPECIAL HAZARD) (WHITE) ↖ 0 (SPECIAL HAZARD) (WHITE) OX/WX

MAKE AS MANY COPIES OF CHEMICAL INVENTORY FORM AS NEEDED

HAZ MAT #27

MATERIAL SAFETY DATA SHEET

FREMONT INDUSTRIES, INC.
4400 Valley Industrial Blvd. N.
P.O. Box 67
Shakopee, MN 55379

PHONE: (612) 445-4121
FAX: (612) 496-3027
EMERGENCY PHONE: (612) 445-4121
CHEMTREC: (800) 424-9300

FREMONT-386

SECTION I GENERAL INFORMATION

NAME ON LABEL (Identity): FREMONT 386 Acid Scale Remover
CHEMICAL FAMILY: Acid
HMIS HAZARD CODES: Health (1) Flammability (0) Reactivity (0)
NFPA HAZARD CODES: Health (2) Flammability (0) Reactivity (0) Special Hazard: NA
HAZARD RATING SCALE: 4 = Severe 3 = Serious 2 = Moderate 1 = Slight 0 = Minimal

SECTION II HAZARDOUS INGREDIENTS

PRINCIPAL HAZARDOUS COMPOUNDS (CHEMICAL & COMMON NAME(S))	PERCENT (OPTIONAL)	OSHA PEL	ACGIH TLV	CAS #
*Phosphoric Acid	65.0	1 mg/M ³	1 mg/M ³	7664-38-2

NA = Not Applicable NE = Not Established

SECTION III PHYSICAL DATA

BOILING POINT (°F): 212°F	SPECIFIC GRAVITY (H ₂ O = 1): 1.475
VAPOR PRESSURE (mm Hg): Unknown	EVAPORATION RATE (BuAc = 1): Unknown
SOLUBILITY IN WATER: Complete	MELTING POINT (°F): NA
VAPOR DENSITY (Air = 1): Unknown	
APPEARANCE AND ODOR: Clear, light amber liquid.	

SECTION IV FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method Used): Nonflammable (T.C.C.)
FLAMMABLE LIMITS: NA LEL: UEL:
EXTINGUISHING MEDIA: Use media proper to primary cause of fire.
AUTO-IGNITION TEMPERATURE: None

SPECIAL FIRE FIGHTING PROCEDURES: Firefighters should wear self-contained breathing apparatus in the positive pressure mode with a full face piece when there is a possibility of exposure to smoke, fumes, or hazardous decomposition products. Wear all protective equipment.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Use water spray to cool containers in fire area.

SECTION V REACTIVITY DATA

STABILITY: Unstable ___ Stable X
CONDITIONS TO AVOID: None
INCOMPATIBILITY (Materials to Avoid): Strong alkaline agents and contact with metals may liberate hydrogen.
HAZARDOUS POLYMERIZATION: Will Not Occur X May Occur ___
CONDITIONS TO AVOID: None
HAZARDOUS DECOMPOSITION PRODUCTS: Oxides of phosphorus.

SECTION VI HEALTH HAZARD DATA

ROUTE(S) OF ENTRY: Eyes, skin and inhalation.
HEALTH HAZARDS: Acute - Eye burns, mild irritation of skin and mucous membranes.
Chronic - Eye burns, moderate irritation of skin and mucous membranes.

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CHEMTREC: (800) 424-9300

FREMONT-386

SECTION VI HEALTH HAZARD DATA (continued)

CHEMICAL LISTED AS CARCINOGEN OR POTENTIAL CARCINOGEN: Yes ___ No X
NATIONAL TOXICOLOGY PROGRAM: Yes ___ No X
I.A.R.C. MONOGRAPHS: Yes ___ No X OSHA: Yes ___ No X

SIGNS AND SYMPTOMS OF EXPOSURE: Redness, burning sensation, tearing.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: May cause irritation of eyes, itching of skin and coughing or sneezing.

EMERGENCY AND FIRST AID PROCEDURES:

EYES: Flush with plenty of water for at least 15 minutes and call a physician immediately.

SKIN: Wash with plenty of water.

INHALATION: Seek fresh air. If irritation persists, call a physician.

INGESTION: Call a physician immediately. Do not induce vomiting. Drink large quantities of water.

SECTION VII PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Contain spills or leaks to the environment. Scoop up major portion and dry wipe. Neutralize with mildly alkaline material. Flush with plenty of water when the pH is 6-9. Avoid breathing mists.

WASTE DISPOSAL METHOD: (Concentrate) Neutralize to a pH of 6-9 with mildly alkaline material. Dispose of in accordance with Federal, State, and Local regulations.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Wear all protective equipment when handling product. Keep container closed when not in use. Do not get into eyes. Do not take internally.

OTHER PRECAUTIONS: Use as directed. Wash thoroughly after handling product.

SECTION VIII SPECIAL PROTECTION INFORMATION AND CONTROL MEASURES

RESPIRATORY PROTECTION (Specify Type): NIOSH/MSHA approved respirator for vapor and nuisance mists (3M #9920).

VENTILATION: LOCAL EXHAUST: Recommended
MECHANICAL (General): Recommended SPECIAL: None OTHER: None

PROTECTIVE GLOVES: Rubber gloves.

EYE PROTECTION: Safety goggles or splash resistant face shield.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Rubber apron, rubber boots, eye wash.

WORK/HYGIENIC PRACTICES: Use as directed. Do not take internally. Wash thoroughly after using product. Remove and wash soiled clothing before reuse.

MATERIAL SAFETY DATA SHEET

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FREMONT-386

SECTION IX REGULATORY INFORMATION

CERCLA 40 CFR 302.4: Phosphoric Acid - RQ = 5,000 lbs. Product RQ = 7,692 lbs.

SARA TITLE III:

Section 302/304: NA

Section 311/312 Hazard Category: Acute

Section 313: *Denotes chemical subject to reporting requirements of Section 313 SARA Title III and 40 CFR 372.

E.H.C. (Chemist)

Prepared by (Optional)

8-2-94

Date Prepared

We believe the information contained herein, including data, recommendations and other items set forth are reliable, but they are given without warranty of any kind, expressed or implied, as to the accuracy, completeness, dependability, or reliability thereof, except that such information is, to the best of Fremont's knowledge and belief, accurate as of the date indicated.

CALIFORNIA CHEMICAL INVENTORY FORM – DESCRIPTION PAGE

(1) ADD DELETE REVISE NO CHANGE

PAGE (2) 46 OF (3) 46

BUSINESS NAME (4) ELASCO INC
 CHEMICAL LOCATION (Address, Area, Building, etc.) (5) 7101 DONALD CIRCLE
 MAP # (if more than one) (6) 2 ; GRID # (7) E3

CHEMICAL NAME (8) SURFACTANT Blend TRADE SECRET (11) Y N
 COMMON NAME (9) SERCO # 73 AHM / *EHS (12) Y N
 CAS # (10) Mixture
 FIRE CODE HAZARD CLASSES* (13) 14
 *IF EHS BOX IS "Y" ALL AMOUNTS MUST BE IN LBS

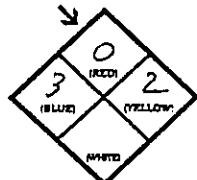
*COMPLETE BLOCK (13) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.

TYPE (14) PURE MIXTURE WASTE CHECK IF RADIOACTIVE (15) (16) _____
 PHYSICAL STATE (17) SOLID LIQUID GAS CURIES _____
 FED HAZARD CATEGORIES (18) FIRE REACTIVE PRESSURE RELEASE ACUTE HEALTH CHRONIC HEALTH
 STATE WASTE CODE (19) _____ UNITS (22) GAL CU FT LBS TONS MAX DAILY AMT (23) _____
 DAYS ON SITE (20) _____ *If EHS, amounts must be in lbs. AVG DAILY AMT (24) _____
 LARGEST CONTAINER (21) _____ ANNUAL WASTE AMT (25) _____
 STORAGE CONTAINER (26) ABOVE GROUND TANK - INSIDE CAN BOX(S) TANK WAGON
 UNDER GROUND TANK CARBOY CYLINDER RAIL CAR
 TANK INSIDE BUILDING SILO GLASS CONTAINER
 STEEL DRUM FIBER DRUM PLASTIC CONTAINER Other
 PLASTIC/NONMETALLIC DRUM BAG(S) IN MACHINERY OR EQUIP.
 PRESSURE STORAGE (27) AMBIENT ABOVE AMBIENT BELOW AMBIENT
 STORAGE TEMPERATURE (28) AMBIENT ABOVE AMBIENT BELOW AMBIENT CRYOGENIC

(29) % WT	(30) HAZARDOUS COMPONENTS	(31) EHS/AHM	(32) CAS #
1. <u>N/I</u>	<u>Sodium Hydroxide</u>	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	<u>1310732</u>
2. <u>N/I</u>	<u>Triene Dihydrate</u>	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	<u>2893789</u>
3.		<input type="checkbox"/> Y <input type="checkbox"/> N	

(33) **ADDITIONAL LOCALLY COLLECTED INFORMATION**
 *COMPLETE BLOCK (33) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.

NFPA CLASSIFICATION _____
 UN/DOT # _____ Refer to shipping papers or MSDS
 DOT HAZARD CLASS _____ Refer to shipping papers or MSDS
 UFC HAZARD CLASS _____

NFPA 704 HAZARD DIAMOND
 FIRE RED
 HEALTH BLUE →  ← REACTIVE YELLOW
 SPECIAL HAZARD ↗ WHITE OX/WX ↖

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01-11-90
CSS-14126

MATERIAL SAFETY DATA SHEET 00012
S.E.RYKOFF & CO.- MFG DIV.

SECTION 1 - MANUFACTURER INFORMATION

MANUF/DIST : S.E. RYKOFF & CO.
MANUFACTURING DEPT. EMERGENCY PHONE.....: 213-622-4131
737 TERMINAL STREET PREPARATION/REVISION DATE: 01-11-90
LOS ANGELES CA 90021
PREPARER/CONTACT: LARRY G. COPELAND
LOCATION : LA

TRADE NAME/SYNONYMS...: SERCO #73
CHEMICAL NAME/SYNONYMS: SURFACTANT BLEND
CHEMICAL FAMILY.....: SUPERCHLOR MACHINE DISHWASH COMPOUND
FORMULA.....: PROPRIETARY BLEND
PRODUCT CODE.....: 0-27244,0-27259

HAZARDOUS MATERIAL IDENTIFICATION SYSTEM (HMIS)

*	HEALTH.....	3	*
*	FLAMMABILITY..	0	*
*	REACTIVITY....	2	*
*	PROTECTION....	1	*

Post-it brand fax transmittal memo 7571 5 of pages 4

Form #	Tom Tansu	REIT/DICE
Dept.	ELASCO	RYKOFF/SEXTON
Form #		

SECTION 2 - HAZARDOUS INGREDIENTS

THIS PRODUCT CONTAINS HAZARDOUS INGREDIENTS : YES

CHEMICAL/Common Name	CAS-NUMBER	§	PEL-OSHA	TLV-ACGIH
SODIUM HYDROXIDE	1310732	N/I	2 mg/M3	2 mg/M3
SODIUM DICHLORO-S-TRIAZINE-TRIONE DIHYDRATE	2893789	N/I	N/A	N/A
SODIUM CARBONATE	497-19-8	N/I	N/A	N/A

THIS PRODUCT CONTAINS CARCINOGENS (NTP, IARC, or OSHA): NO

SECTION 3 - HEALTH HAZARD DATA

HEALTH EFFECTS (Acute And Chronic)-

ACUTE:
CORROSIVE TO UPPER RESPIRATORY TRACT, EYES, SKIN AND MUCOUS MEMBRANES.
HARMFUL IF SWALLOWED. THIS PRODUCT IS EXTREMELY ALKALINE AND IS VERY
CORROSIVE TO ALL BODY TISSUES. SEE "FIRST AID" SECTION BELOW.

CHRONIC:
DERMATITIS AND BURNS FROM REPEATED CONTACT TO SKIN IF NOT PROMPTLY REMOVED.
UST IS IRRITATING TO EYES AND UPPER RESPIRATORY TRACT.

PRIMARY ROUTES OF ENTRY-
INHALATION OF DUST, CONTACT OF POWDER WITH SKIN AND EYES, INGESTION.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE-
RESPIRATORY AND SKIN CONDITIONS.

EMERGENCY FIRST AID PROCEDURES-
EXTERNAL:

WASH AFFECTED AREA IMMEDIATELY WITH COPIOUS AMOUNTS OF WATER. VINEGAR OR USP GRADE BORIC ACID SOLUTIONS MAY BE USED ON SKIN TO NEUTRALIZE THE PRODUCT. REMOVE CONTAMINATED CLOTHING AND WASH PRIOR TO REUSE. FLUSH EYE WITH POTABLE WATER FOR FIFTEEN (15) MINUTES AND SEE A PHYSICIAN IMMEDIATELY IF PRODUCT IS INSTILLED INTO EYE.

INTERNAL:

INHALATION OF DUST SHOULD BE TREATED BY REMOVING VICTIM TO FRESH AIR AND CALLING A PHYSICIAN.

INGESTION OF POWDER - GIVE WATER OR MILK IF VICTIM IS CONSCIOUS. CALL A PHYSICIAN. NEVER GIVE LIQUIDS TO ANYONE WHO IS UNCONSCIOUS.

SECTION 4 - CHEMICAL DATA

BOILING POINT (F).....: N/A	SPECIFIC GRAVITY (WATER=1).....: > 2
VAPOR PRESSURE (mmHg): N/A	PERCENT VOLATILE BY VOLUME (%): < 5%
VAPOR DENSITY (AIR=1): N/A	EVAPORATION RATE (WATER =1): N/A

SOLUBILITY IN WATER-
MISCIBLE IN ALL PROPORTIONS.

APPEARANCE AND ODOR INFORMATION-
WHITE POWDER.

SECTION 5 - PHYSICAL HAZARD DATA

FLASH POINT (Method Used): N/A FLAMMABLE LIMITS : Lel=N/A UEL=N/A

EXTINGUISHING MEDIA-
PRODUCT IS NON-FLAMMABLE.

SPECIAL FIRE FIGHTING PROCEDURES-
N/A

UNUSUAL FIRE AND EXPLOSION HAZARDS-
IF EXPOSED TO FIRE, TOXIC VAPORS COULD BE RELEASED.

INCOMPATIBILITY (Materials To Avoid)-
STRONG ACIDS AND ALKALIS, REDUCING AGENTS, ALUMINUM, TIN AND ZINC.

HAZARDOUS DECOMPOSITION PRODUCTS-
CHLORINE GAS AND OXIDES OF CHLORINE.

WILL HAZARDOUS POLYMERIZATION OCCUR-
NO

01-11-90
CSS-14126

MATERIAL SAFETY DATA SHEET 00012
S.E.RYKOFF & CO.- MFG DIV.

PAGE 3

CONDITIONS TO AVOID FOR POLYMERIZATION-
KEEP SEALED CONTAINERS AWAY FROM DIRECT HEAT. EXPOSURE TO WATER IN CONFINED
SPACE MAY RESULT IN BUILDUP OF HEAT.

IS THE PRODUCT STABLE-
YES

CONDITIONS TO AVOID FOR STABILITY-
N/A

SECTION 6 - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED-
SWEEP UP. WASH AREA WITH WATER. AVOID INHALING DUST, EYE AND SKIN CONTACT.

WASTE DISPOSAL METHODS-
WASH WITH WATER TO SANITARY SEWER.

SECTION 7 - EXPOSURE CONTROL INFORMATION

VENTILATION-
LOCAL EXHAUST: NORMAL
SPECIAL.....: N/A

MECHANICAL (General): N/A
OTHER.....: N/A

RESPIRATORY PROTECTION-
USE NIOSH APPROVED RESPIRATOR IF DUST CONCENTRATION CAUSES RESPIRATORY
TRACT IRRITATION.

PROTECTIVE GLOVES-
RUBBER OR PLASTIC

OTHER PROTECTIVE EQUIPMENT-
GOGGLES AND RUBBER OR PLASTIC APRON.

OTHER ENGINEERING CONTROLS-
N/I

WORK PRACTICES-
NORMAL WORK PRACTICES.

HYGIENIC PRACTICES-
NORMAL HYGIENIC PRACTICES.

SECTION 8 - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE-
KEEP SEALED CONTAINERS AWAY FROM DIRECT HEAT. AVOID EXPOSURE TO WATER IF
PRODUCT IS STORED IN A CONFINED SPACE TO PREVENT BUILDUP OF HEAT.

01-11-90
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MATERIAL SAFETY DATA SHEET 00012
S.E.RYKOFF & CO.- MFG DIV.

PAGE

MAINTENANCE PRECAUTIONS-
NONE.

OTHER PRECAUTIONS-
N/A

ADDITIONAL COMMENTS-
N/A

CALIFORNIA CHEMICAL INVENTORY FORM – DESCRIPTION PAGE

FORM 3

(1) ADD DELETE REVISE NO CHANGE

PAGE (2) 42 OF (3) 46

BUSINESS NAME (4) ELASCO INC
 CHEMICAL LOCATION (5) (Address, Area, Building, etc.) 11377 MARKON DR. GARDEN GROVE, CA 92841
 MAP # (if more than one) (6) 1 GRID # (7) C-D,2-5;D-H,3-4

CHEMICAL NAME (8) Polydimethyl siloxANE
 COMMON NAME (9) Release Agent E-155
 CAS # (10) 63148-62-9
 FIRE CODE HAZARD CLASSES* (13) 3(C3B)

TRADE SECRET (11) Y N
 AHM / *EHS (12) Y N

*IF EHS BOX IS "Y"
ALL AMOUNTS MUST BE IN LBS

*COMPLETE BLOCK (13) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.

TYPE (14) PURE MIXTURE WASTE CHECK IF RADIOACTIVE (15) (16) _____
 PHYSICAL STATE (17) SOLID LIQUID GAS CURIES _____
 HAZARD CATEGORIES (18) FIRE REACTIVE PRESSURE RELEASE ACUTE HEALTH CHRONIC HEALTH
 STATE WASTE CODE (19) _____ UNITS (22) GAL CU FT LBS TONS MAX DAILY AMT (23) _____
 DAYS ON SITE (20) _____ *If EHS, amounts must be in lbs. AVG DAILY AMT (24) _____
 LARGEST CONTAINER (21) _____ ANNUAL WASTE AMT (25) _____
 STORAGE CONTAINER (26) ABOVE GROUND TANK - INSIDE CAN BOX(S) TANK WAGON
 UNDER GROUND TANK CARBOY CYLINDER RAIL CAR
 TANK INSIDE BUILDING SILO GLASS CONTAINER
 STEEL DRUM FIBER DRUM PLASTIC CONTAINER Other
 PLASTIC/NONMETALLIC DRUM BAG(S) IN MACHINERY OR EQUIP.
 PRESSURE STORAGE (27) AMBIENT ABOVE AMBIENT BELOW AMBIENT
 STORAGE TEMPERATURE (28) AMBIENT ABOVE AMBIENT BELOW AMBIENT CRYOGENIC

(29) % WT	(30) HAZARDOUS COMPONENTS	(31) EHS/AHM	(32) CAS #
1.		<input type="checkbox"/> Y <input type="checkbox"/> N	
2.		<input type="checkbox"/> Y <input type="checkbox"/> N	
3.		<input type="checkbox"/> Y <input type="checkbox"/> N	

(33) **ADDITIONAL LOCALLY COLLECTED INFORMATION**
 *COMPLETE BLOCK (33) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.

NFPA CLASSIFICATION _____ NFPA 704 HAZARD DIAMOND FIRE RED

UN/DOT # _____ Refer to shipping papers or MSDS

DOT HAZARD CLASS _____ Refer to shipping papers or MSDS

UFC HAZARD CLASS _____

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021-E155

E-155 SILICONE

WACKER SILICONES CORPORATION

3301 Sutton Road, Adrian, Michigan 49221

24-hour EMERGENCY PHONE NUMBER (517) 264-8500

IN CASE OF SPILL EMERGENCY, DAY OR NIGHT, CALL CHEMTREC 800-424-9300
For Other Information Call (517) 264-8500

HAZ MAT # 30

NOV 1 REC'D '92

MATERIAL SAFETY DATA SHEET

This Material Safety Data Sheet (MSDS) meets the requirements of the Federal OSHA Hazard Communications Standard (29 CFR 1910.1200).

SECTION I. PRODUCT IDENTIFICATION

MATERIAL NAME: RELEASE AGENT E-155
 CHEMICAL FAMILY: Organosiloxane
 CHEMICAL NAME AND SYNONYMS: Not applicable
 FORMULA: Not applicable
 COMPOSITION: This material is 100% organopolysiloxane fluid for which the specific chemical identity is considered a trade secret.

SECTION I A. HAZARDOUS COMPONENTS

INGREDIENTS	CAS #	OSHA PEL	ACGIH TLV
Polydimethylsiloxane	63148-62-9	n.e.	n.e.
Alkylene diaminofunctional polydimethylsiloxane	Proprietary	n.e.	n.e.
Methanol	67-56-1	200 ppm (skin)	200 ppm (skin)

SECTION II. PHYSICAL PROPERTIES

BOILING POINT, degrees F: Not volatile
 VAPOR PRESSURE, 68 deg.F mm. Hg: 0.1 mm
 VAPOR DENSITY (Air = 1): Not applicable
 SOLUBILITY IN WATER: Negligible
 APPEARANCE AND ODOR: Clear liquid with slight odor
 SPECIFIC GRAVITY (Water = 1): 0.968
 PERCENT VOLATILE (by volume): None
 EVAPORATION RATE (Ether = 1): None
 FLASH POINT, degrees F: 280 (138 degrees C)
 (Method used) Pensky Martens Closed Cup
 FLAMMABLE LIMITS IN AIR, % LEL: Not determined
 UEL: Not determined

SECTION III. FIRE HAZARDS

This material is a liquid which burns with difficulty, but will support combustion.

SECTION IV. FIREFIGHTING TECHNIQUES

As in any fire, prevent human exposure to fire, smoke, fumes or products of combustion. Evacuate non-essential personnel from the fire area. Fire fighters should wear full-face, self-contained breathing apparatus and impervious protective clothing.

Use carbon dioxide, dry chemical or foam type extinguishing media. /

SECTION V. TOXICOLOGY

Toxicological testing has not been conducted with this material.

SECTION VI. HUMAN HEALTH HAZARDS

EYE CONTACT: Causes irritation.

SKIN CONTACT: No toxic effects expected.

INHALATION: No toxic effects expected.

INGESTION: Not expected in industrial use.

ACUTE EFFECTS OF EXPOSURE: Refer to routes of exposure above.

CHRONIC EFFECTS OF EXPOSURE: None known

There are no data available which address medical conditions which are generally recognized as being aggravated by exposure to this product.

This material releases methyl alcohol upon hydrolysis. Methyl alcohol causes optic neuropathy, metabolic acidosis and respiratory depression. Signs and symptoms of overexposure include headache, blurred vision, constricted visual fields, shortness of breath, dizziness and vertigo. Ingestion of methyl alcohol may lead to blindness or death.

This material does not contain any ingredients listed by IARC, NTP or OSHA as carcinogens.

SECTION VII. FIRST AID

EYE CONTACT: In case of contact, flush eyes with large amounts of running water for at least 15 minutes. Hold eyelids apart to ensure rinsing of the entire surface of the eye and lids with water. Get medical attention.

SKIN CONTACT: Skin contact is not anticipated to cause irritation. If irritation does occur, obtain medical attention.

INHALATION: Not applicable

INGESTION: Not applicable

SECTION VIII. INDUSTRIAL HYGIENE

The recommendations described in this section are provided as general guidance for minimizing exposure when handling this product. Because use conditions will vary depending upon customer applications, specific safe handling procedures should be developed by a person knowledgeable of the intended use conditions and equipment. During the development of safe handling procedures, consideration should be given to the need for cleaning of equipment and piping systems to render them nonhazardous before maintenance and repair activities are performed.

ENGINEERING CONTROLS: In those cases where engineering controls are indicated by the use conditions, the following traditional exposure control techniques may be used to effectively minimize employee exposure: local exhaust ventilation, enclosed system design, process isolation and remote control in combination with appropriate use of personal protective equipment. Eyewash stations and safety showers should be easily assessable.

INGESTION: All food should be kept in a separate area away from the storage/use location. Eating, drinking and smoking should be prohibited in areas where there is a potential for significant exposure to this material. Before eating, hands and face should be thoroughly washed.

SKIN CONTACT: Skin contact should be minimized through the use of gloves and suitable long-sleeved clothing selected with regard for use condition exposure potential.

EYE CONTACT: Eye contact should be avoided through the use of chemical safety glasses, goggles or a face shield selected with regard for use condition exposure potential.

INHALATION: If use conditions generate airborne contamination, the material should be handled in an open (e.g., outdoor) or well ventilated area. Where adequate ventilation is not available, use NIOSH-approved organic vapor respirators with dust, mist and fume filter to reduce exposure. Where exposure potential under the use conditions necessitates a higher level of protection, use a positive-pressure, air-supplied respirator.

EXPOSURE LIMITS: No exposure limit has been established for this material. Exposure limits for its hazardous components, if any, are listed in Section IA on page one.

SECTION IX. CHEMICAL REACTIVITY

Relatively nonreactive.

SECTION X. STABILITY

Stable at ambient temperatures and atmospheric pressure.

HAZARDOUS DECOMPOSITION PRODUCTS: SiO₂, CO, CO₂ and various hydrocarbon fragments.

SECTION XI. SPILL HANDLING

Make sure all personnel involved in the spill cleanup follow good industrial hygiene practices (refer to SECTION VIII: INDUSTRIAL HYGIENE).

Absorb spill with sand or Fuller's earth. Sweep up and place in an appropriate chemical waste container. Flush spill area with water. Observe all local, state and federal laws and regulations regarding disposal, spill, cleanup, removal or discharge.

(See SECTION XIV: DISPOSAL OF UNUSED MATERIAL)

IN CASE OF SPILL EMERGENCY, DAY OR NIGHT, CALL CHEMTREC (800-424-9300)

SECTION XII. CORROSIVITY TO MATERIALS OF CONSTRUCTION

Noncorrosive to materials commonly used in the construction of process equipment, storage and shipping containers.

SECTION XIII. STORAGE REQUIREMENTS

Store in a cool, dry, well ventilated area. Exercise due caution to prevent damage to the container.

SECTION XIV. DISPOSAL OF UNUSED MATERIAL

Material that cannot be used or chemically reprocessed should be disposed of at an approved facility in accordance with any applicable regulations under the Resource Conservation and Recovery Act. NOTE: State and local regulations may be more stringent than Federal.

SECTION XV. DISPOSAL OF CONTAINER

Dispose of empty containers according to any applicable regulations under the Resource Conservation and Recovery Act. NOTE: State and local regulations may be more stringent than Federal.

Empty containers may contain residual material. Do not reuse containers unless properly reconditioned.

SECTION XVI. REGULATORY INFORMATION

TSCA: This material or its components are listed on the TSCA Chemical Substance Inventory and is in compliance with all applicable rules and orders.

SARA: This material does not contain any substances on the list of Toxic Chemicals subject to Section 313 of the Superfund Amendments and Reauthorization Act of 1986 (SARA Title III).

RCRA Waste Number: Not applicable

Department of Transportation (DOT):

Proper shipping name (172.101 (c)): None - not regulated
 Technical Name(s) (172.203 (k)): None
 Hazard Class (172.101 (d)): None - non-hazardous
 UN/NA Number (172.101 (e)): Not applicable
 Label Required: None
 Hazardous Substance RQ (Name): Not applicable
 Inhalation hazard (173.3a (b)): Not applicable

California Proposition 65: No components listed.
 Massachusetts Substance List: No components listed.
 Pennsylvania Hazardous Substance List: No components listed.
 New Jersey R-T-K Hazardous Substance List: No components listed.

Hazardous Materials Identification System (HMIS)

(for material as packaged):

Health Hazard = 2
 Flammability Hazard = 1
 Reactivity Hazard = 1
 Personal Protection = B

 SECTION XVII. ADDITIONAL INFORMATION

n.e. = Not established; n.a. = Not applicable/not available; n.d. = Not determined; TLV = Threshold Limit Value; PEL = Permissible Exposure Limit; OSHA = Occupational Safety and Health Administration; ACGIH = American Conference of Governmental Industrial Hygienists; LEL = Lower Explosive Limit; UEL = Upper Explosive Limit; ppm = parts per million; TSCA = Toxic Substances Control Act; SARA = Superfund Amendments and Reauthorization Act; DOT = Department of Transportation.

MSDS ISSUE DATE : 1/30/91
 SUPERCEDES MSDS DATED: 1/21/91

This information relates to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is to the best of our knowledge and belief accurate and reliable as of the date compiled. However, no representation, warranty or guarantee, expressed or implied, is made as to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his own particular use. We do not accept liability for any loss or damage that may occur from the use of this information. Nothing herein shall be construed as a recommendation for uses which infringe valid patents or as extending a license under valid patents.

5

CALIFORNIA CHEMICAL INVENTORY FORM - DESCRIPTION PAGE

FORM 3

(1) ADD DELETE REVISE NO CHANGE

PAGE (2) 39 OF 3) 46

BUSINESS NAME (4) ELASCO INC
 CHEMICAL LOCATION (Address, Area, Building, etc.) (5) 11377 MARKON DR. GARDEN GROVE, CA 92841
 MAP # (if more than one) (6) 1 GRID # (7) C-D, 2-5; D-H, 3-4

CHEMICAL NAME (8) Aluminum Oxide
 COMMON NAME (9) Shot Blast Media
 CAS # (10) Mixture
 FIRE CODE HAZARD CLASSES* (13)

TRADE SECRET (11) Y N
 AHM/*EHS (12) Y N
 *IF EHS BOX IS "Y"
 ALL AMOUNTS MUST BE IN LBS

*COMPLETE BLOCK (13) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.

TYPE (14) PURE MIXTURE WASTE CHECK IF RADIOACTIVE (15) (16)
 PHYSICAL STATE (17) SOLID LIQUID GAS CURIES
 HAZARD CATEGORIES (18) FIRE REACTIVE PRESSURE RELEASE ACUTE HEALTH CHRONIC HEALTH
 STATE WASTE CODE (19) UNITS (22) GAL CU FT LBS TONS MAX DAILY AMT (23)
 DAYS ON SITE (20) *If EHS, amounts must be in lbs. AVG DAILY AMT (24)
 LARGEST CONTAINER (21) ANNUAL WASTE AMT (25)
 STORAGE CONTAINER (26) ABOVE GROUND TANK - INSIDE CAN BOX(S) TANK WAGON
 UNDER GROUND TANK CARBOY CYLINDER RAIL CAR
 TANK INSIDE BUILDING SILO GLASS CONTAINER
 STEEL DRUM FIBER DRUM PLASTIC CONTAINER Other
 PLASTIC/NONMETALLIC DRUM BAG(S) IN MACHINERY OR EQUIP.
 PRESSURE STORAGE (27) AMBIENT ABOVE AMBIENT BELOW AMBIENT
 STORAGE TEMPERATURE (28) AMBIENT ABOVE AMBIENT BELOW AMBIENT CRYOGENIC

(29) % WT

1.	96
2.	3
3.	

(30) HAZARDOUS COMPONENTS	(31) EHS/AHM	(32) CAS #
Alpha Alumina	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	1344-28-1
Titania	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	13463-67-7
	<input type="checkbox"/> Y <input type="checkbox"/> N	

(33) **ADDITIONAL LOCALLY COLLECTED INFORMATION**
 *COMPLETE BLOCK (33) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.

NFPA CLASSIFICATION _____

UN/DOT # _____
Refer to shipping papers or MSDS

DOT HAZARD CLASS _____
Refer to shipping papers or MSDS

UFC HAZARD CLASS _____

NFPA 704 HAZARD DIAMOND
FIRE RED

SPECIAL HAZARD ↗ ↖ WHITE OX/WX

MAKE AS MANY COPIES OF CHEMICAL INVENTORY FORM AS NEEDED



EXOLON-ESK

EXOLON-ESK COMPANY MATERIAL SAFETY DATA SHEET

Health: 071-5AND 8
Flam. 0
React. 0
P.F.C. E

SECTION I **HAZ MAT #26**

Chemical Name and Synonyms
Fused Aluminum Oxide, Alpha Alumina

Trade Name and Synonyms
Exolon/Fastblast

EMERGENCY TELEPHONE NO.
716-602-4550

HAZARDOUS MATERIAL DESCRIPTION, PROPER SHIPPING NAME, HAZARD CLASS, HAZARD ID NO. 149 CFR 172.1011
N/A

ADDITIONAL HAZARD CLASSES (as applicable)
Classified by OSHA (29 CFR 1910(z) and ACGIH as a Nuisance Dust

CHEMICAL FAMILY
Inert Oxide

FORMULA
Al₂O₃

SECTION II — INGREDIENTS (list all ingredients)

CAS REGISTRY NO.	%W	%V	Permissible Exposure Limits OSHA 1910 (z) (mg/m ³)	CHEMICAL NAME(S)	ACGIH TLV (mg/m ³)	Listed as a Carcinogen in NTP, IARC or OSHA 1910(z) (specify)
1344-28-1	96+		15	Alpha Alumina (Al ₂ O ₃)	10	No
13463-67-7	3		15	Titania (TiO ₂)	10	No
NOTE: These ingredients are combined as a single inert oxide.						

SECTION III — PHYSICAL DATA

BOILING POINT: N/A | SPECIFIC GRAVITY (H₂O = 1): 3.97

VAPOR PRESSURE: N/A | PERCENT VOLATILE BY VOLUME (%): N/A | PERCENT SOLID BY WEIGHT (%): 100%

VAPOR DENSITY (AIR = 1): N/A | EVAPORATION RATE (= 1): N/A

SOLUBILITY IN WATER: Insoluble | pH: N/A

APPEARANCE AND ODOR: No Odor. White to Brown/Reddish Brown in Color, Crystalline Particles or Powder

SECTION IV — FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: N/A | method used: N/A | FLAMMABLE LIMITS: N/A

EXTINGUISHING MEDIA: N/A

SPECIAL FIRE FIGHTING PROCEDURES: N/A

UNUSUAL FIRE AND EXPLOSION HAZARDS: None

SECTION V-HEALTHHAZARD DATA

EFFECTS OF OVEREXPOSURE — Conditions to Avoid	
Choking sensation in extremely dusty atmospheres. Handle with adequate ventilation.	
PRIMARY ROUTES OF ENTRY Inhalation <input checked="" type="checkbox"/> Skin Contact <input type="checkbox"/> Other (specify)	
EMERGENCY AND FIRST AID PROCEDURES	
Remove to dust free area	

SECTION VI-REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID	N/A
	STABLE	X		
INCOMPATIBILITY (materials to avoid) N/A				
HAZARDOUS DECOMPOSITION PRODUCTS: None				
HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID	N/A
	WILL NOT OCCUR	X		

SECTION VII-SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED	
Normal cleanup procedures.	
Respirators may be required.	
WASTE DISPOSAL METHOD Standard landfill methods (Non-hazardous waste)	
CERCLA (Superfund) REPORTABLE QUANTITY (in lbs) N/A	
RCRA HAZARDOUS WASTE NO. (40 CFR 261.33) N/A	
VOLATILE ORGANIC COMPOUND (VOC) (as packaged, minus water) None	
<input type="checkbox"/> Theoretical _____ lb/gal	N/A
<input type="checkbox"/> Analytical _____ lb/gal	N/A

SECTION VIII-SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (specify type) An approved dust respirator (see OSHA 29 CFR 1910.134)			
VENTILATION	LOCAL EXHAUST	Recommended	SPECIAL N/A
	MECHANICAL (General)	None	OTHER N/A
PROTECTIVE GLOVES As Needed		EYE PROTECTION Recommended	
OTHER PROTECTIVE EQUIPMENT N/A			

SECTION IX-SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING	
Handle with adequate ventilation for nuisance dust. See OSHA 29 CFR 1910.94 (ventilation) and 29 CFR 1910.1000 (air contaminants)	

EXOLON-ESK COMPANY

1000 EAST NIAGARA STREET
 P.O. BOX 590
 TONAWANDA, NEW YORK 14151-0590
 AREA 716 693-4550
 TOLL FREE 1-800 962-1100
 TELEX 91-217

Name	Arthur L. Schnellbach
Signature	<i>Arthur L. Schnellbach</i>
Title	Manager of Quality Assurance
Date	

MATERIAL SAFETY DATA SHEET
SAFE-STRIP PAINT SOLVENT PART # 0387

ECOLINK, INC. (A DIV. OF SENTRY CHEMICAL CO), 1481 ROCK MTN BLVD, STONE MOUNTAIN, GA 30083
TEL: 800/886-8240 OR 404/621-8240 REVISED 04/12/94

THIS MSDS COMPLIES WITH
OSHA'S HAZARD COMMUNICATION
STANDARD, 29 CFR 1910.1200.
STANDARD MUST BE CONSULTED
FOR SPECIFIC REQUIREMENTS.

U.S. DEPARTMENT OF LABOR
OCCUPATIONAL SAFETY AND
HEALTH ADMINISTRATION.
(NON-MANDATORY FORM)
FORM APPROVED BY OMB

SECTION I. PRODUCT IDENTIFICATION

PRODUCT IDENTITY (AS USED ON LABEL & LIST):

SAFE-STRIP
ENVIRONMENTALLY PREFERRED PAINT & RESIN SOLVENT

MANUFACTURERS NAME:
SENTRY CHEMICAL CO
1481 ROCK MOUNTAIN BLVD
STONE MOUNTAIN, GA 30083

EMERGENCY TELEPHONE NUMBERS:
800/877-3339 or 800/886-8240
404/934-4242 or 404/621-8240

SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

COMPONENTS:
(SPECIFIC CHEMICAL IDENTITY; COMMON NAMES & CAS NUMBERS)
OSHA PEL, ACGIH TLV, % , OTHER LIMITS RECOMMENDED

GAMMA-BUTYROLACTONE (BLO)	CAS # 96-48-0	
N-METHYLPYRROLIDONE (NMP)	CAS # 872-50-4	TLV:TWA 100 PPM (Estimated)

THIS PRODUCT IS NOT CONSIDERED HAZARDOUS OR RESTRICTED BY EPA RCRA.
SAFE STRIP, IN ITS PURCHASED FORM, IS NOT REGULATED UNDER SARA TITLE III SECTIONS 311 & 312.

CERCLA (superfund) - N/A HMIS 2 / 2 / 0 NFPA 2 / 2 / 0
DOT regulated - No DOT Shipping Name - Liquid Cleaning Comp DOT haz class - N/A DOT number - N/A
NOTE: SAFE STRIP IS COMBUSTIBLE (FLASHPOINT BELOW 200 deg F), AND SHOULD BE HANDLED WITH CARE AROUND OPEN FLAME.

SECTION III-PHYSICAL DATA

BOILING POINT : 396° F	SPECIFIC GRAVITY(H2O=1) : 1.062
VAPOR PRESSURE(mm Hg.): <1	MELTING POINT: N.A.
VAPOR DENSITY(AIR=1): >1	EVAPORATION RATE: <1
SOLUBILITY IN WATER: COMPLETE	(BUTYL ACETATE=1)
APPEARANCE & ODOR: CLEAR, COLORLESS LIQUID WITH MILD ODOR	

SECTION IV-FIRE AND EXPLOSION HAZARD DATA

FLASH POINT PENSKY-MARTENS CLOSED CUP : 197° F
EXPLOSIVE LIMITS : NO DATA FOUND
EXTINGUISHING MEDIA : ALCOHOL FOAM, CO2 OR DRY CHEMICALS
SPECIAL FIRE FIGHTING PROCEDURES: FIGHT AS A HYDROCARBON FIRE. WEAR SELF-CONTAINED, NIOSH APPROVED, BREATHING APPARATUS.
UNUSUAL FIRE AND EXPLOSION HAZARDS: NON-TOXIC AND TOXIC FUMES MAY FORM UPON COMBUSTION. STAY UPWIND OF FIRE.

SECTION V - REACTIVITY DATA

STABILITY : STABLE CONDITIONS TO AVOID: HEATING ABOVE FLASH POINT
INCOMPATIBILITY : AVOID CONTACT WITH STRONG OXIDIZING OR REDUCING AGENTS
HAZARDOUS DECOMPOSITION : OXIDES OF CARBON AND NITROGEN MAY BE FORMED UPON COMBUSTION
HAZARDOUS POLYMERIZATION : WILL NOT OCCUR

MATERIAL SAFETY DATA SHEET
SAFE-STRIP PAINT SOLVENT PART # 0387

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THIS PRODUCT IS NOT CONSIDERED HAZARDOUS OR RESTRICTED BY EPA RCRA.
SAFE STRIP, IN ITS PURCHASED FORM, IS NOT REGULATED UNDER SARA TITLE III SECTIONS 311 & 312.

CERCLA (superfund) - N/A HMIS 2 / 2 / 0 NFPA 2 / 2 / 0
DOT regulated - No DOT Shipping Name - Liquid Cleaning Comp DOT haz class - N/A DOT number - N/A
NOTE: SAFE STRIP IS COMBUSTIBLE (FLASHPOINT BELOW 200 deg F), AND SHOULD BE HANDLED WITH CARE AROUND OPEN FLAME.

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VAPOR PRESSURE(mm Hg.): <1	MELTING POINT: N.A.
VAPOR DENSITY(AIR=1): >1	EVAPORATION RATE: <1 (BUTYL ACETATE=1)
SOLUBILITY IN WATER: COMPLETE	
APPEARANCE & ODOR: CLEAR, COLORLESS LIQUID WITH MILD ODOR	

SECTION IV-FIRE AND EXPLOSION HAZARD DATA

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NIOSH APPROVED, BREATHING APPARATUS.
UNUSUAL FIRE AND EXPLOSION HAZARDS: NON-TOXIC AND TOXIC FUMES MAY FORM UPON
COMBUSTION. STAY UPWIND OF FIRE.

SECTION V - REACTIVITY DATA

STABILITY : STABLE CONDITIONS TO AVOID: HEATING ABOVE FLASH POINT
INCOMPATIBILITY : AVOID CONTACT WITH STRONG OXIDIZING OR REDUCING AGENTS
HAZARDOUS DECOMPOSITION : OXIDES OF CARBON AND NITROGEN MAY BE FORMED UPON
COMBUSTION
HAZARDOUS POLYMERIZATION : WILL NOT OCCUR

- continued on page two -
other side

MATERIAL SAFETY DATA SHEET
SAFE-STRIP PAINT SOLVENT PART # 0387

ECOLINK, INC. (A DIV. OF SENTRY CHEMICAL CO), 1481 ROCK MTN BLVD, STONE MOUNTAIN, GA 30083
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SAFE STRIP, IN ITS PURCHASED FORM, IS NOT REGULATED UNDER SARA TITLE III SECTIONS 311 & 312.

CERCLA (superfund) - N/A HMIS 2 / 2 / 0 NFPA 2 / 2 / 0
DOT regulated - No DOT Shipping Name - Liquid Cleaning Comp DOT haz class - N/A DOT number - N/A
NOTE: SAFE STRIP IS COMBUSTIBLE (FLASHPOINT BELOW 200 deg F), AND SHOULD BE HANDLED WITH CARE AROUND OPEN FLAME.

SECTION III-PHYSICAL DATA

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VAPOR PRESSURE(mm Hg.): <1	MELTING POINT: N.A.
VAPOR DENSITY(AIR=1): >1	EVAPORATION RATE: <1 (BUTYL ACETATE=1)
SOLUBILITY IN WATER: COMPLETE	
APPEARANCE & ODOR: CLEAR, COLORLESS LIQUID WITH MILD ODOR	

SECTION IV-FIRE AND EXPLOSION HAZARD DATA

FLASH POINT PENSKY-MARTENS CLOSED CUP : 197° F
EXPLOSIVE LIMITS : NO DATA FOUND
EXTINGUISHING MEDIA : ALCOHOL FOAM, CO2 OR DRY CHEMICALS
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UNUSUAL FIRE AND EXPLOSION HAZARDS: NON-TOXIC AND TOXIC FUMES MAY FORM UPON
COMBUSTION. STAY UPWIND OF FIRE.

SECTION V - REACTIVITY DATA

STABILITY : STABLE CONDITIONS TO AVOID: HEATING ABOVE FLASH POINT
INCOMPATIBILITY : AVOID CONTACT WITH STRONG OXIDIZING OR REDUCING AGENTS
HAZARDOUS DECOMPOSITION : OXIDES OF CARBON AND NITROGEN MAY BE FORMED UPON
COMBUSTION
HAZARDOUS POLYMERIZATION : WILL NOT OCCUR

- continued on page two -
other side

**SAFETY AND MATERIALS OF CONSTRUCTION
CONSIDERATIONS FOR USING SAFE-STRIP CLEANER**

I. Recommended Gloves:

These should be at least 18 mm thick and made of natural latex or neoprene. Sources of Supply:

1. Ansell-Edmont, 1300 Walnut St., Coshocton, OH 43812-6000
Ph: 800/451-1111

Style: Scorpio 8-352
2. Glover Latex, 118 West Elm St., P.O. Box 167, Anaheim, CA 92805
Ph: 800/243-5110

Style: AR340
Style: Y-18

Aprons

Lab Safety Supply, P.O. Box 1368, Janesville, WI 53547-1368
Ph: 800/356-0783
Style: No. RA 935-3 (36" x 46"), all purpose, natural rubber coated apron.

II. Recommended Shop Clothing:

When called for, use disposable work suits impervious in the front and breathable in the back. Materials of good resistance for front are:

1. High density polyethylene
2. Polypropylene
3. Tyvec

Boots made of these materials may also be used for foot protection. This will also eliminate high cost of taping presently performed in most lay-up facilities.

III. Emergency Showers and Eye-Wash Stations

If not already in place, put at work stations so that SAFE-STRIP can be thoroughly flushed if a spill or a line break should occur.

DOW CORNING CORPORATION
MATERIAL SAFETY DATA SHEET

DOW CORNING(R) 1248 FLUID

SECTION 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Dow Corning Corporation
South Saginaw Road
Midland, Michigan 4868624 Hour Emergency Telephone: (517) 496-5900
Product Information: (517) 496-6000
Product Disposal Information: (517) 496-5813
Transportation Information: (517) 496-8577
CHEMTREC: (800) 424-9300

MSDS No: 02358298

Print Date: 02/05/94

Last Revised: 09/10/93

Generic Description: Silicone

Physical Form: Liquid

Color: Amber

Odor: Ester-like odor

NFPA Profile: Health NA Flammability NA Reactivity NA

Note: NFPA = National Fire Protection Association

SECTION 2. HAZARDOUS COMPONENTS

CAS Number	Wt%	Component	Exposure Limits
009042197	3	Polypropylene oxide monoallyl ether	None established.
025322694	2	Polypropylene glycol	AIHA WEEL: TWA 10 mg/m3.
068957006	97	Dimethyl, methyl(polypropylene oxide) siloxane	None established.

Comments: The above ingredients are hazardous as defined in 29 CFR 1910.1200.

SECTION 3. EFFECTS OF OVEREXPOSURE

Acute Effects

Eye: Direct contact irritates slightly with redness and swelling.

Skin: A single short exposure (less than 24 hours) may irritate. Repeated prolonged contact (24 to 48 hours) may irritate moderately.

Inhalation: Irritates respiratory passages and eyes very slightly.

Oral: Small amounts transferred to the mouth by fingers during use, etc., should not injure. Swallowing large amounts may injure slightly.

Repeated Exposure Effects

Skin: None Known.

Inhalation: None Known.

Oral: Small amounts transferred to the mouth by fingers during use, etc., should not injure. Swallowing large amounts may injure slightly.

Special Hazards

This material contains the following components with the special hazards listed below.

Carcinogens

None Known

Teratogens

None Known

Mutagens

DOW CORNING CORPORATION
MATERIAL SAFETY DATA SHEET

DOW CORNING(R) 1248 FLUID

None Known

Reproductive Toxins

None Known

Sensitizers

None Known

Comments: Please read the additional information below.

The above listed potential effects of overexposure are based on actual data, results of studies performed upon similar compositions component data and/or expert review of the product.

SECTION 4. FIRST AID MEASURES

Eye: Immediately flush with water for 15 minutes.

Skin: Remove from skin and wash thoroughly with soap and water or waterless cleanser. Get medical attention if irritation or other ill effects develop or persist.

Inhalation: No first aid should be needed.

Oral: Get medical attention.

Comments: Treat according to person's condition and specifics of exposure.

SECTION 5. FIRE FIGHTING MEASURES

Flash Point (Method): > 214.00 DEGREE F / 101.11 DEGREE C

Autoignition Temperature: Not Determined

Flammability Limits in Air: Not Determined

Extinguishing Media: Carbon dioxide (CO2). Water. Water fog (or spray). Dry chemical. Foam.

Unsuitable Extinguishing Media: None

Fire Fighting Procedures: Self-contained breathing apparatus and protective clothing should be worn in fighting fires involving chemicals.

Unusual Fire Hazards: None

Hazardous Decomposition Products: Silicon dioxide. Carbon oxides and traces of incompletely burned carbon compounds. Formaldehyde.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Containment/Clean-up: Disposal of collected product, residues, and cleanup materials may be governmentally regulated. Observe all applicable local, state, and federal waste management regulations. Mop up, or wipe up, or soak up with absorbent and contain for salvage or disposal. For large spills, provide diking or other appropriate containment to keep material from spreading. Clean any remaining slippery surfaces by appropriate techniques, such as: several moppings or swabbings with appropriate solvents; washing with mild, caustic detergents or solutions; or high pressure steam for large areas. For nonsilicones, use typical industrial cleaning materials. Observe any safety precautions applicable to the cleaning material being used. Observe all personal protection equipment recommendations described in Sections 5 and 8. Local, state, and federal reporting requirements may apply to spills or releases of this material into the environment. See applicable regulatory compliance information in Section 15.

NOTE: See Section 8 for Personal Protective Equipment for Spills

DOW CORNING CORPORATION
MATERIAL SAFETY DATA SHEET

Page 3

DOW CORNING(R) 1248 FLUID

SECTION 7. HANDLING AND STORAGE

Handling: No special precautions.

Storage: No special precautions. Use reasonable care.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls

Local exhaust: None should be needed

General Ventilation: Recommended

Personal Protective Equipment For Routine Handling

Eyes: Use proper protection - safety glasses as a minimum.

Skin: Wash at mealtime and end of shift. Contaminated clothing and shoes should be removed as soon as practical and thoroughly cleaned before reuse. Chemical protective gloves are recommended.

Suitable Gloves: PE/Eval/PE (Safety4-4H(R)). Eval/Unknown (Silver Shield(R), Barricade(R), Responder(R), Chemrel(R))

Inhalation: No respiratory protection should be needed.

Suitable Respirator: None should be needed.

Personal Protective Equipment For Spills

Eye: Use proper protection - safety glasses as a minimum.

Skin: Wash at mealtime and end of shift. Contaminated clothing and shoes should be removed as soon as practical and thoroughly cleaned before reuse. Chemical protective gloves are recommended.

Inhalation/
Suitable Respirator: No respiratory protection should be needed.

Precautionary Measures: Avoid eye contact. Avoid skin contact. Do not take internally.

Comments: None

Note: These precautions are for room temperature handling. Use at elevated temperature, or aerosol/spray applications, may require added precautions.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical form: Liquid
Color: Amber
Odor: Ester-like odor
Specific Gravity @ 25C: 0.98
Viscosity: 170.00 CST
Freezing/Melting Point: Not Applicable.
Boiling Point: Not Determined.
Vapor Pressure @ 25C: Not Determined.
Vapor Density: Not Determined.
Solubility in Water: None.
pH: Not Applicable.

**DOW CORNING CORPORATION
MATERIAL SAFETY DATA SHEET**

Page 4

DOW CORNING(R) 1248 FLUID

Volatile content (Wt%): Not Determined.

Note: The above information is not intended for use in preparing product specifications.
Contact Dow Corning before writing specifications.

SECTION 10. STABILITY AND REACTIVITY

Chemical Stability: Stable.
Hazardous Polymerization: Hazardous polymerization will not occur.
Conditions to Avoid: None.
Materials to Avoid: Oxidizing material can cause a reaction.
Comments: None

SECTION 11. TOXICOLOGICAL INFORMATION

OPTIONAL SECTION - Complete information not yet available.

SECTION 12. ECOLOGICAL INFORMATION

OPTIONAL SECTION - Complete information not yet available.

SECTION 13. DISPOSAL CONSIDERATIONS

OPTIONAL SECTION - Complete information not yet available.

Call Dow Corning Environmental Mgmt. (517)496-6315, if more information is desired.

SECTION 14. TRANSPORT INFORMATION

DOT Information (49CFR 172.101)

Proper Shipping Name: Not Available
Hazard Technical Name: Not Available
Hazard Class: Not Available
UN/NA Number: Not Available
Packing Group: Not Available

Call Dow Corning Transportation, (517)496-8577, if additional information is required.

SECTION 15. REGULATORY INFORMATION

Contents of this MSDS comply with the OSHA Hazard Communication Standard 29CFR 1910.1200

TSCA Status: All chemical substances found in this product comply with the Toxic Substances Control Act inventory reporting requirements.

EPA SARA Title III Chemical Listings:

Section 302 Extremely Hazardous Substances:
None

Section 304 CERCLA Hazardous Substances:
None

Section 312 Hazard Class:

Acute: Y
Chronic: N
Fire: N
Pressure: N
Reactive: N

Y = Yes N = No

DOW CORNING CORPORATION
MATERIAL SAFETY DATA SHEET

DOW CORNING(R) 1248 FLUID

Section 313 Toxic Chemicals:

None present or none present in regulated quantities.

Supplemental State Compliance Information

CAS Number Wt% Component

Massachusetts

No ingredient regulated by MA Right-to-Know Law present.

New Jersey

068957006	97	Dimethyl, methyl(polypropylene oxide) siloxane
009042197	3	Polypropylene oxide monoallyl ether
025322694	2	Polypropylene glycol

Pennsylvania

068957006	97	Dimethyl, methyl(polypropylene oxide) siloxane
009042197	3	Polypropylene oxide monoallyl ether

SECTION 16. OTHER INFORMATION

Prepared by: Dow Corning Corporation

This information is offered in good faith as typical values and not as a product specification. No warranty, expressed or implied, is hereby made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.

(R) indicates Registered or Trademark of the Dow Corning Corporation.

* * * * * This is the last page. * * * * *

April 18, 1990

DOW CORNING CORPORATION
MIDLAND, MI 48686
517-496-6000

VOC DATA SHEET

PRODUCT NAME: DOW CORNING® 1248 Fluid

MAXIMUM VOC INCLUSIVE OF WATER AND EXEMPT COMPOUNDS: 0 g/l

Information Based on Rules
of the South Coast Air Quality
Management District of California.

CALIFORNIA CHEMICAL INVENTORY FORM – DESCRIPTION PAGE

FORM 3

(1) ADD DELETE REVISE NO CHANGE

PAGE (2) 44 OF (3) 46

BUSINESS NAME (4) ELASCO INC
 CHEMICAL LOCATION (5) (Address, Area, Building, etc.) 11377 MARKON DR. GARDEN GROVE, CA 92841
 MAP # (if more than one) (6) 1 GRID # (7) C-D, 2-5; D-H, 3-4

CHEMICAL NAME (8) Polyether Pigments TRADE SECRET (11) Y N
 COMMON NAME (9) Rytec AHM/*EHS (12) Y N
 CAS # (10) 7727-43-7
 FIRE CODE HAZARD CLASSES* (13) 3(C3B)

*IF EHS BOX IS "Y"
ALL AMOUNTS MUST BE IN LBS

*COMPLETE BLOCK (13) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.

TYPE (14) PURE MIXTURE WASTE CHECK IF RADIOACTIVE (15) (16) _____
 PHYSICAL STATE (17) SOLID LIQUID GAS CURIES _____
 FED HAZARD CATEGORIES (18) FIRE REACTIVE PRESSURE RELEASE ACUTE HEALTH CHRONIC HEALTH
 STATE WASTE CODE (19) _____ UNITS (22) GAL CU FT LBS TONS MAX DAILY AMT (23) _____
 DAYS ON SITE (20) _____ *If EHS, amounts must be in lbs. AVG DAILY AMT (24) _____
 LARGEST CONTAINER (21) _____ ANNUAL WASTE AMT (25) _____
 STORAGE CONTAINER (26) ABOVE GROUND TANK - INSIDE CAN BOX(S) TANK WAGON
 UNDER GROUND TANK CARBOY CYLINDER RAIL CAR
 TANK INSIDE BUILDING SILO GLASS CONTAINER
 STEEL DRUM FIBER DRUM PLASTIC CONTAINER Other
 PLASTIC/NONMETALLIC DRUM BAG(S) IN MACHINERY OR EQUIP.
 PRESSURE STORAGE (27) AMBIENT ABOVE AMBIENT BELOW AMBIENT
 STORAGE TEMPERATURE (28) AMBIENT ABOVE AMBIENT BELOW AMBIENT CRYOGENIC

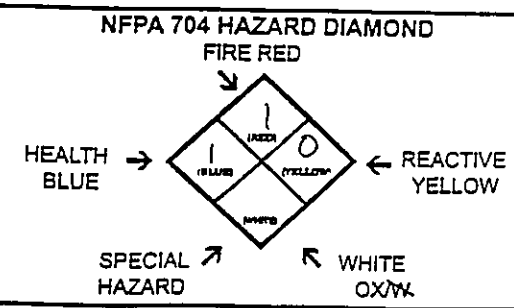
(29) % WT

1.
2.
3.

(30) HAZARDOUS COMPONENTS	(31) EHS/AHM	(32) CAS #
	<input type="checkbox"/> Y <input type="checkbox"/> N	
	<input type="checkbox"/> Y <input type="checkbox"/> N	
	<input type="checkbox"/> Y <input type="checkbox"/> N	

(33) **ADDITIONAL LOCALLY COLLECTED INFORMATION**
 *COMPLETE BLOCK (33) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.

NFPA CLASSIFICATION _____
 UN/DOT # _____ Refer to shipping papers or MSDS
 DOT HAZARD CLASS _____ Refer to shipping papers or MSDS
 UFC HAZARD CLASS _____



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U.S. DEPARTMENT OF LABOR
Occupational Safety and Health Administration

Form Approved
OMB No. 44-R1387

MATERIAL SAFETY DATA SHEET

DATE: 8-7-95
DATA SHEET #
467

Required under USDL Safety and Health Regulations for Ship Repairing,
Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

SECTION I

MANUFACTURER'S NAME RYVEC, INCORPORATED		EMERGENCY TELEPHONE NO. 714-670-0494
ADDRESS (Number, Street, City, State, and ZIP Code) 7379 ORANGETHORPE AVE. UNIT E BUENA PARK, CA. 90621		
CHEMICAL NAME AND SYNONYMS POLYETHER POLYOL & COPPER PHTHALOCYANINE	TRADE NAME AND SYNONYMS #380 BLUE	
CHEMICAL FAMILY POLYETHER POLYOL & COPPER PHTHALOCYANINE	FORMULA N/A	

SECTION II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS		N/A	BASE METAL		N/A
CATALYST		N/A	ALLOYS		N/A
VEHICLE		N/A	METALLIC COATINGS		N/A
SOLVENTS		N/A	FILLER METAL PLUS COATING OR CORE FLUX		N/A
ADDITIVES		N/A	OTHERS		
OTHERS					
HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES				%	TLV (Units)
BARIUM SULFATE CAS #7727-43-7 CONCENTRATION <1.5%					
OSHA & ACGIH LIMITS 10mg/M3 TOTAL DUST					

SECTION III - PHYSICAL DATA

BOILING POINT (°F.)	N.E.	SPECIFIC GRAVITY (H ₂ O=1)	1.09
VAPOR PRESSURE (mm Hg.)	N.E.	PERCENT VOLATILE BY VOLUME (%)	NIL
VAPOR DENSITY (AIR=1)	N.E.	EVAPORATION RATE (_____ = 1)	N.E.
SOLUBILITY IN WATER	/N SOLUBLE		
APPEARANCE AND ODOR	LIQUID, BLUE, NIL		

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used) >465°F 241°C PMCC	FLAMMABLE LIMITS	Lel N.E.	Uel N.E.
EXTINGUISHING MEDIA DRY CHEMICAL, CO ₂ , FOAM, WATER			
SPECIAL FIRE FIGHTING PROCEDURES USE SELF-CONTAINED BREATHING apparatus AND PROTECTIVE CLOTHING.			
UNUSUAL FIRE AND EXPLOSION HAZARDS NONE			

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE None established by ACGIH or OSHA

EFFECTS OF OVEREXPOSURE
Swallowing: Nausea, abdominal pain, vomiting, and diarrhea. **Skin contact:** None.
Eye contact: Minimal eye irritation.

EMERGENCY AND FIRST AID PROCEDURES
Swallowing: Give two glasses of water and induce vomiting. Call a physician.
Skin: Remove contaminated clothing and flush skin with water.
Eyes : Flush with water. **Inhalation:** Remove to fresh air.

SECTION VI - REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	None

INCOMPATIBILITY (Materials to avoid) None

HAZARDOUS DECOMPOSITION PRODUCTS
 Burning may produce carbon monoxide and/or carbon dioxide.

HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	None

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
 Wear suitable protective equipment. Small spills should be flushed with large quantities of water. Large spills should be collected for disposal.

WASTE DISPOSAL METHOD
 Incinerate in a furnace where permitted under appropriate federal, state, and local regulations.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type) None required in normal use.

VENTILATION	LOCAL EXHAUST	SPECIAL
	MECHANICAL (General)	OTHER

PROTECTIVE GLOVES Rubber or plastic **EYE PROTECTION** Goggles

OTHER PROTECTIVE EQUIPMENT Eye bath and safety shower.

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
 Harmful if swallowed. Do not breath mist. Avoid contact with eyes.

Avoid prolonged/repeated breathing of vapor. Wash after handling.

OTHER PRECAUTIONS None.

SARA TITLE III REGULATORY INFORMATION:

Section 302:

Extremely hazardous substances: NONE

Section 311/312:

Hazard categories: Delayed health hazard

Section 313:

Toxic chemicals: Copper Compounds (less than 1% total copper)
Barium Compounds (less than 1.5%)

HMIS Ratings:

<u>Health</u>	<u>Flammability</u>	<u>Reactivity</u>
1	1	1

0=minimal 1=slight 2=moderate 3=serious 4=severe

This information is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of Ryvec, Inc. Ryvec, Inc. assumes no legal responsibility for use or reliance upon these data.

CALIFORNIA CHEMICAL INVENTORY FORM - DESCRIPTION PAGE

(1) ADD DELETE REVISE NO CHANGE

PAGE (2) 31 OF (3) 46

BUSINESS NAME (4) ELASCO INC
 CHEMICAL LOCATION (5) (Address, Area, Building, etc.) 11377 MARKON DR. GARDEN GROVE, CA 92841
 MAP # (if more than one) (6) 1 GRID # (7) C-2, 25 E 4th, 3-3

CHEMICAL NAME (8) Bisphenol Adhesive TRADE SECRET (11) Y N
 COMMON NAME (9) Thixon 409 AHM / *EHS (12) Y N
 CAS # (10) Mixture
 FIRE CODE HAZARD CLASSES* (13) 11-F1B
 *IF EHS BOX IS "Y" ALL AMOUNTS MUST BE IN LBS

*COMPLETE BLOCK (13) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.
 TYPE (14) PURE MIXTURE WASTE CHECK IF RADIOACTIVE (15) (16) _____
 PHYSICAL STATE (17) SOLID LIQUID GAS CURIES _____
 FED HAZARD CATEGORIES (18) FIRE REACTIVE PRESSURE RELEASE ACUTE HEALTH CHRONIC HEALTH
 STATE WASTE CODE (19) _____ UNITS (22) GAL CU FT LBS TONS MAX DAILY AMT (23) _____
 DAYS ON SITE (20) _____ *If EHS, amounts must be in lbs. AVG DAILY AMT (24) _____
 LARGEST CONTAINER (21) _____ ANNUAL WASTE AMT (25) _____
 STORAGE CONTAINER (26) ABOVE GROUND TANK - INSIDE CAN BOX(S) TANK WAGON
 UNDER GROUND TANK CARBOY CYLINDER RAIL CAR
 TANK INSIDE BUILDING SILO GLASS CONTAINER
 STEEL DRUM FIBER DRUM PLASTIC CONTAINER Other
 PLASTIC/NONMETALLIC DRUM BAG(S) IN MACHINERY OR EQUIP.
 PRESSURE STORAGE (27) AMBIENT ABOVE AMBIENT BELOW AMBIENT
 STORAGE TEMPERATURE (28) AMBIENT ABOVE AMBIENT BELOW AMBIENT CRYOGENIC

(29) % WT	(30) HAZARDOUS COMPONENTS	(31) EHS/AHM	(32) CAS #
1. <u>38</u>	<u>MEK</u>	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	<u>78-93-3</u>
2. <u>22</u>	<u>Diglycodyl ether of Bisphenol</u>	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	<u>25068-38-6</u>
3. <u>22</u>	<u>Propylene Glycol Methyl</u>	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	<u>108-65-6</u>

(33) **ADDITIONAL LOCALLY COLLECTED INFORMATION**
 *COMPLETE BLOCK (33) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.

NFPA CLASSIFICATION

UN/DOT # UN 133
 Refer to shipping papers or MSDS

DOT HAZARD CLASS _____
 Refer to shipping papers or MSDS

UFC HAZARD CLASS _____

NFPA 704 HAZARD DIAMOND

HEALTH BLUE → **3** (FIRE RED) ← REACTIVE YELLOW
 SPECIAL HAZARD ↗ **0** ↖ WHITE OX/W.

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Material Safety Data Sheet

THIXON 409 BLACK

PAGE: 1

HAZ MAT # 16

SECTION 1: PRODUCT INFORMATION

NAME: THIXON-409 BLACK
DESCRIPTION: RESIN/SOLVENT SOLUTION
USE: URETHANE ADHESIVE
MSDS NUMBER: P004338-MCDWAL
APPEARANCE AND ODOR: BLACK LIQUID; SOLVENT ODOR
EMERGENCY TELEPHONE: 800-424-9300 24-HOURS - CHEMTREC
PRODUCT INFORMATION: 513-839-4612
EFFECTIVE DATE: 03/29/93
SUPERSEDES DATE: 06/01/92

SECTION 2: HAZARDOUS INGREDIENTS

A HAZARD EVALUATION OF THIS PRODUCT HAS BEEN PERFORMED. THE COMPONENTS LISTED BELOW ARE IDENTIFIED AS HAZARDOUS CHEMICALS UNDER THE CRITERIA OF THE OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1910.1200).

COMMON NAME/CHEMICAL NAME	CAS NUMBER	APPROXIMATE %
METHYL ETHYL KETONE/2-BUTANONE	78-93-3	37.500
PROPYLENE GLYCOL METHYL ETHER ACETATE/ 1-METHOXY-2-PROPANOL ACETATE	108-65-6	22.700
DIGLYCIDYL ETHER OF BISPHENOL-A	25068-38-6	22.200
TOLUENE/METHYL BENZENE	108-88-3	7.600
DIPROPYLENE GLYCOL METHYL ETHER ACETATE	88917-22-0	4.200
ORGANOSILANE ESTER	PROPRIETARY	1.400

SECTION 3: EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT:

FLUSH EYES WITH WATER FOR AT LEAST 15 MINUTES. LIFT EYE LIDS FREQUENTLY. GET PROMPT MEDICAL ATTENTION.

SKIN CONTACT:

REMOVE CONTAMINATED CLOTHING AND SHOES. WASH AFFECTED AREA WITH SOAP AND WATER. IF IRRITATION DEVELOPS, CONSULT A PHYSICIAN. WASH CONTAMINATED CLOTHING SEPARATELY BEFORE REUSE.

INHALATION:

REMOVE TO FRESH AIR. IF SYMPTOMS DEVELOP, SEEK IMMEDIATE MEDICAL ATTENTION. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION, PREFERABLY MOUTH TO MOUTH.

INGESTION:

SEEK MEDICAL ATTENTION. UNLESS ADVISED OTHERWISE, INDUCE VOMITING BY

Material Safety Data Sheet

THIXON 409 BLACK
PAGE: 3

DIZZINESS, FAINTNESS, DROWSINESS, AND INCOORDINATION(ATAxia) CAN OCCUR.

ADDITIONAL EFFECTS:

DEPENDING ON THE ROUTE, FREQUENCY, AND DURATION OF EXPOSURE, TOXICITY MAY EFFECT IN THE FOLLOWING ORGANS AND/OR SYSTEMS:

LIVER.

KIDNEY.

CENTRAL AND/OR PERIPHERAL NERVOUS SYSTEM.

RESPIRATORY SYSTEM.

SKIN.

IMMUNE SYSTEM (e.g. ALLERGIC REACTIONS).

AGGRAVATION OF EXISTING CONDITIONS:

SOME OF THE COMPONENTS IN THIS PRODUCT MAY AGGRAVATE EXISTING MEDICAL CONDITIONS. INDIVIDUALS WITH MEDICAL CONDITIONS INVOLVING THE FOLLOWING ORGAN(S) AND/OR SYSTEM(S) SHOULD TAKE APPROPRIATE PRECAUTIONS WHEN HANDLING THIS PRODUCT:

NERVOUS SYSTEM (CENTRAL AND/OR PERIPHERAL).

RESPIRATORY SYSTEM.

SKIN.

IMMUNE SYSTEM AND/OR SPECIFIC CHEMICAL ALLERGIES.

ALWAYS WEAR APPROPRIATE PROTECTIVE EQUIPMENT, AS RECOMMENDED BY YOUR INDUSTRIAL HYGIENE OR SAFETY PERSONNEL, WHEN EXPOSURE TO THIS PRODUCT CAN OCCUR.

SECTION 5: TOXICOLOGIC INFORMATION

THE INFORMATION IN THIS SECTION, THOUGH DETAILED, CAN BE SUBJECT TO MISINTERPRETATION. THEREFORE, IT IS ESSENTIAL THE FOLLOWING INFORMATION BE INTERPRETED BY INDIVIDUALS TRAINED IN ITS EVALUATION.

METHYL ETHYL KETONE

TOXIC EFFECTS:

CONTACT OF EYES OR SKIN WITH LIQUID OR CONCENTRATED VAPORS CAN CAUSE IRRITATION. INGESTION OR INHALATION OF VAPORS PRODUCES UPPER RESPIRATORY TRACT IRRITATION, HEADACHE, NAUSEA, VOMITING, DIZZINESS, INCOORDINATION, NARCOSIS. INGESTION CAN ALSO CAUSE GASTROINTESTINAL IRRITATION.

CARCINOGENICITY - LISTED BY:

ACGIH: NO IARC MONOGRAPHS: NO NTP ANNUAL REPORT: NO OSHA: NO

PROPYLENE GLYCOL METHYL ETHER ACETATE

TOXIC EFFECTS:

CAN CAUSE EYE IRRITATION AND SLIGHT CORNEAL INJURY. PROLONGED SKIN CONTACT MAY CAUSE DROWSINESS AND CNS DEPRESSION. SIMILAR EFFECTS MAY

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Material Safety Data Sheet

THIXON 409 BLACK
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EFFECTS OF TOLUENE.

CARCINOGENICITY - LISTED BY:

ACGIH: NO IARC MONOGRAPHS: NO NTP ANNUAL REPORT: NO OSHA: NO

DIPROPYLENE GLYCOL METHYL ETHER ACETATE

TOXIC EFFECTS:

EYE, SKIN, RESPIRATORY AND GASTROINTESTINAL IRRITANT. INHALATION OF VAPORS OR INGESTION MAY PRODUCE CNS DEPRESSION.

CARCINOGENICITY - LISTED BY:

ACGIH: NO IARC MONOGRAPHS: NO NTP ANNUAL REPORT: NO OSHA: NO

ORGANOSILANE ESTER

TOXIC EFFECTS:

CAUSES SEVERE EYE IRRITATION. CORNEAL INJURY IS POSSIBLE. PROLONGED(SEVERAL HOURS) OR REPEATED SKIN CONTACT CAUSES MODERATE IRRITATION. CAN BE ABSORBED THROUGH THE SKIN. MISTS ARE IRRITATING TO THE UPPER RESPIRATORY TRACT AND MUCOUS MEMBRANES. INGESTION CAUSES SEVERE IRRITATION TO THE MOUTH, THROAT, AND GASTROINTESTINAL TRACT.

CHRONIC TOXICITY STUDIES:

THE RESULTS OF A LIFETIME SKIN PAINTING STUDY IN MICE INDICATED THAT THE MATERIAL WAS NOT CARCINOGENIC BY THIS ROUTE OF ADMINISTRATION.

OTHER TOXICITY STUDIES:

MUTAGENIC ACTIVITY WAS OBSERVED IN THE AMES TEST AND THE MOUSE LYMPHOMA ASSAY, BUT NOT IN CELL TRANSFORMATION TESTS.

CARCINOGENICITY - LISTED BY:

ACGIH: NO IARC MONOGRAPHS: NO NTP ANNUAL REPORT: NO OSHA: NO

SECTION 6: OCCUPATIONAL CONTROL PROCEDURES

EYE PROTECTION:

WEAR CHEMICAL SPLASH GOGGLES.

AN EYE WASH FACILITY SHOULD BE READILY AVAILABLE.

SKIN PROTECTION:

WEAR PROTECTIVE CLOTHING AND APPROPRIATE IMPERVIOUS GLOVES. BECAUSE A VARIETY OF PROTECTIVE GLOVES EXIST, ALWAYS CONSULT GLOVE MANUFACTURER TO DETERMINE THE PROPER TYPE FOR SPECIFIC OPERATION.

RESPIRATORY PROTECTION:

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THIXON 409 BLACK
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TOLUENE

ACGIH TLV-TWA: 100 ppm 377 mg/m³
STEL: 150 ppm 565 mg/m³
OSHA PEL: 100 ppm 375 mg/m³
STEL: 150 ppm 560 mg/m³

AIRBORNE EXPOSURE LIMITS

DIPROPYLENE GLYCOL METHYL ETHER ACETATE

ACGIH TLV-TWA: NOT ESTABLISHED
OSHA PEL: NOT ESTABLISHED

AIRBORNE EXPOSURE LIMITS

ORGANOSILANE ESTER

ACGIH TLV-TWA: NOT ESTABLISHED
OSHA PEL: NOT ESTABLISHED

MANUFACTURER'S RECOMMENDATION:

TWA - 5ppm; 15 MINUTE EXCURSION VALUE - 10 ppm.

SECTION 7: FIRE PROTECTION INFORMATION

FLASH POINT: 25 F, -4 C TEST METHOD: SETAFASH CLOSED CUP

EXPLOSIVE LIMITS: LEL (%) - 1.2 UEL (%) - NOT ESTABLISHED

AUTOIGNITION TEMPERATURE: NOT ESTABLISHED

EXTINGUISHING MEDIA:

SMALL FIRES: USE DRY CHEMICAL, CARBON DIOXIDE, HALON, WATER SPRAY, OR FOAM.

LARGE FIRES: USE WATER SPRAY, FOG, OR ALCOHOL FOAM.

SPECIAL FIRE FIGHTING PROCEDURES:

FIRE FIGHTERS AND OTHERS WHO MAY BE EXPOSED TO THE PRODUCTS OF COMBUSTION SHOULD BE EQUIPPED WITH NIOSH APPROVED POSITIVE PRESSURE SELF-CONTAINED BREATHING APPARATUS (SCBA) AND FULL PROTECTIVE CLOTHING.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

WHEN EXPOSED TO FLAMES OR HIGH TEMPERATURES ENCOUNTERED DURING FIRE CONDITIONS, SEALED CONTAINERS MAY RUPTURE BECAUSE OF THE BUILD UP OF INTERNAL PRESSURE. COOL CONTAINERS WITH WATER.

VAPORS MAY BE HEAVIER THAN AIR AND MAY TRAVEL CONSIDERABLE DISTANCES FROM

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40 CFR 261.21 (i.e., IGNITABLE - D001)

THEREFORE, IT MUST BE MANAGED (STORED/TREATED/DISPOSED/ETC.) AT A PROPERLY PERMITTED FACILITY, IN COMPLIANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL REQUIREMENTS. BE SURE TO CONTACT THE APPROPRIATE GOVERNMENT ENVIRONMENTAL AGENCIES IF FURTHER GUIDANCE IS REQUIRED.

OF THE METHODS OF DISPOSAL CURRENTLY AVAILABLE, IT IS RECOMMENDED THAT AN ALTERNATIVE BE SELECTED ACCORDING TO THE FOLLOWING ORDER OF PREFERENCE, BASED UPON ENVIRONMENTAL ACCEPTABILITY:

- (1) RECYCLE OR REWORK IF AT ALL FEASIBLE,
- (2) INCINERATE AT AN AUTHORIZED FACILITY, OR
- (3) TREAT AT AN ACCEPTABLE WASTE TREATMENT FACILITY.

SECTION 10: SPECIAL PRECAUTIONS

RECOMMENDED STORAGE PRACTICE AND CONDITIONS:

STORE IN COOL, DRY, WELL VENTILATED AREA. DO NOT STORE NEAR HEAT OR IGNITION SOURCES, OR IN DIRECT SUNLIGHT. ALWAYS KEEP CONTAINERS TIGHTLY CLOSED TO AVOID CONTAMINATION.

SPECIAL WARNING: HOT ORGANIC CHEMICAL VAPORS OR MISTS CAN SUDDENLY AND WITHOUT WARNING COMBUST WHEN MIXED WITH AIR. IGNITION CAN OCCUR AT TYPICAL ELEVATED TEMPERATURE PROCESS CONDITIONS. ANY PROPOSED USE IN SUCH PROCESSES SHOULD BE EVALUATED THOROUGHLY TO ASSURE SAFE OPERATING CONDITIONS.

DO NOT STORE ABOVE: 140 F, 60 C

CONTAINER USE PROCEDURES:

CONTAINERS SHOULD BE SUPPORTED AND GROUNDED BEFORE OPENING, DISPENSING, MIXING, POURING, AND EMPTYING. OPEN WITH NON-SPARKING TOOLS. IF THE CONTAINER IS WARM, OPEN BUNG SLOWLY TO RELEASE INTERNAL PRESSURE.

EMPTY CONTAINER PRECAUTIONS:

THIS CONTAINER IS HAZARDOUS WHEN EMPTY. DO NOT USE HEAT, SPARKS, OPEN FLAMES, TORCHES, OR CIGARETTES ON OR NEAR EMPTY CONTAINER. EMPTY CONTAINERS CAN RETAIN PRODUCT RESIDUES. DO NOT REUSE EMPTY CONTAINER FOR FOOD, CLOTHING, OR PRODUCTS FOR HUMAN OR ANIMAL CONSUMPTION OR WHERE SKIN CONTACT MAY OCCUR.

SUPPLEMENTAL SECTION 10 INFORMATION:

HMS CLASSIFICATION - HEALTH: 2*; FLAMMABILITY: 3; REACTIVITY: 0.

SECTION 11: PHYSICAL DATA

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SUDDEN RELEASE OF PRESSURE HAZARD: NO
REACTIVITY HAZARD: NO
IMMEDIATE (ACUTE) HEALTH HAZARD: YES
DELAYED (CHRONIC) HEALTH HAZARD: YES

HAZARDOUS MATERIALS INFORMATION REVIEW REGULATIONS - CANADA

THIS MATERIAL SAFETY DATA SHEET PROVIDES INFORMATION THAT COMPLIES WITH THE REQUIREMENTS SET FORTH UNDER THE CANADIAN WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS).

CLAIM FOR EXEMPTION REGISTRY NO.: NOT APPLICABLE
EXPIRATION DATE: NOT APPLICABLE

SUPPLEMENTAL SECTION 13 INFORMATION:

THIXON IS A REGISTERED TRADEMARK OF MORTON INTERNATIONAL, INC.

SECTION 14: USERS RESPONSIBILITY

A BULLETIN SUCH AS THIS CANNOT BE EXPECTED TO COVER ALL POSSIBLE INDIVIDUAL SITUATIONS. AS THE USER HAS THE RESPONSIBILITY TO PROVIDE A SAFE WORKPLACE, ALL ASPECTS OF AN INDIVIDUAL OPERATION SHOULD BE EXAMINED TO DETERMINE IF, OR WHERE, PRECAUTIONS - IN ADDITION TO THOSE DESCRIBED HEREIN - ARE REQUIRED. ANY HEALTH HAZARD AND SAFETY INFORMATION CONTAINED HEREIN SHOULD BE PASSED ON TO YOUR CUSTOMERS OR EMPLOYEES, AS THE CASE MAY BE.

DISCLAIMER OF LIABILITY

THE INFORMATION CONTAINED HEREIN IS, TO THE BEST OF OUR KNOWLEDGE AND BELIEF, ACCURATE. HOWEVER, SINCE THE CONDITIONS OF HANDLING AND USE ARE BEYOND OUR CONTROL, WE MAKE NO GUARANTEE OF RESULTS, AND ASSUME NO LIABILITY FOR DAMAGES INCURRED BY USE OF THIS MATERIAL. ALL CHEMICALS MAY PRESENT UNKNOWN HEALTH HAZARDS AND SHOULD BE USED WITH CAUTION. ALTHOUGH CERTAIN HAZARDS ARE DESCRIBED HEREIN, WE CANNOT GUARANTEE THAT THESE ARE THE ONLY HAZARDS WHICH EXIST. FINAL DETERMINATION OF SUITABILITY OF THE CHEMICAL IS THE SOLE RESPONSIBILITY OF THE USER. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESSED OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER NATURE ARE MADE HEREUNDER WITH RESPECT TO THE INFORMATION CONTAINED HEREIN OR THE CHEMICAL TO WHICH THE INFORMATION REFERS. IT IS THE RESPONSIBILITY OF THE USER TO COMPLY WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS AND REGULATIONS.

IF YOU HAVE QUESTIONS WITH REGARD TO HEALTH EFFECTS, OR OTHER INFORMATION PRESENTED IN THIS DOCUMENT, CONTACT:

DAVID B. WIENCKOWSKI, D.A.B.T.

Morton International

100 North Riverside Plaza, Chicago, IL 60606-1598 312/807-2000

CALIFORNIA CHEMICAL INVENTORY FORM – DESCRIPTION PAGE

(1) ADD DELETE REVISE NO CHANGE

PAGE (2) 24 OF (3) 46

BUSINESS NAME (4) ELASCO INC
 CHEMICAL LOCATION (Address, Area, Building, etc.) (5) 11377 MARKON DR. GARDEN GROVE, CA 92841
 MAP # (if more than one) (6) 1 GRID # (7) C-D, 2-5; D-H, 3-4

CHEMICAL NAME (8) Poly oxyalkylene Polyol TRADE SECRET (11) Y N
 COMMON NAME (9) Multranol 3901 AHM / *EHS (12) Y N
 CAS # (10) 9082-00-2
 FIRE CODE HAZARD CLASSES* (13) 14, 3 (C3B)
 *IF EHS BOX IS "Y" ALL AMOUNTS MUST BE IN LBS

*COMPLETE BLOCK (13) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.

TYPE (14) PURE MIXTURE WASTE CHECK IF RADIOACTIVE (15) (16) _____
 PHYSICAL STATE (17) SOLID LIQUID GAS CURIES _____
 FED HAZARD CATEGORIES (18) FIRE REACTIVE PRESSURE RELEASE ACUTE HEALTH CHRONIC HEALTH
 STATE WASTE CODE (19) _____ UNITS (22) GAL CU FT LBS TONS MAX DAILY AMT (23) _____
 DAYS ON SITE (20) _____ *If EHS, amounts must be in lbs. AVG DAILY AMT (24) _____
 LARGEST CONTAINER (21) _____ ANNUAL WASTE AMT (25) _____
 STORAGE CONTAINER (26) ABOVE GROUND TANK - INSIDE CAN BOX(S) TANK WAGON
 UNDER GROUND TANK CARBOY CYLINDER RAIL CAR
 TANK INSIDE BUILDING SILO GLASS CONTAINER
 STEEL DRUM FIBER DRUM PLASTIC CONTAINER Other
 PLASTIC/NONMETALLIC DRUM BAG(S) IN MACHINERY OR EQUIP.
 PRESSURE STORAGE (27) AMBIENT ABOVE AMBIENT BELOW AMBIENT
 STORAGE TEMPERATURE (28) AMBIENT ABOVE AMBIENT BELOW AMBIENT CRYOGENIC
 (29) % WT

	(30) HAZARDOUS COMPONENTS	(31) EHS/AHM	(32) CAS #
1.		<input type="checkbox"/> Y <input type="checkbox"/> N	
2.		<input type="checkbox"/> Y <input type="checkbox"/> N	
3.		<input type="checkbox"/> Y <input type="checkbox"/> N	

(33) **ADDITIONAL LOCALLY COLLECTED INFORMATION**
 *COMPLETE BLOCK (33) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.

NFPA CLASSIFICATION _____

UN/DOT # _____ Refer to shipping papers or MSDS

DOT HAZARD CLASS _____ Refer to shipping papers or MSDS

UFC HAZARD CLASS _____

NFPA 704 HAZARD DIAMOND

HEALTH BLUE → **1** (RED) FIRE RED
 ← REACTIVE YELLOW **0** (YELLOW)
 SPECIAL HAZARD **0** (WHITE) ← WHITE OX/WX

MAKE AS MANY COPIES OF CHEMICAL INVENTORY FORM AS NEEDED



MATERIAL SAFETY DATA

OCEAN NETWORK EMERGENCY PHONE 1-800-OLIN-911

THIS MATERIAL SAFETY DATA SHEET (MSDS) HAS BEEN PREPARED IN COMPLIANCE WITH THE FEDERAL OSHA HAZARD COMMUNICATION STANDARD, 29 CFR 1910.1200. THIS PRODUCT MAY BE CONSIDERED TO BE A HAZARDOUS CHEMICAL UNDER THAT STANDARD. (REFER TO THE OSHA CLASSIFICATION IN SEC. I.) THIS INFORMATION IS REQUIRED TO BE DISCLOSED FOR SAFETY IN THE WORKPLACE. THE EXPOSURE TO THE COMMUNITY, IF ANY, IS QUITE DIFFERENT.

I. PRODUCT IDENTIFICATION

REVISION NO : 5
REVISION DATE : 11/22/93
PRODUCT CODE : CPE420431
FILE NUMBER : CPE00143.0006
PRODUCT NAME

SYNONYMS: Polyether triol
CHEMICAL FAMILY: Hydroxy terminated poly(oxyalkylene) polyol
FORMULA: Not Applicable/Mixture
DESCRIPTION: Chemical intermediate for urethane polymer production
OSHA HAZARD CLASSIFICATION: This product is not considered to be hazardous under 29 CFR 1910.1200.

II. COMPONENT DATA

PRODUCT COMPOSITION
CAS or CHEMICAL NAME: Polyether triol
CAS NUMBER: 9082-00-2
PERCENTAGE RANGE: 99-100%
HAZARDOUS PER 29 CFR 1910.1200: No
EXPOSURE STANDARDS: None Established

III. PRECAUTIONS FOR SAFE HANDLING AND STORAGE

DO NOT TAKE INTERNALLY. AVOID CONTACT WITH SKIN, EYES AND CLOTHING. UPON CONTACT WITH SKIN OR EYES, WASH OFF WITH WATER.
STORAGE CONDITIONS: DO NOT STORE AT TEMPERATURES ABOVE: 49 Deg.C (120 F)
OTHER: Product is hygroscopic, protect with padding of dry air -40 Deg.C (-40 Deg.F) dew point or dry nitrogen. Calcium chloride drying system with silica gel on the vents can also be used.
PRODUCT STABILITY AND COMPATIBILITY
SHELF LIFE LIMITATIONS: Minimum 1 year (closed container)
INCOMPATIBLE MATERIALS FOR PACKAGING: Use glass or vinyl lined containers. Recommend lined steel (Amercoat No. 23 vinyl coating, 5 coat system); 304SS or aluminum Type 3003 or 5054 or equivalent.



MATERIAL SAFETY DATA

HMS RATINGS:

Health: 0
Flammability: 1
Reactivity: 0

EXTINGUISHING MEDIA: Carbon dioxide, dry chemical, water spray

FIRE FIGHTING TECHNIQUES AND COMMENTS: Use water to cool containers exposed to fire (See section XI for protective equipment for fire fighting).

OTHER: Water may cause frothing if it gets below the surface of the liquid and turns to steam. Water fog gently applied to the surface may cause frothing which may extinguish the fire.

VII. REACTIVITY INFORMATION

CONDITIONS UNDER WHICH THIS PRODUCT MAY BE UNSTABLE:

TEMPERATURES ABOVE: No Data

MECHANICAL SHOCK OR IMPACT: No

ELECTRICAL (STATIC) DISCHARGE: No

OTHER: Excessive heat

HAZARDOUS POLYMERIZATION: Will not occur

INCOMPATIBLE MATERIALS: Strong Oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide, carbon dioxide and other fragments which have not been identified

SUMMARY OF REACTIVITY:

OXIDIZER: No
PYROPHORIC: No
ORGANIC PEROXIDE: No
WATER REACTIVE: No

VIII. FIRST AID

EYES: Not an eye irritant.

SKIN: Not a skin irritant. Washing any substance off the skin with water is a good safety practice.

INGESTION: Immediately drink water to dilute. Consult a physician if symptoms develop.

INHALATION: This product is not toxic by inhalation. Remove individual to fresh air.



ANIMAL TOXICOLOGY

ACUTE TOXICITY:

Inhalation LC 50: Greater than a nominal concentration of 200 mg/l
for 1 hour (rat)

Dermal LD 50: > 2 g/kg (rabbit)

Oral LD 50: > 5g/kg (rat)

Irritation: Not a skin and eye irritant.

AQUATIC TOXICITY:

None known or reported

CHRONIC TARGET ORGAN TOXICITY:

There are no known or reported effects from repeated exposure.

REPRODUCTIVE AND DEVELOPMENTAL TOXICITY:

There are no known or reported effects on reproductive function or fetal development.

CARCINOGENICITY:

This product is not known or reported to be carcinogenic by any reference source including IARC, OSHA, NTP, or EPA.

MUTAGENICITY:

This product is not known or reported to be mutagenic.

X. TRANSPORTATION INFORMATION

THIS MATERIAL IS NOT REGULATED AS A DOT HAZARDOUS MATERIAL.

XI. SPILL AND LEAKAGE PROCEDURES

FOR ALL TRANSPORTATION ACCIDENTS, CALL CHEMTREC AT 800-424-9300.

REPORTABLE QUANTITY: Not Applicable (Per 40 CFR 302.4)

SPILL MITIGATION PROCEDURES:

Stop source of spill as soon as possible and notify appropriate personnel.

AIR RELEASE: Not Applicable



SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT TITLE III:
HAZARD CATEGORIES, PER 40 CFR 370.2:

HEALTH:

None

PHYSICAL:

None

EMERGENCY PLANNING AND COMMUNITY RIGHT TO KNOW, PER 40 CFR 355, APP.A:
EXTREMELY HAZARDOUS SUBSTANCE - THRESHOLD PLANNING QUANTITY:

None Established

SUPPLIER NOTIFICATION REQUIREMENTS, PER 40 CFR 372.45:

None Established

XIV. ADDITIONAL INFORMATION

MSDS REVISION STATUS: References added to section XV

XV. MAJOR REFERENCES

1. ACGIH Guide to Protective Clothing. Cincinnati, OH: American Conference of Government Industrial Hygienists, 1987.
2. ANSI Z88.2. Recommended Practice for Respiratory Protection. American National Standards Institute, New York, NY.
3. Baker, C. J., The Fire Fighter's Handbook of Hazardous Materials, 4th Ed., Indiana: Maltese Enterprises, Inc., 1984.
4. Bretherick, L., Handbook of Reactive Chemical Hazards, 3rd Ed., Boston, MA: Butterworths, 1985.
5. Casarett, L. and J. Doull, Eds., Toxicology: The Basic Science of Poisons, 3rd Ed., New York: Macmillan Publishing Co., Inc. 1986.
6. CERIS (Chemical Emergency Response Information System) On Line Database. Association of American Railroads.
7. Chemical Degradation and Permeation Database and Selection Guide for Resistant Protective Materials. Austin, TX.
8. Clayton, G. and F. Clayton, Eds., Patty's Industrial Hygiene and Toxicology, Vol. 2A-C 3rd Ed., New York: John Wiley & Sons, 1981-82.
9. Code of Federal Regulations, Titles 21, 29, 40 and 49. Washington, DC: U.S. Government Printing Office.
10. Fire Protection Guide on Hazardous Materials, 10th Ed., National Fire Protection Association, Batterymarch Park, Quincy, MA, 1991.
11. Gosselin, R., et al., Gosselin-Clinical Toxicology of Commercial Products, 5th Ed., Baltimore: Williams and Wilkins, 1984.



MATERIAL SAFETY DATA

30. Reports on: Oral LD50 in Rats, Acute Dermal Toxicity in Rabbits, Primary Dermal Irritation in Rabbits, Inhalation toxicity in Rats, and Rabbit Eye Irritation Studies, Poly-G 32-56. M.B. Research Laboratories, Inc., Spinnerstown, PA, Project #MB 76-1538, February 10, 1977.
31. Reports on: Oral LD50 in Rats, Acute Dermal Toxicity in Rabbits, Primary Dermal Irritation in Rabbits, Inhalation toxicity in Rats, and Rabbit Eye Irritation Studies, Poly-G 32-48. M.B. Research Laboratories, Inc., Spinnerstown, PA, Project #MB 76-1437, November 10, 1976.

THE INFORMATION IN THIS MATERIAL SAFETY DATA SHEET SHOULD BE PROVIDED TO ALL WHO WILL USE, HANDLE, STORE, TRANSPORT, OR OTHERWISE BE EXPOSED TO THIS PRODUCT. THIS INFORMATION HAS BEEN PREPARED FOR THE GUIDANCE OF PLANT ENGINEERING, OPERATIONS AND MANAGEMENT AND FOR PERSONS WORKING WITH OR HANDLING THIS PRODUCT. OLIN BELIEVES THIS INFORMATION TO BE RELIABLE AND UP TO DATE AS OF THE DATE OF PUBLICATION, BUT MAKES NO WARRANTY THAT IT IS. ADDITIONALLY, IF THIS MATERIAL SAFETY DATA SHEET IS MORE THAN THREE YEARS OLD, YOU SHOULD CONTACT OLIN AT THE PHONE NUMBER LISTED BELOW TO MAKE CERTAIN THAT THIS SHEET IS CURRENT.

OLIN MSDS CONTROL GROUP

Olin Corporation
120 Long Ridge Road
Stamford, CT 06904

Phone Number: (203) 356-3449

OLIN CORPORATION SUBSIDIARIES AND AFFILIATED ENTITIES: ASAHI-OLIN LTD., BRIDGEPORT BRASS CORPORATION, INDY ELECTRONICS, INC., OLIN CHLORATE CORPORATION, OLIN FABRICATED METAL PRODUCTS INC., OLIN HUNT SPECIALTY PRODUCTS INC., OLIN ELECTRONICS TECHNOLOGY, OLIN MESA CORP., OLIN SPECIALTY METALS CORPORATION, PACIFIC ELECTRO DYNAMICS, INC., PHYSICS INTERNATIONAL COMPANY, ROCKET RESEARCH COMPANY, DCG MICROELECTRONIC MATERIALS, INC.



Du Pont Chemicals

2745CR

Revised 5-APR-1993

Printed 29-MAR-1995

"TERATHANE" POLYETHER GLYCOLS

CHEMICAL PRODUCT/COMPANY IDENTIFICATION

Material Identification

"TERATHANE" is a registered trademark of DuPont.

Corporate MSDS Number DU002087

Formula HO[(CH₂)₄-O]_nH

Grade 650 TO 2900, N650 TO N3000 (GRADED BY MOLECULAR WEIGHT)

Tradenames and Synonyms

PTMEG
PTMG

Company Identification

MANUFACTURER/DISTRIBUTOR
DuPont
1007 Market Street
Wilmington, DE 19898

PHONE NUMBERS

Product Information 1-800-441-9442
Transport Emergency CHEMTREC: 1-800-424-9300
Medical Emergency 1-800-441-3637

COMPOSITION/INFORMATION ON INGREDIENTS

Components Material

CAS Number %

25190-06-1

POLY(OXY-1,4-BUTANEDIYL)-A-HYDRO-W-HYDROXY 100

(Continued)

FIRE FIGHTING MEASURES(Continued)**Fire and Explosion Hazards:**

Spills on high-surface-area materials, such as fibrous insulation, can decompose rapidly, releasing very flammable tetrahydrofuran, carbon monoxide, etc., and may ignite at temperatures as low as 100 deg C (212 deg F).

Extinguishing Media

Water, Dry Chemical.

Carbon Dioxide (CO₂). Alcohol Foam. Dirt. Sand.

Fire Fighting Instructions

Water spray or deluge should be used to cool spills on fibrous insulation, etc. Otherwise, any fire fighting method suitable for oil fires should be used.

ACCIDENTAL RELEASE MEASURES**# Safeguards (Personnel)**

NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

Accidental Release Measures

Flush large spills with plenty of cold water to freeze material, then scoop up. Soak up small spills with sand, earth, or "Oil Dry." Clean floor with alcohol.

HANDLING AND STORAGE**Handling (Personnel)**

Avoid contact with eyes, skin, or clothing. Wash thoroughly after handling.

Storage

Do not store with strong inorganic oxidants such as nitric acid.

Absorbs moisture; keep container closed. Store at temperatures preferably over 45 deg C (113 deg F) to prevent solidification.

EXPOSURE CONTROLS/PERSONAL PROTECTION**Engineering Controls**

No special ventilation required for normal use.

(Continued)

TOXICOLOGICAL INFORMATION**Animal Data**

Inhalation 4-hour LC50: >3.4 mg/L in rats
Oral LD50 : >11,000 mg/kg in rats

The product is a moderate skin irritant, a mild eye irritant, but is not a skin sensitizer in animals. A single large oral dose caused only discomfort. Repeated oral doses caused discomfort and frequent urination. Inhalation caused no significant and toxicological changes. The product does not produce damage in bacterial cell cultures.

ECOLOGICAL INFORMATION**Ecotoxicological Information**

Aquatic Toxicity

96-hour LC50, fathead minnows: 7.8 mg/L

DISPOSAL CONSIDERATIONS**Waste Disposal**

Comply with Federal, State, and local regulations.

TRANSPORTATION INFORMATION**Shipping Information**

Shipping Containers

Tank Cars.
Tank Trucks.

55-gallon Drums
5-gallon Pails
Metal Sample Cans
NOT REGULATED AS A HAZARDOUS MATERIAL BY DOT OR IMO.

REGULATORY INFORMATION**# U.S. Federal Regulations**

TSCA Inventory Status Reported/Included.

TITLE III HAZARD CLASSIFICATIONS SECTIONS 311, 312

Acute : Yes
Chronic : No
Fire : No
Reactivity : No
Pressure : No

(Continued)

Chemical Group
Hoechst Celanese Corporation
P.O. Box 569320 / Dallas, Texas 75356-9320
Information phone: 214 689 4000
* Emergency phone: 800 424 9300 (CHEMTREC)

APR 21 REC'D
1992

TRIMETHYLOLPROPANE,
FLAKE
TMP

Issued February 16, 1990

#91

Identification

Product name: Trimethylolpropane flake
Chemical name: Trimethylolpropane
Chemical family: Polyol
Formula: $CH_3CH_2C(CH_2OH)_3$
Molecular weight: 134
CAS number: 77-99-6

CAS name: 1,3-Propanediol,
2-ethyl-2-(hydroxymethyl)

Synonyms: 1,3-Propanediol,
2-ethyl-2-(hydroxymethyl)

Department of Transportation information
Shipping name: Trimethylolpropane
Hazard classification: Not regulated
United Nations number: None assigned
Emergency Response Guide no.: None assigned

Physical data

Boiling point (760 mm Hg): 289°C (552°F)
Freezing point: 58.8°C (138°F)
Bulk density: 35.3-38.5 lb/cu ft
Vapor pressure (20°C): <1 mm Hg
Solubility in water (% by WT @ 20°C): Complete
Appearance and odor: White, waxy, odorless flakes.

Hazardous ingredients

Trimethylolpropane, >98.5%

Fire and explosion hazard data

Flammable limits in air, % by volume:
Not applicable

Flash point (test method):
Cleveland open cup (ASTM D92): 355°F (179°C)

Extinguishing media:
Use CO₂ or dry chemical for small fires, alcohol-type aqueous film-forming foam or water spray for large fires.

Special fire-fighting procedures:

* If potential for exposure to vapors or products of combustion exists, wear complete personal protective equipment and respirator approved by both NIOSH and MSHA:

Component information (See Glossary at end of MSDS for definitions)(1)

Component, wt. % (CAS number)	Exposure levels			Subject to SARA §313 reporting?
	OSHA PEL TWA	ACGIH TLV* TWA	IDLH	
Trimethylolpropane, 98% (77-99-6)	15 mg/m ³ , total dust 5 mg/m ³ , respirable fraction	10 mg/m ³ , total dust(2)	NVE(3)	No

(1) All components listed as required by federal, California, New Jersey and Pennsylvania regulations.
(2) Hoechst Celanese has adopted the ACGIH TLV.
(3) No value established.

Self-contained breathing apparatus with full facepiece operated in pressure demand or other positive pressure mode.

Supplied-air respirator with full facepiece and operated in pressure-demand or other positive pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive pressure mode.

Water spray can be used to reduce intensity of flames and to dilute spills to nonflammable mixture. Use water spray to cool fire-exposed structures and vessels.

Unusual fire and explosion hazards:
Can form an explosive organic dust cloud. Do not use compressed air to transfer this material.

Special hazard designations

	HMIS	NFPA	Key
Health:	1	1	0 - Minimal
Flammability:	1	1	1 - Slight
Reactivity:	0	0	2 - Moderate
Personal protective equipment:	G	—	3 - Serious 4 - Severe

SARA §311 hazard categories

Acute health: No
Chronic health: No
Fire: No
Sudden release of pressure: No
Reactive: No

Reactivity data

Stability:
Stable

Hazardous polymerization:
Will not occur.

Conditions to avoid:
Flame.

Materials to avoid:
Nitric acid; oxygen, hydrogen peroxide and other strong oxidizing agents.

Hazardous combustion or decomposition products:
Carbon monoxide.

Health data

Effects of exposure/toxicity data

Acute
Ingestion (swallowing): Practically non-toxic to animals (oral LD₅₀, rats: 14 g/kg).
Inhalation (breathing): No information regarding toxicity to animals by inhalation.
Skin contact: Essentially non-irritating. Slightly toxic to animals by absorption (dermal LD₅₀, rabbits: >10 g/kg).
Eye contact: Essentially non-irritating.

Chronic
* Mutagenicity: *In vitro*, does not show mutagenic potential in Ames test. *In vivo*, no information.
Carcinogenicity: No information.
Reproduction: No information.

* Medical conditions aggravated by exposure:
Significant exposure to this chemical may adversely affect people with chronic disease of the respiratory system, skin and/or eyes.

(continued)



GARDEN GROVE FIRE DEPARTMENT FAX

11301 Acacia Parkway, Garden Grove, CA 92840
(714) 741-5600 FAX (714) 741-5640

Date: 12-21-99

To: DARRYL READSHAW

From: STEVE CHARLEY - FIRE DEPT.

Subject: MCSDS

FAX No. Sent To: (714) 895-7031

Confidential: Yes No

Number of pages transmitted including this page: 5

WARNING

This message is intended only for the use of the individual or entity to which it is addressed, and may contain information that is privileged, confidential, or otherwise exempt from disclosure under applicable law.

If you are not the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this communication is strictly prohibited.

Message:

PLEASE FAX OR MAIL MCSDS FOR EACH FORM 3

THANKS

CALL BACK NUMBER 714-741-5636

If there are any questions, problems or you don't receive all of the pages, please call (714) 741-5600.

CALIFORNIA CHEMICAL INVENTORY FORM - DESCRIPTION PAGE

FORM 3

(1) ADD DELETE REVISE NO CHANGE

PAGE (2) 8 OF 31 46

BUSINESS NAME (4) ELASCO INC
 CHEMICAL LOCATION (5) (Address, Area, Building, etc.) 11377 MARKON DR. GARDEN GROVE, CA 92841
 MAP # (if more than one) (6) 1 GRID # (7) C-D,2-5;D-H,3-4

CHEMICAL NAME (8) MDI PREPOLYMER
 COMMON NAME (9) ELASTOTHANE E100
 CAS # (10) 101-68-8
 FIRE CODE HAZARD CLASSES (13) 14, 3(C3B)

TRADE SECRET (11) Y N
 AHM/EHS (12) Y N
 *IF EHS BOX IS "Y"
 ALL AMOUNTS MUST BE IN LBS

TYPE (14)
 PHYSICAL STATE (17)
 FED HAZARD CATEGORIES (18)
 STATE WASTE CODE (19)
 DAYS ON SITE (20)
 LARGEST CONTAINER (21)
 STORAGE CONTAINER (26)
 PRESSURE STORAGE (27)
 STORAGE TEMPERATURE (28)
 (29) % WT

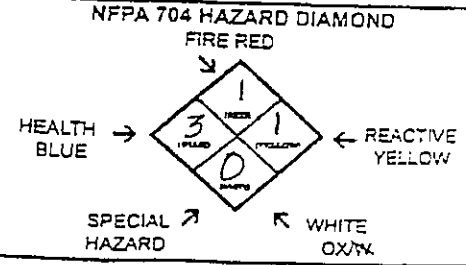
*COMPLETE BLOCK (13) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.
 CHECK IF RADIOACTIVE (15) (15) _____ CURIES
 (14) PURE MIXTURE WASTE
 (17) SOLID LIQUID GAS
 (18) FIRE REACTIVE PRESSURE RELEASE ACUTE HEALTH CHRONIC HEALTH
 (19) UNITS (22) GAL CU FT LBS TONS
 *If EHS, amounts must be in lbs.
 MAX DAILY AMT (23) _____
 AVG DAILY AMT (24) _____
 ANNUAL WASTE AMT (25) _____
 (26) ABOVE GROUND TANK - INSIDE CAN BOX(S) TANK WAGON
 UNDER GROUND TANK CARBOY CYLINDER RAIL CAR
 TANK INSIDE BUILDING SILO GLASS CONTAINER
 STEEL DRUM FIBER DRUM PLASTIC CONTAINER Other
 PLASTIC/NONMETALLIC DRUM BAG(S) IN MACHINERY OR EQUIP
 (27) AMBIENT ABOVE AMBIENT BELOW AMBIENT
 (28) AMBIENT ABOVE AMBIENT BELOW AMBIENT CRYOGENIC

1. < 15
 2.
 3.

(30) HAZARDOUS COMPONENTS	(31) EHS/AHM	(32) CAS #
Methyl Di phenyl Isocyanate	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	101-6868
	<input type="checkbox"/> Y <input type="checkbox"/> N	
	<input type="checkbox"/> Y <input type="checkbox"/> N	

(33) ADDITIONAL LOCALLY COLLECTED INFORMATION
 *COMPLETE BLOCK (33) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.

NFPA CLASSIFICATION _____
 UN/DOT # _____ Refer to shipping papers or MSDS
 DOT HAZARD CLASS _____ Refer to shipping papers or MSDS
 UFC HAZARD CLASS _____



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CALIFORNIA CHEMICAL INVENTORY FORM - DESCRIPTION PAGE

FORM 3

(1) ADD DELETE REVISE NO CHANGE

PAGE (2) 28 OF (3) 46

BUSINESS NAME (4) ELASCO INC

CHEMICAL LOCATION (5) (Address, Area, Building, etc.) 11377 MARKON DR. GARDEN GROVE, CA 92841

MAP # (if more than one) (6) 1 GRID # (7) C-D, 2-5; D-H, 3-4

CHEMICAL NAME (8) TRIMETHYL PROPANE

COMMON NAME (9) TMP

CAS # (10) 110-63-4

FIRE CODE HAZARD CLASSES (11) 14, 3 (C30)

TRADE SECRET (11) Y N

AHM/EHS (12) Y N

*IF EHS BOX IS "Y" ALL AMOUNTS MUST BE IN LBS

*COMPLETE BLOCK (13) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.

TYPE (14) PURE MIXTURE WASTE

PHYSICAL STATE (17) SOLID LIQUID GAS

FED HAZARD CATEGORIES (18) FIRE REACTIVE PRESSURE RELEASE ACUTE HEALTH CHRONIC HEALTH

STATE WASTE CODE (19) _____

DAYS ON SITE (20) _____

LARGEST CONTAINER (21) _____

STORAGE CONTAINER (26) ABOVE GROUND TANK - INSIDE CAN BOX(S) TANK WAGON
 UNDER GROUND TANK CARBOY CYLINDER RAIL CAR
 TANK INSIDE BUILDING SILO GLASS CONTAINER
 STEEL DRUM FIBER DRUM PLASTIC CONTAINER Other
 PLASTIC/NONMETALLIC DRUM BAG(S) IN MACHINERY OR EQUIP

PRESSURE STORAGE (27) AMBIENT ABOVE AMBIENT BELOW AMBIENT

STORAGE TEMPERATURE (28) AMBIENT ABOVE AMBIENT BELOW AMBIENT CRYOGENIC

UNITS (22) GAL CU FT LBS TONS

MAX DAILY AMT (23) _____

AVG DAILY AMT (24) _____

ANNUAL WASTE AMT (25) _____

** EHS, amounts must be in lbs.

(29) % WT

1
2
3

(30) HAZARDOUS COMPONENTS (31) EHS/AHM (32) CAS #

	<input type="checkbox"/> Y <input type="checkbox"/> N	
	<input type="checkbox"/> Y <input type="checkbox"/> N	
	<input type="checkbox"/> Y <input type="checkbox"/> N	

(33) ADDITIONAL LOCALLY COLLECTED INFORMATION
 *COMPLETE BLOCK (33) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.

NFPA CLASSIFICATION

UN/DOT # _____ Refer to shipping papers or MSDS

DOT HAZARD CLASS _____ Refer to shipping papers or MSDS

UFC HAZARD CLASS _____

NFPA 704 HAZARD DIAMOND

FIRE RED

HEALTH BLUE

REACTIVE YELLOW

SPECIAL HAZARD

WHITE OX/TK

MAKE AS MANY COPIES OF CHEMICAL INVENTORY FORM AS NEEDED

CALIFORNIA CHEMICAL INVENTORY FORM - DESCRIPTION PAGE

FORM 3

(1) ADD DELETE REVISE NO CHANGE

PAGE (2) 23 OF 3) 46

BUSINESS NAME (4) ELASCO INC
 CHEMICAL LOCATION (5) (Address, Area, Building, etc.) 11377 MARKOW DR. GARDEN GROVE, CA 92841
 MAP # (if more than one) (6) 1 GRID # (7) C-D,2-5;D-H,3-4

CHEMICAL NAME (8) Poly Tetrahydrofuran
 COMMON NAME (9) Terathane 1000/2000 Polymeg 1000/2000
 CAS # (10) 25190-06-01
 FIRE CODE HAZARD CLASSES* (13) 14,3 (C3B)

TRADE SECRET (11) Y N
 AHM / EHS (12) Y N
 *IF EHS BOX IS "Y"
 ALL AMOUNTS MUST BE IN LBS

*COMPLETE BLOCK (13) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.

TYPE (14) PURE MIXTURE WASTE
 PHYSICAL STATE (17) SOLID LIQUID GAS
 FED HAZARD CATEGORIES (18) FIRE REACTIVE PRESSURE RELEASE ACUTE HEALTH CHRONIC HEALTH
 STATE WASTE CODE (19) _____
 DAYS ON SITE (20) _____
 LARGEST CONTAINER (21) _____
 STORAGE CONTAINER (25) _____

CHECK IF RADIOACTIVE (15) (15) _____ CURIES
 UNITS (22) GAL CU FT LBS TONS
 *If EHS, amounts must be in lbs.
 MAX DAILY AMT (23) _____
 AVG DAILY AMT (24) _____
 ANNUAL WASTE AMT (25) _____
 (25) ABOVE GROUND TANK - INSIDE CAN BOX(S) TANK WAGON
 UNDER GROUND TANK CARBOY CYLINDER RAIL CAR
 TANK INSIDE BUILDING SILO GLASS CONTAINER
 STEEL DRUM FIBER DRUM PLASTIC CONTAINER Other
 PLASTIC/NONMETALLIC DRUM BAG(S) IN MACHINERY OR EQUIP

PRESSURE STORAGE _____
 STORAGE TEMPERATURE (28) % WT _____

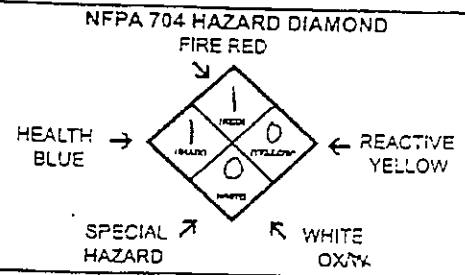
(27) AMBIENT ABOVE AMBIENT BELOW AMBIENT
 (28) AMBIENT ABOVE AMBIENT BELOW AMBIENT CRYOGENIC

1.
2.
3.

(30) HAZARDOUS COMPONENTS	(31) EHS/AHM	(32) CAS #
	<input type="checkbox"/> Y <input type="checkbox"/> N	
	<input type="checkbox"/> Y <input type="checkbox"/> N	
	<input type="checkbox"/> Y <input type="checkbox"/> N	

(33) ADDITIONAL LOCALLY COLLECTED INFORMATION
 *COMPLETE BLOCK (33) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.

NFPA CLASSIFICATION _____
 UN/DOT # _____ Refer to shipping papers or MSDS
 DOT HAZARD CLASS _____ Refer to shipping papers or MSDS
 UFC HAZARD CLASS _____



MAKE AS MANY COPIES OF CHEMICAL INVENTORY FORM AS NEEDED

CALIFORNIA CHEMICAL INVENTORY FORM - DESCRIPTION PAGE

FORM 3

(1) ADD DELETE REVISE NO CHANGE

PAGE (2) 41 OF 31 46

BUSINESS NAME (4) ELASCO INC
 CHEMICAL LOCATION (5) 11377 MARKON DR. GARDEN GROVE, CA 92841
 MAP # (if more than one) (6) 1 GRID # (7) C-D,2-5;D-H,3-4

CHEMICAL NAME (8) Amونيا
 COMMON NAME (9) Aqua Amونيا
 CAS # (10) 1336-21-6
 FIRE CODE HAZARD CLASSES (13) 14

TRADE SECRET (11) Y N
 AHM / EHS (12) Y N
 *IF EHS BOX IS "Y" ALL AMOUNTS MUST BE IN LBS

TYPE (14) PURE MIXTURE WASTE
 PHYSICAL STATE (17) SOLID LIQUID GAS
 FED HAZARD CATEGORIES (18) FIRE REACTIVE PRESSURE RELEASE ACUTE HEALTH CHRONIC HEALTH
 STATE WASTE CODE (19) _____
 DAYS ON SITE (20) _____
 LARGEST CONTAINER (21) _____
 STORAGE CONTAINER (26) ABOVE GROUND TANK - INSIDE CAN BOX(S) TANK WAGON
 UNDER GROUND TANK CARBOY CYLINDER RAIL CAR
 TANK INSIDE BUILDING SILO GLASS CONTAINER
 STEEL DRUM FIBER DRUM PLASTIC CONTAINER Other
 PLASTIC/NONMETALLIC DRUM BAG(S) IN MACHINERY OR EQUIP
 PRESSURE STORAGE (27) AMBIENT ABOVE AMBIENT BELOW AMBIENT
 STORAGE TEMPERATURE (28) AMBIENT ABOVE AMBIENT BELOW AMBIENT CRYOGENIC
 (29) % WT

(30) HAZARDOUS COMPONENTS	(31) EHS/AHM	(32) CAS #
	<input type="checkbox"/> Y <input type="checkbox"/> N	
	<input type="checkbox"/> Y <input type="checkbox"/> N	
	<input type="checkbox"/> Y <input type="checkbox"/> N	

(33) ADDITIONAL LOCALLY COLLECTED INFORMATION
 *COMPLETE BLOCK (33) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.

NFPA CLASSIFICATION _____
 UN/DOT # _____ Refer to shipping papers or MSDS
 DOT HAZARD CLASS _____ Refer to shipping papers or MSDS
 UFC HAZARD CLASS _____

NFPA 704 HAZARD DIAMOND
 FIRE RED
 HEALTH BLUE
 REACTIVE YELLOW
 SPECIAL HAZARD
 WHITE OX/TK

MAKE AS MANY COPIES OF CHEMICAL INVENTORY FORM AS NEEDED

#100-MP110

MATERIAL SAFETY DATA SHEET

ADDRESS

BLEND

Elasco, E-110

015-E110

E-110 ELASCO BLEND

I. PRODUCT IDENTIFICATION

PRODUCT NAME.....: Experimental Bayer MP-110
 PRODUCT CODE NUMBER.....: C-581
 CHEMICAL FAMILY.....: Aromatic Isocyanate
 CHEMICAL NAME.....: Modified Diphenylmethane Diisocyanate (MDI)
 Polyether Prepolymer
 SYNONYMS.....: Modified diphenylmethane diisocyanate (MDI)
 CAS NUMBER.....: 59675-67-1
 T.S.C.A. STATUS.....: On Inventory

OSHA HAZARD COMMUNICATION

STATUS.....: This product is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200.

CHEMICAL FORMULA.....: Not Applicable

II. HAZARDOUS INGREDIENTS

COMPONENTS:	Z:	OSHA-PEL	ACGIH-TLV
Diphenylmethane Diisocyanate (MDI) CAS# 26447-40-5	25-35	0.02 ppm Ceiling	0.02 ppm Ceiling

III. PHYSICAL DATA

APPEARANCE.....: Liquid at 77° F (25° C)
 COLOR.....: White to Pale Yellow
 ODOR.....: Slightly musty odor
 MOLECULAR WEIGHT.....: Not Applicable
 MELT POINT/FREEZE POINT...: Less than 75° F (25° C)
 BOILING POINT.....: 406° F (208° C) at 5 mmHg
 VAPOR PRESSURE.....: Less than 10⁻⁵ mmHg at 77° F (25° C)
 VAPOR DENSITY (AIR=1).....: 8.5 (MDI)
 SPECIFIC GRAVITY.....: 1.08 at 77° F (25° C)
 BULK DENSITY.....: 9.00 lbs/gal
 SOLUBILITY IN WATER.....: Reacts slowly with water to liberate CO₂ gas
 Z VOLATILE BY VOLUME.....: Negligible

IV. FIRE & EXPLOSION DATA

FLASH POINT °F(°C).....: 425° F (219° C) Pensky-Martens Closed Cup
EXTINGUISHING MEDIA.....: Dry chemical (e.g. monoammonium phosphate, potassium sulfate, and potassium chloride), carbon dioxide, high expansion (proteinic) chemical foam, water spray for large fires.

SPECIAL FIRE FIGHTING PROCEDURES/UNUSUAL FIRE OR EXPLOSION HAZARDS:

Full emergency equipment with self-contained breathing apparatus and full protective clothing should be worn by fire fighters. During a fire, MDI vapors and other irritating, highly toxic gases may be generated by thermal decomposition or combustion. (See Section VIII.). At temperatures greater than 400°F (204°C), polymeric MDI can polymerize and decompose which can cause pressure build-up in closed containers. Explosive rupture is possible. Therefore, use cold water to cool fire-exposed containers.

V. HUMAN HEALTH DATA

PRIMARY ROUTE(S) OF

ENTRY.....: Skin Contact; Inhalation. Although MDI is low in volatility, an inhalation hazard can exist from MDI aerosols or vapors formed during heating, foaming or spraying.

EFFECTS AND SYMPTOMS OF OVEREXPOSURE

INHALATION:

Acute Exposure. MDI vapors or mist at concentrations above the TLV can irritate (burning sensation) the mucous membranes in the respiratory tract (nose, throat, lungs) causing runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function (breathing obstruction). Persons with a preexisting, nonspecific bronchial hyperreactivity can respond to concentrations below the TLV with similar symptoms as well as asthma attack. Exposure well above the TLV may lead to bronchitis, bronchial spasm and pulmonary edema (fluid in lungs). These effects are usually reversible. Chemical or hypersensitive pneumonitis, with flu-like symptoms (e.g., fever, chills) has also been reported. These symptoms can be delayed up to several hours after exposure.

Chronic Exposure. As a result of a previous repeated overexposure or single large dose, certain individuals can develop isocyanate sensitization (chemical asthma) which will cause them to react to a later exposure to isocyanate at levels well below the TLV. These symptoms, which can include chest tightness, wheezing, cough, shortness of breath or asthma attack, could be immediate, or delayed up to several hours after exposure. Similar to many non-specific asthmatic responses, there are reports that once sensitized an individual can experience these symptoms upon exposure to dust, cold air or other irritants. This increased lung sensitivity can persist for weeks and in severe cases for several years. Overexposure to isocyanates has also been reported to cause lung damage (including decrease in lung function) which may be permanent. Sensitization can either be temporary or permanent.

SKIN CONTACT

Acute Exposure. Isocyanates react with skin protein and moisture and can cause irritation which may include the following symptoms: reddening, swelling, rash, scaling or blistering. Cured material is difficult to remove.

INCOMPATIBILITY

(MATERIALS TO AVOID)....: Water, amines, strong bases, alcohols. Will cause some corrosion to copper alloys and aluminum.

HAZARDOUS DECOMPOSITION

PRODUCTS.....: By high heat and fire: carbon monoxide, oxides of nitrogen, traces of HCN, MDI.

IX. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Cover the spill with sawdust, vermiculite, Fuller's earth or other absorbent material. Pour decontamination solution over spill area and allow to react for at least 10 minutes. Collect material in open containers and add further amounts of decontamination solution. Remove containers to a safe place, cover loosely, and allow to stand for 24 to 48 hours. Wash down spill area with decontamination solutions. Decontamination solutions: non-ionic surfactant Union Carbide's Tergitol TMN-10 (20%) and water (80%); concentrated ammonia (3-8%), detergent (2%) and water (90-95%). Respiratory protection is recommended during spill clean-up. (See Section VII.)

CERCLA (SUPERFUND) REPORTABLE QUANTITY: None

WASTE DISPOSAL METHOD: Waste must be disposed of in accordance with federal, state, and local environmental control regulations. Incineration is the preferred method. Empty containers must be handled with care due to product residue. Decontaminate containers prior to disposal. **DO NOT HEAT OR CUT EMPTY CONTAINER WITH ELECTRIC OR GAS TORCH.** (See Sections IV. and VIII.) Vapors and gases may be highly toxic.

RCRA STATUS.....: MDI is not listed as a hazardous waste. To the best of our knowledge, MDI does not meet the criteria of a hazardous waste if discarded in its purchased form. However, under RCRA, it is the responsibility of the user of products to determine, at the time of disposal, whether a product meets any of the criteria for a hazardous waste. This is because product uses, transformations, mixtures, processes, etc., may render the resulting material hazardous, under the criteria of ignitability, corrosivity, reactivity and EP toxicity (40 Code of Federal Regulations 261.20-24).

X. SPECIAL PRECAUTIONS & STORAGE DATA

STORAGE TEMPERATURE

(MIN./MAX.).....: Ambient

AVERAGE SHELF LIFE.....: 6 months

SPECIAL SENSITIVITY

(HEAT, LIGHT, MOISTURE): If container is exposed to high heat, 400°F (204°C) it can be pressurized and possibly rupture. MDI reacts slowly with water to form CO₂ gas. This gas can cause sealed containers to expand and possibly rupture.

PRECAUTIONS TO BE TAKEN

IN HANDLING AND STORING: Store in tightly closed containers to prevent moisture contamination. Do not reseal if contamination is suspected. Avoid contact with skin and eyes. Do not breathe the vapors. Warning properties (irritation of the eyes, nose and throat or odor) are not adequate to prevent chronic overexposure from inhalation. This material can produce asthmatic sensitization upon either single inhalation exposure to a relatively high concentration or upon repeated

inhalation exposures to lower concentrations. Exposure to vapors of heated MDI can be extremely dangerous. Employee education and training in the safe use and handling of this compound are required under the OSHA Hazard Communication Standard.

XI. SHIPPING DATA

TECHNICAL SHIPPING NAME...: Modified Diphenylmethane Diisocyanate
D.O.T. HAZARD
CLASSIFICATION.....: Non-regulated
PRODUCT REPORTABLE QTY...: None
FRT. CLASS BULK.....: Isocyanate
FRT. CLASS PKG.....: Chemicals NOI (Isocyanate) NMFC 60000
PRODUCT LABEL.....: Experimental Baytec MP-110 Product Label

XII. ANIMAL TOXICITY DATA

ACUTE.....:
ORAL, LD50.....: Greater than 20,000 mg/kg (Rat)
DERMAL, LD50.....: Greater than 15,800 mg/kg (Rabbits)
INHALATION, LC50.....: Approximately 370 mg/m³ as an aerosol (Rat)
EYE EFFECTS.....: Slightly irritating (Rabbits) OECD Guidelines
SKIN EFFECTS.....: Slightly irritating (Rabbits) OECD Guidelines.
SENSITIZATION.....: Skin sensitizer (Guinea Pigs).

SUB-ACUTE/SUB-CHRONIC...: Rats were exposed to 0,2,5 and 15 mg/m³ polymeric MDI aerosols for 6 hours/day, 5 days/work for 2 weeks. Severe respiratory distress was observed in all animals at the 15 mg/m³ dose. Similar, but less severe symptoms occurred at the 5 mg/m³ dose (International Isocyanate Institute).

CHRONIC.....: A lifetime inhalation study on the effects of Polymeric MDI in rats is currently underway. (International Isocyanate Institute)

MUTAGENIC TESTS: MDI has been reported by NIOSH to be mutagenic to salmonella typhimurium bacteria in the presence of a mammalian liver activating system (commonly called the Ames test). There is not full agreement in the scientific community on the significance of these Ames test results and their relationship with human safety in assessing the risk of cancer in man. 4,4' MDI did not induce in vivo chromosomal aberrations in a micronucleus test.

AQUATIC TOXICITY.....: LC₅₀ (24 hour) for polymeric MDI is greater than 500 mg/l (Daphnea, Limnea, Invertebrates and Zebra Fish).

XIII. APPROVALS

REASON FOR ISSUE.....: New Product
APPROVED BY.....: J.H. Chapman
TITLE.....: Product Safety Manager, Polyurethane
DATE APPROVED.....: August 25, 1986