

# GARDEN GROVE



## FIRE DEPARTMENT

### HAZARDOUS MATERIALS DISCLOSURE PROGRAM

#### REPORTING FORMS PACKET

#### SHORT VERSION

FOR OFFICIAL USE ONLY	
FACILITY ID NO.	_____
BUSINESS NAME	<u>KEITYITAWK PRODUCTS</u>
BUSINESS ADDRESS	<u>11651 MONARCH ST.</u>
APPROVED BY	_____ DATE <u>01/12/11</u>
NEW BUSINESS	<input type="checkbox"/> YES <input type="checkbox"/> NO UPDATE _____
PICK	<u>  </u> 4D <u>  </u> BUSLIST <u>  </u> CALARP: <u>  </u> CUPA: <u>  </u> GIS <u>  </u>
FEE	_____



# 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 1 3

### BUSINESS INFORMATION

FACILITY # (Supplied by GGFD)	3 0 0 3 5	BEGINNING DATE	09/07/2010	1	ENDING DATE	12/31/2010	2
BUSINESS NAME	Kittyhawk Products			4	BUSINESS PHONE	714-895-5024	
BUSINESS SITE ADDRESS	11651 Monarch Street			6			
CITY	GARDEN GROVE			7	STATE	CA	8
DUN & BRADSTREET	02-486-5532			10	SIC CODE (4 DIGIT #)	3599	
COUNTY	ORANGE			11	FIRE DISTRICT		
BUSINESS OPERATOR NAME	Dennis Poor			13			
				14	OPERATOR'S PHONE	714-895-5024	

### BUSINESS OWNER

OWNER NAME	[REDACTED]			16	OWNER PHONE	714-895-5024	
OWNER MAILING ADDRESS	11651 Monarch Street			18			
CITY	Garden Grove			19	STATE	CA	20
				21	ZIP	92841	

### ENVIRONMENTAL CONTACT

CONTACT NAME	Dennis Poor			22	CONTACT PHONE	714-895-5024	
CONTACT MAILING ADDRESS	11651 Monarch Street			24			
CITY	Garden Grove			25	STATE	CA	26
				27	ZIP	92841	

### EMERGENCY CONTACTS

PRIMARY		SECONDARY	
NAME	[REDACTED]	28	NAME
TITLE	Chaiman	29	Dennis Poor
BUSINESS PHONE	714-895-5024	30	TITLE
24-HR PHONE	[REDACTED]	31	President
PAGER #	N/A	32	BUSINESS PHONE
		33	714-895-5024
		34	24-HR PHONE
		35	[REDACTED]
		36	PAGER #
		37	N/A

### ADDITIONAL LOCALLY COLLECTED INFORMATION

DESCRIBE THE TYPE OF BUSINESS OPERATION:	Hot Isostatic Processing			38	TOTAL # OF EMPLOYEES	22	
BILLING ADDRESS (IF DIFFERENT FROM ABOVE)	Same as above			39			
PROPERTY OWNER NAME	[REDACTED]			40	ATTENTION	Denise Poor	
ADDRESS	Same as above			41	PHONE	714-895-5024	

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	09/07/2010	
NAME OF SIGNER (print)	Steve Belloise			47	NAME OF DOCUMENT PREPARER (print)	Steve Belloise	
TITLE OF SIGNER	VP Quality Assurance			48	TITLE OF DOCUMENT PREPARER	VP Quality Assurance	



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

# CUPA

FACILITY INFORMATION

## BUSINESS ACTIVITIES

Page 1 of 1

I. FACILITY IDENTIFICATION

FACILITY ID# 3 0 0 3 5

1. EPA ID # (Hazardous Waste Only) N/A

BUSINESS NAME (Same as FACILITY NAME or DBA-Doing Business As)  
Kittyhawk Products

### 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?

YES  NO

4.  HAZARDOUS MATERIALS INVENTORY - CHEMICAL DESCRIPTION (Form 3)

#### B. UNDERGROUND STORAGE TANKS (USTs)

- Own or operate underground storage tanks?
- Intent to upgrade existing or install new USTs?

YES  NO

5.  UST FACILITY (Formerly SWRCB Form A)  
6.  UST TANK (one page per tank) (Formerly Form B)

YES  NO

7.  UST FACILITY  
 UST TANK (one per tank)  
 UST INSTALLATION - CERTIFICATE OF COMPLIANCE (one page per tank) (Formerly Form C)  
 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?

YES  NO

8.  NO FORM REQUIRED TO CUPAS

#### D. HAZARDOUS WASTE

- Generate hazardous waste?
- Recycle more than 100 kg/month of excluded or exempted recyclable materials (per HSC §25143.2)?
- Treat hazardous waste on site?
- Treatment subject to financial assurance requirements (for Permit by Rule and Condition Authorization)?
- Consolidate hazardous waste generated at a remove site?
- Need to report the closure/removal of a tank that was classified waste and cleaned onsite?

YES  NO

9.  EPA ID NUMBER - provide at the top of this page  
10.  RECYCLABLE MATERIALS REPORT (one per recycler)

YES  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)  
12.  CERTIFICATION OF FINANCIAL ASSURANCE (Formerly DTSC Form 1232)  
13.  REMOTE WASTE/CONSOLIDATION SITE ANNUAL NOTIFICATION (Formerly DTSC Form 1196)

YES  NO

14.  HAZARDOUS WASTE TANK CLOSURE CERTIFICATION (Formerly DTSC Form 1249)

#### E. LOCAL REQUIREMENTS

Cal-ARP: California Accidental Release Prevention Program  
H&SC Chapter 6.95, Article 2, §25531 et seq  
Stationary Source with more than a Threshold Quantity of a Regulated Substance in a Process

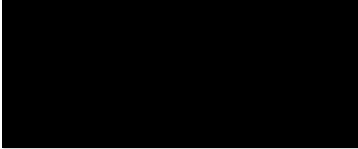
YES  NO

15.  REGULATED SUBSTANCE REPORTING FORM (Orange County CUPA)

## Emergency and Evacuation Plan

ALL employees are required to be observant for fire, pressure seal failure, and injuries to fellow employees that may require evacuation of premises or outside emergency assistance, i.e. fire or police departments.

If you see an emergency situation or suspect one you are required to notify one of the following people:



One of the above personnel shall make the determination as to the severity of the situation and if needed order evacuation or calls to fire or police.

If evacuation is called follow this plan:

1. Shop personnel shall exit rear door and assemble in the rear parking lot. Office personnel shall exit front door and proceed to rear parking lot.

NOTE: Be familiar with all exits in the event that your exit is blocked.

2. Immediately upon assembly in the rear parking area Denise Poor or available manager shall institute an employee head count if anyone is missing, that information shall be relayed to arriving emergency agency.
3. The following people are required to remain on site if an emergency has been declared and leave only after these steps have been completed.
  - A. Make a determination as to what the emergency is (sound evacuation alarm if appropriate).
  - B. Shut down all equipment that may be involved.
  - C. Make call to the appropriate agency (fire, police).
  - D. Designate personnel to warn other businesses of the emergency.
  - E. If appropriate begin fire fighting or emergency first aid.

The following people are responsible for the above procedures:

Charlie Barre'  
Dennis Poor  
Steve Belloise  
Shift Supervisor

**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.).

Vocal, audible paging System

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:

Southwest side of building (Outside)

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.)

Page 11 in Safety Manual (Attached)

**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.

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.

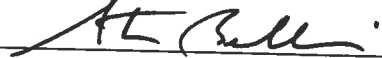
Your business is required by State law (CFC 8001.3.2) to retain a copy of this entire Hazardous Materials Disclosure information, including the Business Plan, chemical inventory, material safety data sheets and site maps, for review by Fire Department personnel. State where your disclosure and Emergency Business Plan will be kept.

Control Room & Quality Assurance Office

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: Steve Belloise  
Title: VP Quality Assurance  
Date: 09-07-2010



# HAZARDOUS MATERIALS INVENTORY FORM

FORM 3

ADD

DELETE

REVISED 1

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FACILITY ID#	3 0 0 3 5	BUSINESS NAME	Kittyhawk Products
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## I. FACILITY INFORMATION

CHEMICAL LOCATION	11651 Monarch Street Garden Grove, CA.92841 Northwest/Outside of bldg.		
CONFIDENTIAL LOCATION EPCRA	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	MAP #	1
GRID #	3 B/C		

## II. CHEMICAL INFORMATION

CHEMICAL NAME	Ar, Liquified (Rare Gas)	WASTE	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	TRADE SECRET	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
COMMON NAME	Argon, Refrigerated Liquid		* If EPCRA see instructions		
CAS #	7440-37-1	FIRE CODE HAZARD CLASSES (supplied by GGF)	Non-Flammable Liquid		

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	N/A
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 type="checkbox"/> a. FIRE <input type="checkbox"/> b. REACTIVE <input checked="" type="checkbox"/> c. PRESSURE RELEASE		
				<input type="checkbox"/> d. ACUTE HEALTH <input type="checkbox"/> e. CHRONIC HEALTH	

AVERAGE DAILY AMOUNT	8721	MAXIMUM DAILY AMOUNT	34,884	ANNUAL WASTE AMOUNT	0	STATE WASTE CODE	N/A
UNITS	<input type="checkbox"/> a. GALLONS <input checked="" type="checkbox"/> b. CUBIC FEET <input type="checkbox"/> c. POUNDS <input type="checkbox"/> d. TONS		DAYS ON SITE	365		LARGEST CONTAINER	
						34,884	

STORAGE CONTAINER (Check all that apply)	<input checked="" 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"/> l. 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"/> o. PLASTIC CONTAINER <input type="checkbox"/> s. TOTE BIN <input type="checkbox"/> d. STEEL DRUM <input type="checkbox"/> h. CARBOY <input type="checkbox"/> l. BAG(S) <input type="checkbox"/> p. IN MACH OR EQUIP <input checked="" type="checkbox"/> t. OTHER Outside					
--	--	--	--	--	--	--

STORAGE PRESSURE	<input type="checkbox"/> a. AMBIENT <input type="checkbox"/> b. ABOVE AMBIENT <input checked="" type="checkbox"/> c. BELOW AMBIENT
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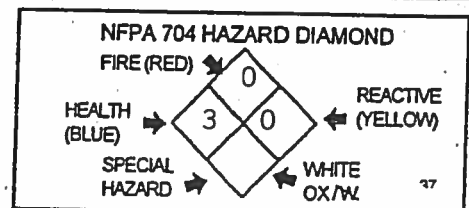
STORAGE TEMPERATURE	<input type="checkbox"/> a. AMBIENT <input type="checkbox"/> b. ABOVE AMBIENT <input type="checkbox"/> c. BELOW AMBIENT <input checked="" type="checkbox"/> d. CRYOGENIC
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%WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1	N/A	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	32
2		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	32
3		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	32
4		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	32
5		<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 #	UN 1006	33
Refer to shipping papers or MSDS		
DOT HAZARD CLASS	Non-Flammable Liquid	34
Refer to shipping papers or MSDS		
EPCRA	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	35
X		36
If EPCRA, Please Sign Here		



MAKE AS MANY COPIES OF CHEMICAL INVENTORY FORM AS NEEDED









# HAZARDOUS MATERIALS INVENTORY FORM

FORM 3

ADD

DELETE

REVISED 1

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FACILITY ID#	3 0 0 3 5	BUSINESS NAME	Kittyhawk Products
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## I. FACILITY INFORMATION

CHEMICAL LOCATION	11651 Monarch Street Garden Grove, CA. 92841			Northwest/outside of bldg
CONFIDENTIAL LOCATION	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	MAP #	1	Southwest/inside of bldg
EPCRA		GRID #	4D, 7D	

## II. CHEMICAL INFORMATION

CHEMICAL NAME	Air	WASTE	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	TRADE SECRET	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
COMMON NAME	Compressed Air	* If EPCRA see instructions			
CAS #	7782-44-7, 7727-37-9	FIRE CODE HAZARD CLASSES (supplied by GGF)	Non-Flammable Gas		

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

AVERAGE DAILY AMOUNT	100-200	MAXIMUM DAILY AMOUNT	200	ANNUAL WASTE AMOUNT	0	STATE WASTE CODE	N/A
UNITS	<input type="checkbox"/> a. GALLONS <input checked="" type="checkbox"/> b. CUBIC FEET <input type="checkbox"/> c. POUNDS <input type="checkbox"/> d. TONS	DAYS ON SITE	365	LARGEST CONTAINER	200		

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 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 checked="" type="checkbox"/> t. OTHER <u>Movable/Pressurized</u>
--	---	--	--	---	--

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	N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	
2		<input type="checkbox"/> Yes <input type="checkbox"/> No	
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.

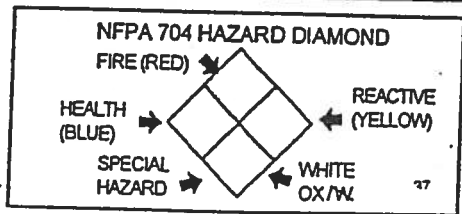
## PLACARDING INFORMATION

UNDOT # UN 1002 33  
 Refer to shipping papers or MSDS

DOT HAZARD CLASS UN 1002 34  
 Refer to shipping papers or MSDS

EPCRA  YES  NO 35

X \_\_\_\_\_ 36  
 If EPCRA, Please Sign Here



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**MATHESON  
TRI-GAS**

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Page 1 of 6

## MATERIAL SAFETY DATA SHEET

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**MATHESON TRI-GAS, INC.**  
**959 ROUTE 46 EAST**  
**PARSIPPANY, NEW JERSEY 07054-0624**

**EMERGENCY CONTACT:**  
**CHEMTREC 1-800-424-9300**  
**INFORMATION CONTACT:**  
**973-257-1100**

**SUBSTANCE: ARGON, LIQUID**

**TRADE NAMES/SYNONYMS:**

MTG MSDS 163; ARGON, REFRIGERATED LIQUID; ARGON, CRYOGENIC LIQUID; ARGON;  
LIQUID ARGON; UN 1951; Ar; 00225009; RTECS CF2300000

**CHEMICAL FAMILY:** non-metallic

**CREATION DATE:** Apr 04 2000

**REVISION DATE:** Jan 01 2007

### 2. COMPOSITION, INFORMATION ON INGREDIENTS

**COMPONENT:** ARGON, LIQUID

**CAS NUMBER:** 7440-37-1

**PERCENTAGE:** 100.0

### 3. HAZARDS IDENTIFICATION

**NFPA RATINGS (SCALE 0-4):** HEALTH=3 FIRE=0 REACTIVITY=0

**EMERGENCY OVERVIEW:**

**COLOR:** colorless

**PHYSICAL FORM:** cryogenic liquid

**ODOR:** odorless

**MAJOR HEALTH HAZARDS:** difficulty breathing

**PHYSICAL HAZARDS:** Containers may rupture or explode if exposed to heat.

**POTENTIAL HEALTH EFFECTS:**

**INHALATION:**

**SHORT TERM EXPOSURE:** nausea, vomiting, dizziness, tingling sensation, suffocation, convulsions, coma





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TRI-GAS**  
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**LONG TERM EXPOSURE:** no information on significant adverse effects

**SKIN CONTACT:**

**SHORT TERM EXPOSURE:** blisters, frostbite

**LONG TERM EXPOSURE:** no information is available

**EYE CONTACT:**

**SHORT TERM EXPOSURE:** frostbite, blurred vision

**LONG TERM EXPOSURE:** no information is available

**INGESTION:**

**SHORT TERM EXPOSURE:** frostbite

**LONG TERM EXPOSURE:** no information is available

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#### 4. FIRST AID MEASURES

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**INHALATION:** If adverse effects occur, remove to uncontaminated area. Get medical attention.

**SKIN CONTACT:** If frostbite or freezing occur, immediately flush with plenty of lukewarm water (105-115 F; 41-46 C). DO NOT USE HOT WATER. If warm water is not available, gently wrap affected parts in blankets. Get immediate medical attention.

**EYE CONTACT:** Contact with liquid: Immediately flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

**INGESTION:** If a large amount is swallowed, get medical attention.

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#### 5. FIRE FIGHTING MEASURES

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**FIRE AND EXPLOSION HAZARDS:** Negligible fire hazard. Containers may rupture or explode if exposed to heat.

**EXTINGUISHING MEDIA:** Use extinguishing agents appropriate for surrounding fire.

**FIRE FIGHTING:** Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. For tank, rail car or tank truck, evacuation radius: 800 meters (1/2 mile). Use extinguishing agents appropriate for surrounding fire. Cool containers with water spray until well after the fire is out. Do not get water directly on material. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas.

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#### 6. ACCIDENTAL RELEASE MEASURES

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**OCCUPATIONAL RELEASE:**

Do not touch spilled material. Stop leak if possible without personal risk. Keep unnecessary people away, isolate hazard area and deny entry. Ventilate closed spaces before entering.



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TRI-GAS**

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## 7. HANDLING AND STORAGE

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**STORAGE:** Store and handle in accordance with all current regulations and standards. Subject to storage regulations: U.S. OSHA 29 CFR 1910.101. Keep separated from incompatible substances.

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## 8. EXPOSURE CONTROLS, PERSONAL PROTECTION

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### **EXPOSURE LIMITS:**

#### **ARGON, LIQUID:**

#### **ARGON:**

ACGIH (simple asphyxiant)

**VENTILATION:** Provide local exhaust ventilation system. Ensure compliance with applicable exposure limits.

**EYE PROTECTION:** For the gas: Eye protection not required, but recommended. For the liquid: Wear splash resistant safety goggles. Contact lenses should not be worn. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

**CLOTHING:** For the gas: Protective clothing is not required. For the liquid: Wear appropriate protective, cold insulating clothing.

**GLOVES:** Wear insulated gloves.

**PROTECTIVE MATERIAL TYPES:** leather

**RESPIRATOR:** Under conditions of frequent use or heavy exposure, respiratory protection may be needed. Respiratory protection is ranked in order from minimum to maximum. Consider warning properties before use.

#### **For Unknown Concentrations or Immediately Dangerous to Life or Health -**

Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply.

Any self-contained breathing apparatus with a full facepiece.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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**PHYSICAL STATE:** gas

**COLOR:** colorless

**PHYSICAL FORM:** cryogenic liquid

**ODOR:** odorless

**TASTE:** tasteless

**MOLECULAR WEIGHT:** 39.848

**MOLECULAR FORMULA:** Ar





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TRI-GAS**

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**BOILING POINT:** -303 F (-186 C)  
**FREEZING POINT:** -308 F (-189 C)  
**VAPOR PRESSURE:** 500 mmHg @ -190 C  
**VAPOR DENSITY (air=1):** 1.380  
**SPECIFIC GRAVITY (water=1):** 1.40 @ -186 C  
**WATER SOLUBILITY:** 3.36% @ 20 C  
**PH:** Not applicable  
**VOLATILITY:** Not applicable  
**ODOR THRESHOLD:** Not available  
**EVAPORATION RATE:** Not applicable  
**VISCOSITY:** 0.283 cP @ -189 C  
**COEFFICIENT OF WATER/OIL DISTRIBUTION:** Not applicable

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## 10. STABILITY AND REACTIVITY

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**REACTIVITY:** Stable at normal temperatures and pressure.

**CONDITIONS TO AVOID:** Protect from physical damage and heat. Containers may rupture or explode if exposed to heat. Avoid contact with water or moisture.

**INCOMPATIBILITIES:** No data available.

**HAZARDOUS DECOMPOSITION:**

Thermal decomposition products: miscellaneous decomposition products

**POLYMERIZATION:** Will not polymerize.

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## 11. TOXICOLOGICAL INFORMATION

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Not available

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## 12. ECOLOGICAL INFORMATION

---

Not available

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## 13. DISPOSAL CONSIDERATIONS

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Dispose in accordance with all applicable regulations.



**MATHESON  
TRI-GAS**

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**14. TRANSPORT INFORMATION**

**U.S. DOT 49 CFR 172.101:**

**PROPER SHIPPING NAME:** Argon, refrigerated liquid

**ID NUMBER:** UN1951

**HAZARD CLASS OR DIVISION:** 2.2

**LABELING REQUIREMENTS:** 2.2



**CANADIAN TRANSPORTATION OF DANGEROUS GOODS:**

**SHIPPING NAME:** Argon, refrigerated liquid

**UN NUMBER:** UN1951

**CLASS:** 2.2

**15. REGULATORY INFORMATION**

**U.S. REGULATIONS:**

**CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR 302.4):** Not regulated.

**SARA TITLE III SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355.30):** Not regulated.

**SARA TITLE III SECTION 304 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355.40):** Not regulated.

**SARA TITLE III SARA SECTIONS 311/312 HAZARDOUS CATEGORIES (40 CFR 370.21):**

ACUTE: Yes

CHRONIC: No

FIRE: No

REACTIVE: No

SUDDEN RELEASE: Yes

**SARA TITLE III SECTION 313 (40 CFR 372.65):** Not regulated.

**OSHA PROCESS SAFETY (29CFR1910.119):** Not regulated.

**STATE REGULATIONS:**

**California Proposition 65:** Not regulated.

**CANADIAN REGULATIONS:**

**WHMIS CLASSIFICATION:** Not determined.

**NATIONAL INVENTORY STATUS:**

**U.S. INVENTORY (TSCA):** Listed on inventory.



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Page 6 of 6

**TSCA 12(b) EXPORT NOTIFICATION:** Not listed.

**CANADA INVENTORY (DSL/NDSL):** Not determined.

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**16. OTHER INFORMATION**

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# Material Safety Data Sheet

# Airgas

Hydrogen

## Section 1. Chemical product and company identification

**Product name** : Hydrogen  
**Supplier** : AIRGAS INC., on behalf of its subsidiaries  
259 North Radnor-Chester Road  
Suite 100  
Radnor, PA 19087-5283  
1-610-687-5253  
**Product use** : Synthetic/Analytical chemistry.  
**Synonym** : Dihydrogen; o-Hydrogen; p-Hydrogen; Molecular hydrogen; H<sub>2</sub>; UN 1049; UN 1966;  
Liquid hydrogen (LH<sub>2</sub> or LH<sub>2</sub>)  
**MSDS #** : 001026  
**Date of Preparation/Revision** : 4/26/2010.  
**In case of emergency** : 1-866-734-3438

## Section 2. Hazards identification

**Physical state** : Gas or Liquid.  
**Emergency overview** : **WARNING!**  
GAS:  
CONTENTS UNDER PRESURE.  
Extremely flammable  
Do not puncture or incinerate container.  
Can cause rapid suffocation.  
May cause severe frostbite.  
LIQUID:  
Extremely flammable  
Extremely cold liquid and gas under pressure.  
Can cause rapid suffocation.  
May cause severe frostbite.  
Do not puncture or incinerate container.  
Contact with rapidly expanding gases or liquids can cause frostbite.  
**Routes of entry** : Inhalation  
**Potential acute health effects**  
**Eyes** : Contact with rapidly expanding gas may cause burns or frostbite. Contact with cryogenic liquid can cause frostbite and cryogenic burns.  
**Skin** : Contact with rapidly expanding gas may cause burns or frostbite. Contact with cryogenic liquid can cause frostbite and cryogenic burns.  
**Inhalation** : Acts as a simple asphyxiant.  
**Ingestion** : Ingestion is not a normal route of exposure for gases Contact with cryogenic liquid can cause frostbite and cryogenic burns.  
**Potential chronic health effects** : **CARCINOGENIC EFFECTS:** Not available.  
**MUTAGENIC EFFECTS:** Not available.  
**TERATOGENIC EFFECTS:** Not available.  
**Medical conditions aggravated by over-exposure** : Acute or chronic respiratory conditions may be aggravated by overexposure to this gas.  
**See toxicological information (section 11)**

## Hydrogen

### Section 3. Composition, Information on Ingredients

<u>Name</u>	<u>CAS number</u>	<u>% Volume</u>	<u>Exposure limits</u>
Hydrogen	1333-74-0	100	Oxygen Depletion [Asphyxiant]

### Section 4. First aid measures

No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

- Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
- Skin contact** : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.
- Frostbite** : Try to warm up the frozen tissues and seek medical attention.
- Inhalation** : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
- Ingestion** : As this product is a gas, refer to the inhalation section.

### Section 5. Fire-fighting measures

- Flammability of the product** : Flammable.
- Auto-ignition temperature** : 399.85 to 573.75°C (751.7 to 1064.8°F)
- Flammable limits** : Lower: 4% Upper: 75%
- Products of combustion** : No specific data.
- Fire hazards in the presence of various substances** : Extremely flammable in the presence of the following materials or conditions: oxidizing materials.
- Fire-fighting media and instructions** : Use an extinguishing agent suitable for the surrounding fire.
- Apply water from a safe distance to cool container and protect surrounding area. If involved in fire, shut off flow immediately if it can be done without risk.
- Contains gas under pressure. In a fire or if heated, a pressure increase will occur and the container may burst or explode.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

### Section 6. Accidental release measures

- Personal precautions** : Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment (section 8). Shut off gas supply if this can be done safely. Isolate area until gas has dispersed.
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.
- Methods for cleaning up** : Immediately contact emergency personnel. Stop leak if without risk. Note: see section 1 for emergency contact information and section 13 for waste disposal.

### Section 7. Handling and storage

- Handling** : High pressure gas. Do not puncture or incinerate container. Use equipment rated for cylinder pressure. Close valve after each use and when empty. Protect cylinders from physical damage; do not drag, roll, slide, or drop. Use a suitable hand truck for cylinder movement.
- Never allow any unprotected part of the body to touch uninsulated pipes or vessels that contain cryogenic liquids. Prevent entrapment of liquid in closed systems or piping without pressure relief devices. Some materials may become brittle at low temperatures and will easily fracture.

## Hydrogen

- Storage** : Cylinders should be stored upright, with valve protection cap in place, and firmly secured to prevent falling or being knocked over. Cylinder temperatures should not exceed 52 °C (125 °F).  
For additional information concerning storage and handling refer to Compressed Gas Association pamphlets P-1 Safe Handling of Compressed Gases in Containers and P-12 Safe Handling of Cryogenic Liquids available from the Compressed Gas Association, Inc.

## Section 8. Exposure controls/personal protection

- Engineering controls** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

### Personal protection

- Eyes** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.  
When working with cryogenic liquids, wear a full face shield.
- Skin** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.  
The applicable standards are (US) 29 CFR 1910.134 and (Canada) Z94.4-93
- Hands** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.  
Insulated gloves suitable for low temperatures
- Personal protection in case of a large spill** : Self-contained breathing apparatus (SCBA) should be used to avoid inhalation of the product.

### Product name

hydrogen

Oxygen Depletion [Asphyxiant]

Consult local authorities for acceptable exposure limits.

## Section 9. Physical and chemical properties

- Molecular weight** : 2.02 g/mole
- Molecular formula** : H<sub>2</sub>
- Boiling/condensation point** : -253.2°C (-423.8°F)
- Melting/freezing point** : -259.2°C (-434.6°F)
- Critical temperature** : -240.1°C (-400.2°F)
- Vapor density** : 0.07 (Air = 1)      Liquid Density@BP: 4.43 lb/ft<sup>3</sup> (70.96 kg/m<sup>3</sup>)
- Specific Volume (ft<sup>3</sup>/lb)** : 14.0845
- Gas Density (lb/ft<sup>3</sup>)** : 0.071

## Section 10. Stability and reactivity

- Stability and reactivity** : The product is stable.
- Incompatibility with various substances** : Extremely reactive or incompatible with the following materials: oxidizing materials.
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.
- Hazardous polymerization** : Under normal conditions of storage and use, hazardous polymerization will not occur.

## Hydrogen

### Section 11. Toxicological information

#### Toxicity data

**Other toxic effects on humans** : No specific information is available in our database regarding the other toxic effects of this material to humans.

#### Specific effects

**Carcinogenic effects** : No known significant effects or critical hazards.

**Mutagenic effects** : No known significant effects or critical hazards.

**Reproduction toxicity** : No known significant effects or critical hazards.

### Section 12. Ecological information

#### Aquatic ecotoxicity

Not available.

**Environmental fate** : Not available.



**Environmental hazards** : No known significant effects or critical hazards.


**Toxicity to the environment** : Not available.

### Section 13. Disposal considerations

Product removed from the cylinder must be disposed of in accordance with appropriate Federal, State, local regulation. Return cylinders with residual product to Airgas, Inc. Do not dispose of locally.

### Section 14. Transport information

Regulatory information	UN number	Proper shipping name	Class	Packing group	Label	Additional information
DOT Classification	UN1049	HYDROGEN, COMPRESSED	2.1	Not applicable (gas).		<b>Limited quantity</b> Yes.
	UN1966	Hydrogen, refrigerated liquid				<b>Packaging instruction</b> <b>Passenger aircraft</b> Quantity limitation: Forbidden.  <b>Cargo aircraft</b> Quantity limitation: 150 kg
TDG Classification	UN1049	HYDROGEN, COMPRESSED	2.1	Not applicable (gas).		<b>Explosive Limit and Limited Quantity Index</b> 0.125
	UN1966	Hydrogen, refrigerated liquid				<b>ERAP Index</b> 3000  <b>Passenger Carrying Ship Index</b> Forbidden  <b>Passenger</b>

Hydrogen						
						Carrying Road or Rail Index Forbidden
Mexico Classification	UN1049	HYDROGEN, COMPRESSED	2.1	Not applicable (gas).		-
	UN1966	Hydrogen, refrigerated liquid				

"Refer to CFR 49 (or authority having jurisdiction) to determine the information required for shipment of the product."

## Section 15. Regulatory information

### United States

- U.S. Federal regulations** :
- TSCA 8(a) IUR: hydrogen
  - United States inventory (TSCA 8b): This material is listed or exempted.
  - SARA 302/304/311/312 extremely hazardous substances: No products were found.
  - SARA 302/304 emergency planning and notification: No products were found.
  - SARA 302/304/311/312 hazardous chemicals: hydrogen
  - SARA 311/312 MSDS distribution - chemical inventory - hazard identification: hydrogen: Fire hazard, Sudden release of pressure
  - Clean Water Act (CWA) 307: No products were found.
  - Clean Water Act (CWA) 311: No products were found.
  - Clean Air Act (CAA) 112 accidental release prevention: hydrogen
  - Clean Air Act (CAA) 112 regulated flammable substances: hydrogen
  - Clean Air Act (CAA) 112 regulated toxic substances: No products were found.
- State regulations** :
- Connecticut Carcinogen Reporting: This material is not listed.
  - Connecticut Hazardous Material Survey: This material is not listed.
  - Florida substances: This material is not listed.
  - Illinois Chemical Safety Act: This material is not listed.
  - Illinois Toxic Substances Disclosure to Employee Act: This material is not listed.
  - Louisiana Reporting: This material is not listed.
  - Louisiana Spill: This material is not listed.
  - Massachusetts Spill: This material is not listed.
  - Massachusetts Substances: This material is listed.
  - Michigan Critical Material: This material is not listed.
  - Minnesota Hazardous Substances: This material is not listed.
  - New Jersey Hazardous Substances: This material is listed.
  - New Jersey Spill: This material is not listed.
  - New Jersey Toxic Catastrophe Prevention Act: This material is not listed.
  - New York Acutely Hazardous Substances: This material is not listed.
  - New York Toxic Chemical Release Reporting: This material is not listed.
  - Pennsylvania RTK Hazardous Substances: This material is listed.
  - Rhode Island Hazardous Substances: This material is not listed.

### Canada

- WHMIS (Canada)** :
- Class A: Compressed gas.
  - Class B-1: Flammable gas.
  - CEPA Toxic substances: This material is not listed.
  - Canadian ARET: This material is not listed.
  - Canadian NPRI: This material is not listed.
  - Alberta Designated Substances: This material is not listed.
  - Ontario Designated Substances: This material is not listed.
  - Quebec Designated Substances: This material is not listed.



**Hydrogen**

**Section 16. Other information**

**United States**

**Label requirements** : GAS:  
 CONTENTS UNDER PRESURE.  
 Extremely flammable  
 Do not puncture or incinerate container.  
 Can cause rapid suffocation.  
 May cause severe frostbite.  
 LIQUID:  
 Extremely flammable  
 Extremely cold liquid and gas under pressure.  
 Can cause rapid suffocation.  
 May cause severe frostbite.

**Canada**

**Label requirements** : Class A: Compressed gas.  
 Class B-1: Flammable gas.

**Hazardous Material Information System (U.S.A.)**

Health	0
Flammability	4
Physical hazards	0

**liquid:**

Health	3
Fire hazard	4
Reactivity	0
Personal protection	

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



**liquid:**



**Notice to reader**

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

# Material Safety Data Sheet

# Airgas

Air

## Section 1. Chemical product and company identification

**Product name** : Air  
**Supplier** : AIRGAS INC., on behalf of its subsidiaries  
259 North Radnor-Chester Road  
Suite 100  
Radnor, PA 19087-5283  
1-610-687-5253  
**Product use** : Synthetic/Analytical chemistry.  
**Synonym** : Compressed Air ; Breathing Quality Air ; synthetic air, reconstituted air, medical air, medical air USP.  
**MSDS #** : 001002  
**Date of Preparation/Revision** : 8/27/2010.  
**In case of emergency** : 1-866-734-3438

## Section 2. Hazards identification

**Physical state** : Gas.  
**Emergency overview** : WARNING!  
CONTENTS UNDER PRESSURE.  
Do not puncture or incinerate container.  
Contact with rapidly expanding gases can cause frostbite.  
**Routes of entry** : Inhalation  
**Potential acute health effects**  
**Eyes** : Contact with rapidly expanding gas may cause burns or frostbite.  
**Skin** : Contact with rapidly expanding gas may cause burns or frostbite.  
**Inhalation** : Acts as a simple asphyxiant.  
**Ingestion** : Ingestion is not a normal route of exposure for gases  
**Potential chronic health effects** : **CARCINOGENIC EFFECTS:** Not available.  
**MUTAGENIC EFFECTS:** Not available.  
**TERATOGENIC EFFECTS:** Not available.  
**Medical conditions aggravated by over-exposure** : Acute or chronic respiratory conditions may be aggravated by overexposure to this gas.  
See toxicological information (section 11)

## Section 3. Composition, Information on Ingredients

<u>Name</u>	<u>CAS number</u>	<u>% Volume</u>	<u>Exposure limits</u>
Nitrogen	7727-37-9	76.5 - 80.5	Oxygen Depletion [Asphyxiant]
Oxygen	7782-44-7	19.5 - 23.5	

## Section 4. First aid measures

No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

**Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.  
**Skin contact** : None expected.  
**Frostbite** : Try to warm up the frozen tissues and seek medical attention.

## Air

- Inhalation : None expected.  
Ingestion : As this product is a gas, refer to the inhalation section.

## Section 5. Fire-fighting measures

- Flammability of the product : Non-flammable.  
Products of combustion : Decomposition products may include the following materials:  
nitrogen oxides  
Fire-fighting media and instructions : Use an extinguishing agent suitable for the surrounding fire.  
Apply water from a safe distance to cool container and protect surrounding area. If involved in fire, shut off flow immediately if it can be done without risk.  
Contains gas under pressure. In a fire or if heated, a pressure increase will occur and the container may burst or explode.  
Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

- Personal precautions : Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment (section 8). Shut off gas supply if this can be done safely. Isolate area until gas has dispersed.  
Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.  
Methods for cleaning up : Immediately contact emergency personnel. Stop leak if without risk. Note: see section 1 for emergency contact information and section 13 for waste disposal.

## Section 7. Handling and storage

- Handling : High pressure gas. Do not puncture or incinerate container. Use equipment rated for cylinder pressure. Close valve after each use and when empty. Protect cylinders from physical damage; do not drag, roll, slide, or drop. Use a suitable hand truck for cylinder movement.  
Storage : Cylinders should be stored upright, with valve protection cap in place, and firmly secured to prevent falling or being knocked over. Cylinder temperatures should not exceed 52 °C (125 °F).

## Section 8. Exposure controls/personal protection

- Engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.  
Personal protection  
Eyes : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.  
Skin : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.  
Respiratory : No special protection is required.  
The applicable standards are (US) 29 CFR 1910.134 and (Canada) Z94.4-93  
Hands : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.  
Personal protection in case of a large spill : Self-contained breathing apparatus (SCBA) should be used to avoid inhalation of the product.

### Product name

nitrogen  
oxygen

Oxygen Depletion [Asphyxiant]

Air

Consult local authorities for acceptable exposure limits.

## Section 9. Physical and chemical properties

Boiling/condensation point : -194.3°C (-317.7°F)  
Melting/freezing point : -216.2°C (-357.2°F)  
Critical temperature : Lowest known value: -146.9°C (-232.4°F) (nitrogen).  
Vapor density : Highest known value: 1.105 (Air = 1) (oxygen). Weighted average: 1 (Air = 1)  
Gas Density (lb/ft<sup>3</sup>) : 0.0749

## Section 10. Stability and reactivity

Stability and reactivity : The product is stable.  
Incompatibility with various substances : Not considered to be reactive according to our database.  
Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.  
Hazardous polymerization : Under normal conditions of storage and use, hazardous polymerization will not occur.

## Section 11. Toxicological information

### Toxicity data

Other toxic effects on humans : No specific information is available in our database regarding the other toxic effects of this material to humans.

### Specific effects

Carcinogenic effects : No known significant effects or critical hazards.  
Mutagenic effects : No known significant effects or critical hazards.  
Reproduction toxicity : No known significant effects or critical hazards.

## Section 12. Ecological information

### Aquatic ecotoxicity



Not available.


Products of degradation : Products of degradation: nitrogen oxides (NO, NO<sub>2</sub> etc.).  
Environmental fate : Not available.  
Environmental hazards : No known significant effects or critical hazards.  
Toxicity to the environment : Not available.

## Section 13. Disposal considerations

Product removed from the cylinder must be disposed of in accordance with appropriate Federal, State, local regulation. Return cylinders with residual product to Airgas, Inc. Do not dispose of locally.

## Section 14. Transport information

Regulatory information	UN number	Proper shipping name	Class	Packing group	Label	Additional information
DOT Classification	UN1002	Air, compressed	2.2	Not applicable (gas).		-
TDG Classification	UN1002	Air, compressed	2.2	Not applicable (gas).		<b>Explosive Limit and Limited Quantity Index</b> 0.125

<b>Air</b>						
						<b>Passenger Carrying Road or Rail Index</b> 75
<b>Mexico Classification</b>	UN1002	Air, compressed	2.2	Not applicable (gas).		-

"Refer to CFR 49 (or authority having jurisdiction) to determine the information required for shipment of the product."

## Section 15. Regulatory information

### United States

- U.S. Federal regulations** : TSCA 8(a) IUR: nitrogen; oxygen  
**United States inventory (TSCA 8b):** All components are listed or exempted.  
**SARA 302/304/311/312 extremely hazardous substances:** No products were found.  
**SARA 302/304 emergency planning and notification:** No products were found.  
**SARA 302/304/311/312 hazardous chemicals:** nitrogen; oxygen  
**SARA 311/312 MSDS distribution - chemical inventory - hazard identification:**  
nitrogen: Sudden release of pressure; oxygen: Fire hazard, Sudden release of pressure, Delayed (chronic) health hazard  
**Clean Water Act (CWA) 307:** No products were found.  
**Clean Water Act (CWA) 311:** No products were found.  
**Clean Air Act (CAA) 112 accidental release prevention:** No products were found.  
**Clean Air Act (CAA) 112 regulated flammable substances:** No products were found.  
**Clean Air Act (CAA) 112 regulated toxic substances:** No products were found.
- State regulations** : **Connecticut Carcinogen Reporting:** None of the components are listed.  
**Connecticut Hazardous Material Survey:** None of the components are listed.  
**Florida substances:** None of the components are listed.  
**Illinois Chemical Safety Act:** None of the components are listed.  
**Illinois Toxic Substances Disclosure to Employee Act:** None of the components are listed.  
**Louisiana Reporting:** None of the components are listed.  
**Louisiana Spill:** None of the components are listed.  
**Massachusetts Spill:** None of the components are listed.  
**Massachusetts Substances:** The following components are listed: NITROGEN; OXYGEN (LIQUID)  
**Michigan Critical Material:** None of the components are listed.  
**Minnesota Hazardous Substances:** None of the components are listed.  
**New Jersey Hazardous Substances:** The following components are listed: NITROGEN; OXYGEN  
**New Jersey Spill:** None of the components are listed.  
**New Jersey Toxic Catastrophe Prevention Act:** None of the components are listed.  
**New York Acutely Hazardous Substances:** None of the components are listed.  
**New York Toxic Chemical Release Reporting:** None of the components are listed.  
**Pennsylvania RTK Hazardous Substances:** The following components are listed: NITROGEN; OXYGEN  
**Rhode Island Hazardous Substances:** None of the components are listed.

### Canada

- WHMIS (Canada)** : Class A: Compressed gas.  
**CEPA Toxic substances:** None of the components are listed.  
**Canadian ARET:** None of the components are listed.  
**Canadian NPRI:** None of the components are listed.  
**Alberta Designated Substances:** None of the components are listed.  
**Ontario Designated Substances:** None of the components are listed.  
**Quebec Designated Substances:** None of the components are listed.

Air

## Section 16. Other information

United States

Label requirements : CONTENTS UNDER PRESSURE.

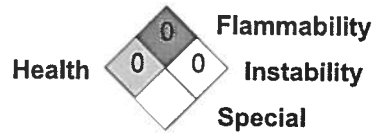
Canada

Label requirements : Class A: Compressed gas.

Hazardous Material  
Information System (U.S.A.)

Health	0
Flammability	0
Physical hazards	0

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



### Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Product Name: MOBIL DTE 25  
Revision Date: 14Apr2008  
Page 1 of 8

## MATERIAL SAFETY DATA SHEET

### SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

#### PRODUCT

**Product Name:** MOBIL DTE 25  
**Product Description:** Base Oil and Additives  
**Product Code:** 602631-00, 970826  
**Intended Use:** Hydraulic fluid

#### COMPANY IDENTIFICATION

**Supplier:** EXXON MOBIL CORPORATION  
3225 GALLOWS RD.  
FAIRFAX, VA. 22037 USA

**24 Hour Health Emergency** 609-737-4411  
**Transportation Emergency Phone** 800-424-9300  
**ExxonMobil Transportation No.** 281-834-3296  
**MSDS Requests** 713-613-3661  
**Product Technical Information** 800-662-4525, 800-947-9147  
**MSDS Internet Address** <http://www.exxon.com>, <http://www.mobil.com>

### SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

No Reportable Hazardous Substance(s) or Complex Substance(s).

### SECTION 3 HAZARDS IDENTIFICATION

This material is not considered to be hazardous according to regulatory guidelines (see (M)SDS Section 15).

#### POTENTIAL HEALTH EFFECTS

Low order of toxicity. Excessive exposure may result in eye, skin, or respiratory irritation. High-pressure injection under skin may cause serious damage.

<b>NFPA Hazard ID:</b>	Health: 0	Flammability: 1	Reactivity: 0
<b>HMIS Hazard ID:</b>	Health: 0	Flammability: 1	Reactivity: 0

**NOTE:** This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

### SECTION 4 FIRST AID MEASURES

#### INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use

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Revision Date: 14Apr2008  
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mouth-to-mouth resuscitation.

## SKIN CONTACT

Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

## EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

## INGESTION

First aid is normally not required. Seek medical attention if discomfort occurs.

## SECTION 5

### FIRE FIGHTING MEASURES

#### EXTINGUISHING MEDIA

**Appropriate Extinguishing Media:** Use water fog, foam, dry chemical or carbon dioxide (CO<sub>2</sub>) to extinguish flames.

**Inappropriate Extinguishing Media:** Straight Streams of Water

#### FIRE FIGHTING

**Fire Fighting Instructions:** Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

**Unusual Fire Hazards:** Pressurized mists may form a flammable mixture.

**Hazardous Combustion Products:** Incomplete combustion products, Oxides of carbon, Smoke, Fume, Sulfur oxides, Aldehydes

#### FLAMMABILITY PROPERTIES

**Flash Point [Method]:** >200C (392F) [ASTM D-92]

**Flammable Limits (Approximate volume % in air):** LEL: 0.9 UEL: 7.0

**Autoignition Temperature:** N/D

## SECTION 6

### ACCIDENTAL RELEASE MEASURES

#### NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.



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## SPILL MANAGEMENT

**Land Spill:** Stop leak if you can do it without risk. Recover by pumping or with suitable absorbent.

**Water Spill:** Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

## ENVIRONMENTAL PRECAUTIONS

**Large Spills:** Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

## SECTION 7

## HANDLING AND STORAGE

### HANDLING

Prevent small spills and leakage to avoid slip hazard.

**Static Accumulator:** This material is a static accumulator.

### STORAGE

Do not store in open or unlabelled containers.

## SECTION 8

## EXPOSURE CONTROLS / PERSONAL PROTECTION

**Exposure limits/standards for materials that can be formed when handling this product:** When mists / aerosols can occur, the following are recommended: 5 mg/m<sup>3</sup> - ACGIH TLV, 10 mg/m<sup>3</sup> - ACGIH STEL, 5 mg/m<sup>3</sup> - OSHA PEL.

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

### ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

No special requirements under ordinary conditions of use and with adequate ventilation.

### PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

**Respiratory Protection:** If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

**Hand Protection:** Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

No protection is ordinarily required under normal conditions of use.

**Eye Protection:** If contact is likely, safety glasses with side shields are recommended.

**Skin and Body Protection:** Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

**Specific Hygiene Measures:** 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. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

## ENVIRONMENTAL CONTROLS

See Sections 6, 7, 12, 13.

## SECTION 9

## PHYSICAL AND CHEMICAL PROPERTIES

Typical physical and chemical properties are given below. Consult the Supplier in Section 1 for additional data.

### GENERAL INFORMATION

**Physical State:** Liquid  
**Color:** Amber  
**Odor:** Characteristic  
**Odor Threshold:** N/D

### IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

**Relative Density (at 15 C):** 0.876  
**Flash Point [Method]:** >200C (392F) [ASTM D-92]  
**Flammable Limits (Approximate volume % in air):** LEL: 0.9 UEL: 7.0  
**Autoignition Temperature:** N/D  
**Boiling Point / Range:** > 316C (600F)  
**Vapor Density (Air = 1):** > 2 at 101 kPa

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**Vapor Pressure:** < 0.013 kPa (0.1 mm Hg) at 20 C  
**Evaporation Rate (n-butyl acetate = 1):** N/A  
**pH:** N/A  
**Log Pow (n-Octanol/Water Partition Coefficient):** > 3.5  
**Solubility in Water:** Negligible  
**Viscosity:** 46 cSt (46 mm<sup>2</sup>/sec ) at 40 C  
**Oxidizing Properties:** See Sections 3, 15, 16.

## OTHER INFORMATION

**Freezing Point:** N/D  
**Melting Point:** N/A  
**Pour Point:** -18°C (0°F)  
**DMSO Extract (mineral oil only), IP-346:** < 3 %wt

<b>SECTION 10</b>	<b>STABILITY AND REACTIVITY</b>
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**STABILITY:** Material is stable under normal conditions.

**CONDITIONS TO AVOID:** Excessive heat. High energy sources of ignition.

**MATERIALS TO AVOID:** Strong oxidizers

**HAZARDOUS DECOMPOSITION PRODUCTS:** Material does not decompose at ambient temperatures.

**HAZARDOUS POLYMERIZATION:** Will not occur.

<b>SECTION 11</b>	<b>TOXICOLOGICAL INFORMATION</b>
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### ACUTE TOXICITY

<u>Route of Exposure</u>	<u>Conclusion / Remarks</u>
<b>Inhalation</b>	
Toxicity (Rat): LC50 > 5000 mg/m <sup>3</sup>	Minimally Toxic. Based on assessment of the components.
Irritation: No end point data.	Negligible hazard at ambient/normal handling temperatures. Based on assessment of the components.
<b>Ingestion</b>	
Toxicity (Rat): LD50 > 2000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.
<b>Skin</b>	
Toxicity (Rabbit): LD50 > 2000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.
Irritation (Rabbit): Data available.	Negligible irritation to skin at ambient temperatures. Based on assessment of the components.
<b>Eye</b>	
Irritation (Rabbit): Data available.	May cause mild, short-lasting discomfort to eyes. Based on assessment of the components.

### CHRONIC/OTHER EFFECTS

**Contains:**

Base oil severely refined: Not carcinogenic in animal studies. Representative material passes IP-346, Modified Ames test, and/or other screening tests. Dermal and inhalation studies showed minimal effects; lung non-

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specific infiltration of immune cells, oil deposition and minimal granuloma formation. Not sensitizing in test animals.

Additional information is available by request.

The following ingredients are cited on the lists below: None.

	--REGULATORY LISTS SEARCHED--	
1 = NTP CARC	3 = IARC 1	5 = IARC 2B
2 = NTP SUS	4 = IARC 2A	6 = OSHA CARC

## SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

### ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

### MOBILITY

Base oil component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

### PERSISTENCE AND DEGRADABILITY

#### Biodegradation:

Base oil component -- Expected to be inherently biodegradable

### BIOACCUMULATION POTENTIAL

Base oil component -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

## SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

### DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

### REGULATORY DISPOSAL INFORMATION

RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrosivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

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**Empty Container Warning** Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, 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.

<b>SECTION 14</b>	<b>TRANSPORT INFORMATION</b>
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**LAND (DOT)** : Not Regulated for Land Transport

**LAND (TDG)** : Not Regulated for Land Transport

**SEA (IMDG)** : Not Regulated for Sea Transport according to IMDG-Code

**AIR (IATA)** : Not Regulated for Air Transport

<b>SECTION 15</b>	<b>REGULATORY INFORMATION</b>
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**OSHA HAZARD COMMUNICATION STANDARD:** When used for its intended purposes, this material is not classified as hazardous in accordance with OSHA 29 CFR 1910.1200.

**NATIONAL CHEMICAL INVENTORY LISTING:** ENCS, AICS, IECSC, KECI, PICCS, TSCA, EINECS, DSL

**EPCRA:** This material contains no extremely hazardous substances.

**SARA (311/312) REPORTABLE HAZARD CATEGORIES:** None.

**SARA (313) TOXIC RELEASE INVENTORY:** This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

**The Following Ingredients are Cited on the Lists Below:**

Chemical Name	CAS Number	List Citations
ZINC ALKYL DITHIOPHOSPHATE	68649-42-3	15

--REGULATORY LISTS SEARCHED--

- |               |                  |                   |             |
|---------------|------------------|-------------------|-------------|
| 1 = ACGIH ALL | 6 = TSCA 5a2     | 11 = CA P65 REPRO | 16 = MN RTK |
| 2 = ACGIH A1  | 7 = TSCA 5e      | 12 = CA RTK       | 17 = NJ RTK |
| 3 = ACGIH A2  | 8 = TSCA 6       | 13 = IL RTK       | 18 = PA RTK |
| 4 = OSHA Z    | 9 = TSCA 12b     | 14 = LA RTK       | 19 = RI RTK |
| 5 = TSCA 4    | 10 = CA P65 CARC | 15 = MI 293       |             |

Code key: CARC=Carcinogen; REPRO=Reproductive

<b>SECTION 16</b>	<b>OTHER INFORMATION</b>
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N/D = Not determined, N/A = Not applicable

**THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:**

No revision information is available.

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Internal Use Only

MHC: 0, 0, 0, 0, 0, 0

PPEC: A

DGN: 2007796XUS (1012764)

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## MATERIAL SAFETY DATA SHEET

### SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

#### PRODUCT

**Product Name:** MOBIL VACUUM PUMP OIL  
**Product Description:** Base Oil and Additives  
**Product Code:** 201560200510, 601906-00, 970624  
**Intended Use:** Lubricant

#### COMPANY IDENTIFICATION

**Supplier:** EXXON MOBIL CORPORATION  
3225 GALLOWS RD.  
FAIRFAX, VA. 22037 USA

<b>24 Hour Health Emergency</b>	609-737-4411
<b>Transportation Emergency Phone</b>	800-424-9300
<b>ExxonMobil Transportation No.</b>	281-834-3296
<b>MSDS Requests</b>	713-613-3661
<b>Product Technical Information</b>	800-662-4525, 800-947-9147
<b>MSDS Internet Address</b>	<a href="http://www.exxon.com">http://www.exxon.com</a> , <a href="http://www.mobil.com">http://www.mobil.com</a>

### SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

No Reportable Hazardous Substance(s) or Complex Substance(s).

### SECTION 3 HAZARDS IDENTIFICATION

This material is not considered to be hazardous according to regulatory guidelines (see (M)SDS Section 15).

#### POTENTIAL HEALTH EFFECTS

Low order of toxicity. Excessive exposure may result in eye, skin, or respiratory irritation. High-pressure injection under skin may cause serious damage.

<b>NFPA Hazard ID:</b>	Health: 0	Flammability: 1	Reactivity: 0
<b>HMIS Hazard ID:</b>	Health: 0	Flammability: 1	Reactivity: 0

**NOTE:** This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

### SECTION 4 FIRST AID MEASURES

#### INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use

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mouth-to-mouth resuscitation.

## SKIN CONTACT

Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

## EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

## INGESTION

First aid is normally not required. Seek medical attention if discomfort occurs.

## SECTION 5

### FIRE FIGHTING MEASURES

#### EXTINGUISHING MEDIA

**Appropriate Extinguishing Media:** Use water fog, foam, dry chemical or carbon dioxide (CO<sub>2</sub>) to extinguish flames.

**Inappropriate Extinguishing Media:** Straight Streams of Water

#### FIRE FIGHTING

**Fire Fighting Instructions:** Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

**Hazardous Combustion Products:** Incomplete combustion products, Aldehydes, Oxides of carbon, Sulfur oxides, Smoke, Fume

#### FLAMMABILITY PROPERTIES

**Flash Point [Method]:** >221C (430F) [ASTM D-92]

**Flammable Limits (Approximate volume % in air):** LEL: 0.9 UEL: 7.0

**Autoignition Temperature:** N/D

## SECTION 6

### ACCIDENTAL RELEASE MEASURES

#### NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

#### SPILL MANAGEMENT



**Land Spill:** Stop leak if you can do it without risk. Recover by pumping or with suitable absorbent.

**Water Spill:** Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

## ENVIRONMENTAL PRECAUTIONS

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

## SECTION 7 HANDLING AND STORAGE

### HANDLING

Prevent small spills and leakage to avoid slip hazard.

**Static Accumulator:** This material is a static accumulator.

### STORAGE

Do not store in open or unlabelled containers.

## SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

**Exposure limits/standards for materials that can be formed when handling this product:** When mists / aerosols can occur, the following are recommended: 5 mg/m<sup>3</sup> - ACGIH TLV, 10 mg/m<sup>3</sup> - ACGIH STEL, 5 mg/m<sup>3</sup> - OSHA PEL.

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

### ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

No special requirements under ordinary conditions of use and with adequate ventilation.

### PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

**Respiratory Protection:** If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator

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selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

**Hand Protection:** Any specific glove information provided is based on published literature and glove manufacturer data. Work conditions can greatly affect glove durability; inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

No protection is ordinarily required under normal conditions of use.

**Eye Protection:** If contact is likely, safety glasses with side shields are recommended.

**Skin and Body Protection:** Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

**Specific Hygiene Measures:** 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. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

## ENVIRONMENTAL CONTROLS

See Sections 6, 7, 12, 13.

## SECTION 9

## PHYSICAL AND CHEMICAL PROPERTIES

Typical physical and chemical properties are given below. Consult the Supplier in Section 1 for additional data.

### GENERAL INFORMATION

**Physical State:** Liquid  
**Color:** Pale Yellow  
**Odor:** Characteristic  
**Odor Threshold:** N/D

### IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

**Relative Density (at 15 C):** 0.876  
**Flash Point [Method]:** >221C (430F) [ASTM D-92]  
**Flammable Limits (Approximate volume % in air):** LEL: 0.9 UEL: 7.0  
**Autoignition Temperature:** N/D  
**Boiling Point / Range:** > 316C (600F)  
**Vapor Density (Air = 1):** > 2 at 101 kPa  
**Vapor Pressure:** < 0.013 kPa (0.1 mm Hg) at 20 C  
**Evaporation Rate (n-butyl acetate = 1):** N/D  
**pH:** N/A  
**Log Pow (n-Octanol/Water Partition Coefficient):** > 3.5  
**Solubility in Water:** Negligible

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**Viscosity:** 66.6 cSt (66.6 mm<sup>2</sup>/sec) at 40 C | 8.3 cSt (8.3 mm<sup>2</sup>/sec) at 100C  
**Oxidizing Properties:** See Sections 3, 15, 16.

## OTHER INFORMATION

**Freezing Point:** N/D  
**Melting Point:** N/A  
**Pour Point:** -12°C (10°F)  
**DMSO Extract (mineral oil only), IP-346:** < 3 %wt

<b>SECTION 10</b>	<b>STABILITY AND REACTIVITY</b>
-------------------	---------------------------------

**STABILITY:** Material is stable under normal conditions.

**CONDITIONS TO AVOID:** Excessive heat. High energy sources of ignition.

**MATERIALS TO AVOID:** Strong oxidizers

**HAZARDOUS DECOMPOSITION PRODUCTS:** Material does not decompose at ambient temperatures.

**HAZARDOUS POLYMERIZATION:** Will not occur.

<b>SECTION 11</b>	<b>TOXICOLOGICAL INFORMATION</b>
-------------------	----------------------------------

### ACUTE TOXICITY

<b>Route of Exposure</b>	<b>Conclusion / Remarks</b>
<b>Inhalation</b>	
Toxicity (Rat): LC50 > 5000 mg/m <sup>3</sup>	Minimally Toxic. Based on test data for structurally similar materials.
Irritation: No end point data.	Negligible hazard at ambient/normal handling temperatures. Based on assessment of the components.
<b>Ingestion</b>	
Toxicity (Rat): LD50 > 2000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.
<b>Skin</b>	
Toxicity (Rabbit): LD50 > 2000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.
Irritation (Rabbit): Data available.	Negligible irritation to skin at ambient temperatures. Based on test data for structurally similar materials.
<b>Eye</b>	
Irritation (Rabbit): Data available.	May cause mild, short-lasting discomfort to eyes. Based on test data for structurally similar materials.

### CHRONIC/OTHER EFFECTS

**Contains:**

Base oil severely refined: Not carcinogenic in animal studies. Representative material passes IP-346, Modified Ames test, and/or other screening tests. Dermal and inhalation studies showed minimal effects; lung non-specific infiltration of immune cells, oil deposition and minimal granuloma formation. Not sensitizing in test animals.

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Additional information is available by request.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC  
2 = NTP SUS

3 = IARC 1  
4 = IARC 2A

5 = IARC 2B  
6 = OSHA CARC

## SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

### ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

### MOBILITY

Base oil component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

### PERSISTENCE AND DEGRADABILITY

#### Biodegradation:

Base oil component -- Expected to be inherently biodegradable

### BIOACCUMULATION POTENTIAL

Base oil component -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

## SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

### DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

### REGULATORY DISPOSAL INFORMATION

RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrosivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

**Empty Container Warning** Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with

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Revision Date: 18Jun2007  
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governmental regulations. DO NOT PRESSURISE, 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.

## SECTION 14 TRANSPORT INFORMATION

**LAND (DOT)** : Not Regulated for Land Transport

**LAND (TDG)** : Not Regulated for Land Transport

**SEA (IMDG)** : Not Regulated for Sea Transport according to IMDG-Code

**AIR (IATA)** : Not Regulated for Air Transport

## SECTION 15 REGULATORY INFORMATION

**OSHA HAZARD COMMUNICATION STANDARD:** When used for its intended purposes, this material is not classified as hazardous in accordance with OSHA 29 CFR 1910.1200.

**NATIONAL CHEMICAL INVENTORY LISTING:** AICS, IECSC, DSL, EINECS, ENCS, KECI, PICCS, TSCA

**EPCRA:** This material contains no extremely hazardous substances.

**SARA (311/312) REPORTABLE HAZARD CATEGORIES:** None.

**SARA (313) TOXIC RELEASE INVENTORY:** This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

**The Following Ingredients are Cited on the Lists Below:** None.

### --REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

## SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

**THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:**

No revision information is available.

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Product Name: MOBIL VACUUM PUMP OIL  
Revision Date: 18Jun2007  
Page 8 of 8

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The information and recommendations contained herein are, to the best of ExxonMobil's knowledge and belief, accurate and reliable as of the date issued. You can contact ExxonMobil to insure that this document is the most current available from ExxonMobil. The information and recommendations are offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, republication or retransmission of this document, in whole or in part, is not permitted. The term, "ExxonMobil" is used for convenience, and may include any one or more of ExxonMobil Chemical Company, Exxon Mobil Corporation, or any affiliates in which they directly or indirectly hold any interest.

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Internal Use Only

MHC: 0, 0, 0, 0, 0, 0

PPEC: A

DGN: 2007556XUS (1013640)

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# 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

DBA  
Address: Kittyhawk Products INC.  
Address  
Occupant or DBA: 11651 monarch st  
Owner/Manager: Steve Belloise

Date: 01/19/09  
File No: 203  
Phone: 714-895-5024

- 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:

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Responsible Party: [Signature] Re-inspection Date: \_\_\_\_\_

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

Fire Dept. Inspector: R. Walden ID #: 3703

Condition Upon Re-inspection: \_\_\_\_\_ Date: \_\_\_\_\_



# 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 \_\_\_

### BUSINESS INFORMATION

3	0	0	3	5	BEGINNING DATE	1	ENDING DATE		
					01/19/2009		12/31/2009		
BUSINESS NAME							4	BUSINESS PHONE	
Kittyhawk Products								714-895-5024	
BUSINESS SITE ADDRESS									
11651 Monarch Street									
CITY						7	STATE	8	ZIP
GARDEN GROVE							CA		92841
DUN & BRADSTREET					10	SIC CODE (4 DIGIT #)		11	FIRE DISTRICT
02-486-5532						3599			
COUNTY									
ORANGE									
BUSINESS OPERATOR NAME							14	OPERATOR'S PHONE	
Dennis Poor								714-895-5024	

### BUSINESS OWNER

OWNER NAME							16	OWNER PHONE	17
[REDACTED]								714-895-5024	
OWNER MAILING ADDRESS									
11651 Monarch Street									
CITY						19	STATE	20	ZIP
Garden Grove							CA		92841

### ENVIRONMENTAL CONTACT

CONTACT NAME							22	CONTACT PHONE	23
Dennis Poor								714-895-5024	
CONTACT MAILING ADDRESS									
11651 Monarch Street									
CITY						25	STATE	26	ZIP
Garden Grove							CA		92841

### PRIMARY

### EMERGENCY CONTACTS

### SECONDARY

NAME	28	NAME	33
[REDACTED]		Dennis Poor	
TITLE	29	TITLE	34
Dir. Strategic Planning		President	
BUSINESS PHONE	30	BUSINESS PHONE	35
714-895-5024		714-895-5024	
24-HR. PHONE	31	24-HR. PHONE	36
[REDACTED]		[REDACTED]	
PAGER #	32	PAGER #	37
N/A		N/A	

### ADDITIONAL LOCALLY COLLECTED INFORMATION

DESCRIBE THE TYPE OF BUSINESS OPERATION:							38	TOTAL # OF EMPLOYEES	39
Hot Isostatic Processing								21	
BILLING ADDRESS (IF DIFFERENT FROM ABOVE)							40	ATTENTION	41
Same								N/A	
PROPERTY OWNER NAME					42	ADDRESS	43	PHONE	44
[REDACTED]						Same		714-895-5024	

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	
[Signature]								01/19/2009		
NAME OF SIGNER (print)					47	NAME OF DOCUMENT PREPARER (print)				49
Steve Belloise						Steve Belloise				
TITLE OF SIGNER					48	TITLE OF DOCUMENT PREPARER				50
Vp Quality Assurance						VP Quality Assurance				





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: Kittyhawk Products Telephone: 714 895-5024  
Site Address: 11651 Monarch St. Zip Code: 92841

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 STEVE BELLOISE Signature [Signature]  
Job Title VP QUALITY ASSURANCE Date 01-19-2009



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: KITTYHAWK PRODUCTS Telephone: 714-895-5024  
Site Address: 11651 MONARCH Zip Code: 92841

The California Health & Safety Code, Division 20, Chapter 6.95, Section 25505(c) and Section 25503.3(c) provide the following:

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Print Name STEVE BELLOISE

Signature 

Job Title VP QUALITY ASSURANCE

Date 06-27-07

# **GARDEN GROVE**



## **FIRE DEPARTMENT**

### **HAZARDOUS MATERIALS DISCLOSURE PROGRAM**

#### **REPORTING FORMS PACKET: PART 2**

#### **BUSINESS EMERGENCY PLAN SHORT VERSION**

**THE FOLLOWING FORMS ARE FOR USE IN THE EVENT OF AN  
ACTUAL OR THREATENING HAZARDOUS MATERIALS EMERGENCY.**

**FILL THESE FORMS OUT COMPLETELY AND BE READY TO  
HAND THEM TO THE FIRE DEPARTMENT PERSONNEL WHEN  
THEY ARRIVE AT THE EMERGENCY SCENE.**

**IN THE EVENT OF AN EMERGENCY,**

**CALL 911**

**Emergency and Evacuation Plan**

ALL employees are required to be observant for fire, pressure seal failure, and injuries to fellow employees that may require evacuation of premises or outside emergency assistance, i.e. fire or police departments.

If you see an emergency situation or suspect one you are required to notify one of the following people:

Charles Barre'  
Dave Barre'  
Dennis Poor  
Steve Belloise

One of the above personnel shall make the determination as to the severity of the situation and if needed order evacuation or calls to fire or police.

If evacuation is called follow this plan:

1. Shop personnel shall exit rear door and assemble in the rear parking lot. Office personnel shall exit front door and proceed to rear parking lot.  
NOTE: Be familiar with all exits in the event that your exit is blocked.
2. Immediately upon assembly in the rear parking area Denise Poor or Lois Barre' shall institute an employee head count if anyone is missing, that information shall be relayed to arriving emergency agency.
3. The following people are required to remain on site if an emergency has been declared and leave only after these steps have been completed.
  - A. Make a determination as to what the emergency is (sound evacuation alarm if appropriate).
  - B. Shut down all equipment that may be involved.
  - C. Make call to the appropriate agency (fire, police).
  - D. Designate personnel to warn other businesses of the emergency.
  - E. If appropriate begin fire fighting or emergency first aid.

The following people are responsible for the above procedures:

Charlie Barre'  
Dave Barre'  
Dennis Poor  
Steve Belloise

Personnel Emergency Notifications and Responsibilities

(A) Employee Evacuation and Staging Areas:

1. The type of (alarm) signal that will be used to initiate an evacuation at the facility:

Air horn and/or direct dial panic alarm with audible horn

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 some 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:

1-3 included in our safety manual

(B) 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 are available at your business. (List below any mitigation procedures specific to your business, if any.)

1-6 are included in our safety manual and posted in a central location

(C) Training Requirements

State law requires training of employees where the business uses, handles or stores hazardous materials.

Employee training provided on:

- X 1. Employee responsibility to report any release or threatened release of a hazardous material to:
  - Garden Grove Fire Department at 911
  - Office of Emergency Service 800-852-7550
- X 2. Appointment of person/persons on site who are trained in key role positions. Emergency coordinator, evacuation coordinators, staging area supervisors and documenting officers.
- X 3. Procedures to follow during a release or threatened release of a hazardous material (evacuation staging areas).
- X 4. Information contained in material safety data sheets.
- X 5. Warning labels/placards.
- X 6. Safe work practices.
- \* 7. Use of on site emergency equipment and supplies. \*hand held fire  
extinguishers  
emergency oxygen
- x 8. Use and location of personal protective equipment.
- X 9. Any chemical, hazardous material or substance that could be encountered in his/her work area.
- x 10. On-site alarm system for evacuation.
- x 11. Discuss possible release of hazardous materials scenario.

(D) Emergency Notifications

A handler of hazardous materials is required to immediately report any release or threatened release of a hazardous material to the Garden Grove Fire Department. Failure to do so may result in criminal and/or civil prosecution. In addition you must notify the State Office of Emergency Services at (800) 852-7550 or (916) 427-4341.

(E) 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 aboveground tank storage areas:
  - a   X   Isolation and separation of incompatible materials
  - b   X   Diking areas to contain spills
  - c   X   Storage on paved ground
2. Compressed and/or cyrogenic gas storage areas:
  - a   X   Cylinders stored upright and secured
  - b   X   Isolation and/or separation of incompatible cylinders (oxygen and flammable gases, etc.)
3. General:
  - a   X   Safe work practices are exercised in daily routines.
  - b   X   Employees who handle hazardous materials are properly trained.
  - c   X   Material Safety Data Sheet (MSDS) readily available for each hazardous material on the premises.
  - d   X   Labeling of all materials and storage areas with the product name and hazards associated with the product (drums, piping, tanks, etc.)
  - e   N/A   Uniform Fire Code (UFC) requires separation between outside hazardous material storage area or tanks and combustible materials (wood, brush, etc.)
  - f   X   Posting of "No Smoking" signs where appropriate.



**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: KITTHAWK PRODUCTS Telephone: (714) 895-5024  
Site Address: 11651 MONARCH ST. Zip Code: 92841

The California Health & Safety Code, Division 20, Chapter 6.95, Section 25505(c) and Section 25503.3(c) provide the following:

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(Please check applicable boxes.)

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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 STEVE BELLOISE

Signature *Steve Belloise*

Job Title VP - QUALITY ASSURANCE

Date 07-19-06



<p><b>Tier Two EMERGENCY AND HAZARDOUS CHEMICAL INVENTORY</b></p> <p>Specific Information by Chemical</p> <p>FOR OFFICIAL USE ONLY</p> <p>ID # _____ Date Received _____</p>		<p><b>Facility Identification</b></p> <p>Name: <u>Kittyhawk Products</u> Street: <u>11651 Monarch Street</u> City: <u>Garden Grove</u> County: <u>Orange</u> State: <u>CA</u> Zip: <u>92841</u> SIC Code: <u>3599</u> Dun &amp; Brad Number: <u>02-486-5532</u></p>	
<p><b>Owner/Operator Name</b></p> <p>Name: <u>Charles Baire</u> Phone: <u>(714) 895-5024</u> Mail Address: <u>11651 Monarch Street</u> <u>Garden Grove, CA, 92841</u> Phone: <u>(714) 895-5024</u> Emergency Contact: _____</p>		<p>Name: <u>Charles Baire</u> Title: <u>Owner</u> Phone: <u>(714) 895-5024</u> 24 Hr. Phone: <u>(714) 745-8950</u> Name: <u>Dennis Poor</u> Title: <u>President</u> Phone: <u>(714) 895-5024</u> 24 Hr. Phone: <u>301-701-78</u></p>	
<p><b>Reporting Period</b> From <u>January 1</u> to <u>December 31, 2005</u></p>		<p><input checked="" type="checkbox"/> Check if information below is identical to the information submitted last year</p> <p style="text-align: right;">01</p>	
<b>Important: Read all instructions before completing form</b>			
<b>Chemical Description</b>			
<p>CAS # <u>7440-37-1</u> Trade Secret _____ Chem. Name: <u>ARGON</u></p> <p>Check all that apply: <input checked="" type="checkbox"/> Pure <input type="checkbox"/> Mixture <input type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> EHS Name _____</p>	<p><b>Physical and Health Hazards</b> (check all that apply)</p> <p><input checked="" type="checkbox"/> Fire of Pressure <input type="checkbox"/> Sudden Release <input type="checkbox"/> Reactivity <input checked="" type="checkbox"/> Immediate (acute) <input type="checkbox"/> Delayed (chronic)</p>	<p><b>Inventory</b></p> <p>Max Daily Amount (code): <u>0 4</u> Avg. Daily Amount (code): <u>0 4</u> No. of Days On-site (days): <u>3 6 5</u></p>	<p>Container Type: _____ Pressure: _____ Temperature: _____</p> <p><b>Storage Codes and Locations</b> (Non-Confidential)</p> <p>Storage Locations: _____ Northwest side of Building (Outside)</p>
<p>CAS # _____ Trade Secret _____ Chem. Name: _____</p> <p>Check all that apply: <input type="checkbox"/> Pure <input type="checkbox"/> Mixture <input type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> EHS Name _____</p>	<p><input type="checkbox"/> Fire of Pressure <input type="checkbox"/> Sudden Release <input type="checkbox"/> Reactivity <input type="checkbox"/> Immediate (acute) <input type="checkbox"/> Delayed (chronic)</p>	<p>Max. Daily Amount (code): _____ Avg. Daily Amount (code): _____ No. of Days On-site (days): _____</p>	<p>_____</p>
<p>CAS # _____ Trade Secret _____ Chem. Name: _____</p> <p>Check all that apply: <input type="checkbox"/> Pure <input type="checkbox"/> Mixture <input type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> EHS Name _____</p>	<p><input type="checkbox"/> Fire of Pressure <input type="checkbox"/> Sudden Release <input type="checkbox"/> Reactivity <input type="checkbox"/> Immediate (acute) <input type="checkbox"/> Delayed (chronic)</p>	<p>Max. Daily Amount (code): _____ Avg. Daily Amount (code): _____ No. of Days On-site (days): _____</p>	<p>_____</p>
<p><b>Certification</b> (Read and sign after completing all sections)</p> <p>I certify under penalty of law that I have personally examined and am familiar with the information submitted in pages one through _____, and that based on my inquiry of those individuals responsible for obtaining the information, I believe that the information is true, accurate, and complete.</p> <p>Steve Bellioise - VP-Quality Assurance Name and official title of owner/operator OR owner/operator's authorized representative</p> <p>Signature: _____ Date signed: <u>02-15-05</u></p>			
<p><b>Optional Attachments</b></p> <p><input type="checkbox"/> I have attached a site plan <input type="checkbox"/> I have attached a list of site coordinate abbreviations <input type="checkbox"/> I have attached a description of dikes and other safeguards measures</p>			



**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: KITTYHAWK PRODUCTS Telephone: 714/895-5024  
Site Address: 11651 MONARCH ST. GARDEN GROVE Zip Code: 92841

The California Health & Safety Code, Division 20, Chapter 6.95, Section 25505(c) and Section 25503.3(c) provide the following:

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**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 STEVE BELLOISE

Signature Steve Belloise

Job Title VP QUALITY ASSURANCE

Date 5-1-00



**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: KITTYHAWK PRODUCTS Telephone: 714-895-5024  
Site Address: 11651 MONARCH ST. GARDEN GROVE Zip Code: 92841

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 STEVE BELLOISE Signature Steve Belloise  
Job Title VP - QUALITY ASSURANCE Date 3-30-01

**UNIFIED PROGRAM CONSOLIDATED FORM**

**FACILITY INFORMATION**

**BUSINESS ACTIVITIES**

I. FACILITY IDENTIFICATION											
FACILITY ID#	3	0	3	5		2	0	3		1. EPA ID # (Hazardous Waste Only)	2.

BUSINESS NAME (Same as FACILITY NAME or DBA-Doing Business As)	3.
<i>Kitty Hawk Products</i>	

**II. ACTIVITIES DECLARATION**

**NOTE: If you check YES to any part of this list, please submit the Business Owner/Operator Identification page (OES Form 2730)**

Does your facility...	If Yes, please complete these pages of the UPCF...	
<b>A. HAZARDOUS MATERIALS</b> 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.	<input checked="" type="checkbox"/> <b>HAZARDOUS MATERIALS INVENTORY - CHEMICAL DESCRIPTION (OES 2731)</b>  <i>SENT 2-23-01</i>
<b>B. UNDERGROUND STORAGE TANKS (USTs)</b> 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. <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO    6. <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO    7.	<input checked="" type="checkbox"/> <b>UST FACILITY (Formerly SWRCB Form A)</b> <input checked="" type="checkbox"/> <b>UST TANK (one page per tank) (Formerly Form B)</b> <input checked="" type="checkbox"/> <b>UST FACILITY</b> <input checked="" type="checkbox"/> <b>UST TANK (one per tank)</b> <input checked="" type="checkbox"/> <b>UST INSTALLATION - CERTIFICATE OF COMPLIANCE (one page per tank) (Formerly Form C)</b> <input checked="" type="checkbox"/> <b>UST TANK (closure portion-one page per tank)</b>
<b>C. ABOVE GROUND PETROLEUM STORAGE TANKS (ASTs)</b> 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.	<input checked="" type="checkbox"/> <b>NO FORM REQUIRED TO CUPAS</b>
<b>D. HAZARDOUS WASTE</b> 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 type="checkbox"/> YES <input checked="" type="checkbox"/> NO    9. <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO    10. <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO    11. <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO    12. <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO    13. <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO    14.	<input checked="" type="checkbox"/> <b>EPA ID NUMBER - provide at the top of this page</b> <input checked="" type="checkbox"/> <b>RECYCLABLE MATERIALS REPORT (one per recycler)</b>  <input checked="" type="checkbox"/> <b>ONSITE HAZARDOUS WASTE TREATMENT - FACILITY (Formerly DTSC Forms 1772)</b> <input checked="" type="checkbox"/> <b>ONSITE HAZARDOUS WASTE TREATMENT - UNIT (one page per unit) (Formerly DTSC Forms 1772A,B,C,D and L)</b> <input checked="" type="checkbox"/> <b>CERTIFICATION OF FINANCIAL ASSURANCE (Formerly DTSC Form 1232)</b> <input checked="" type="checkbox"/> <b>REMOTE WASTE/CONSOLIDATION SITE ANNUAL NOTIFICATION (Formerly DTSC Form 1196)</b> <input checked="" type="checkbox"/> <b>HAZARDOUS WASTE TANK CLOSURE CERTIFICATION (Formerly DTSC Form 1249)</b>

**E. LOCAL REQUIREMENTS** 15.

(You may also be required to provide additional information by your CUPA or local agency.)

<b>Tier Two EMERGENCY AND HAZARDOUS CHEMICAL INVENTORY</b>		<b>Facility Identification</b> Name <u>Kittyhawk Products</u> Street <u>11651 Monarch Street</u> City <u>Garden Grove</u> County <u>Orange</u> State <u>CA</u> Zip <u>92841</u> SIC Code <u>3599</u> Dun & Brad Number <u>02-486-5532</u>		<b>Owner/Operator Name</b> Name <u>Charles Barre</u> Phone <u>(714) 895-5024</u> Mail Address <u>11651 Monarch Street</u> Garden Grove, CA. 92841 Emergency Contact Name <u>Charles Barre</u> Title <u>Owner</u> Phone <u>(714) 895-5024</u> 24 Hr. Phone <u>(714) 745-8950</u> Name <u>Dave Barre</u> Title <u>VP-Sales</u> Phone <u>(714) 895-5024</u> 24 Hr. Phone <u>(714) 745-8945</u>	
Specific Information by Chemical FOR OFFICIAL USE ONLY		ID # _____ Date Received _____		Reporting Period From January 1 to December 31, 2004	

**Important: Read all instructions before completing form**

**Chemical Description**

CAS Chem. Name 7440-37-1 ARGON Trade Secret \_\_\_\_\_

Check all that apply: Pure  Mix  Solid  Liquid  Gas  EHS Name \_\_\_\_\_

CAS Chem. Name \_\_\_\_\_ Trade Secret \_\_\_\_\_

Check all that apply: Pure  Mix  Solid  Liquid  Gas  EHS Name \_\_\_\_\_

CAS Chem. Name \_\_\_\_\_ Trade Secret \_\_\_\_\_

Check all that apply: Pure  Mix  Solid  Liquid  Gas  EHS Name \_\_\_\_\_

**Physical and Health Hazards (check all that apply)**

Fire  
 Sudden Release of Pressure  
 Reactivity  
 Immediate (acute)  
 Delayed (chronic)

**Inventory**

Max. Daily Amount (code) 0 4  
 Avg. Daily Amount (code) 0 4  
 No. of Days On-site (days) 3 6 5

Max. Daily Amount (code) \_\_\_\_\_  
 Avg. Daily Amount (code) \_\_\_\_\_  
 No. of Days On-site (days) \_\_\_\_\_

**Physical and Health Hazards (check all that apply)**

Fire  
 Sudden Release of Pressure  
 Reactivity  
 Immediate (acute)  
 Delayed (chronic)

**Inventory**

Max. Daily Amount (code) \_\_\_\_\_  
 Avg. Daily Amount (code) \_\_\_\_\_  
 No. of Days On-site (days) \_\_\_\_\_

**Physical and Health Hazards (check all that apply)**

Fire  
 Sudden Release of Pressure  
 Reactivity  
 Immediate (acute)  
 Delayed (chronic)

**Inventory**

Max. Daily Amount (code) \_\_\_\_\_  
 Avg. Daily Amount (code) \_\_\_\_\_  
 No. of Days On-site (days) \_\_\_\_\_

**Container Type Pressure Temperature**

A	2	7

**Storage Codes and Locations (Non-Confidential)**

Storage Locations \_\_\_\_\_  
 Northwest side of Building (Outside) \_\_\_\_\_

**Optional**

**Certification (Read and sign after completing all sections)**

I certify under penalty of law that I have personally examined and am familiar with the information submitted in pages one through 1, and that based on my inquiry of those individuals responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.

Steve Bolikise-VP-Quality Assurance  
 Name and official title of owner/operator OR owner/operators \_\_\_\_\_  
 Signature \_\_\_\_\_ Date signed \_\_\_\_\_  
 authorized representative \_\_\_\_\_

**Optional Attachments**

I have attached a site plan  
 I have attached a list of site coordinate abbreviations  
 I have attached a description of dikes and other safeguards measures

<b>Tier Two EMERGENCY AND HAZARDOUS CHEMICAL INVENTORY</b>		<b>Facility Identification</b> Name: <u>Kittyhawk Products</u> Street: <u>11651 Monarch Street</u> City: <u>Garden Grove</u> County: <u>Orange</u> State: <u>CA</u> Zip: <u>92841</u> SIC Code: <u>3599</u> Dun & Brad Number: <u>02-486-5532</u>		<b>Owner/Operator Name</b> Name: <u>Charles Barre</u> Phone: <u>(714) 895-5024</u> Mail Address: <u>11651 Monarch Street</u> <u>Garden Grove, CA, 92841</u> Emergency Contact: _____	
Specific Information by Chemical: _____ FOR OFFICIAL USE ONLY		ID # _____ Date Received: _____		Name: <u>Charles Barre</u> Title: <u>Owner</u> Phone: <u>(714) 895-5024</u> 24 Hr. Phone: <u>(714) 893-0963</u> Name: <u>Dave Barre</u> Title: <u>VP-Sales</u> Phone: <u>(714) 895-5024</u> 24 Hr. Phone: <u>(714) 897-3409</u>	
<b>Important: Read all instructions before completing form</b>		Reporting Period: <u>From January 1 to December 31, 2003</u>		<input checked="" type="checkbox"/> Check if information below is identical to the information submitted last year.	
<b>Chemical Description</b>		<b>Physical and Health Hazards</b> <i>(check all that apply)</i>		<b>Inventory</b>	
CAS <u>7440-37-1</u> Trade Name: _____ Chem. Name: <u>ARGON</u>		<input type="checkbox"/> Fire <input checked="" type="checkbox"/> Sudden Release of Pressure <input type="checkbox"/> Reactivity <input type="checkbox"/> Immediate (acute) <input type="checkbox"/> Delayed (chronic)		Max. Daily Amount (code): <u>0 4</u> Avg. Daily Amount (code): <u>0 4</u> No. of Days On-site (days): <u>3 6 5</u>	
Check all that apply: <input type="checkbox"/> Pure <input type="checkbox"/> Mix <input type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> EHS EHS Name: _____		<input type="checkbox"/> Fire <input type="checkbox"/> Sudden Release of Pressure <input type="checkbox"/> Reactivity <input type="checkbox"/> Immediate (acute) <input type="checkbox"/> Delayed (chronic)		Max. Daily Amount (code): _____ Avg. Daily Amount (code): _____ No. of Days On-site (days): _____	
CAS _____ Trade Name: _____ Chem. Name: _____		<input type="checkbox"/> Fire <input type="checkbox"/> Sudden Release of Pressure <input type="checkbox"/> Reactivity <input type="checkbox"/> Immediate (acute) <input type="checkbox"/> Delayed (chronic)		Max. Daily Amount (code): _____ Avg. Daily Amount (code): _____ No. of Days On-site (days): _____	
Check all that apply: <input type="checkbox"/> Pure <input type="checkbox"/> Mix <input type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> EHS EHS Name: _____		<input type="checkbox"/> Fire <input type="checkbox"/> Sudden Release of Pressure <input type="checkbox"/> Reactivity <input type="checkbox"/> Immediate (acute) <input type="checkbox"/> Delayed (chronic)		Max. Daily Amount (code): _____ Avg. Daily Amount (code): _____ No. of Days On-site (days): _____	
CAS _____ Trade Name: _____ Chem. Name: _____		<input type="checkbox"/> Fire <input type="checkbox"/> Sudden Release of Pressure <input type="checkbox"/> Reactivity <input type="checkbox"/> Immediate (acute) <input type="checkbox"/> Delayed (chronic)		Max. Daily Amount (code): _____ Avg. Daily Amount (code): _____ No. of Days On-site (days): _____	
Check all that apply: <input type="checkbox"/> Pure <input type="checkbox"/> Mix <input type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> EHS EHS Name: _____		<input type="checkbox"/> Fire <input type="checkbox"/> Sudden Release of Pressure <input type="checkbox"/> Reactivity <input type="checkbox"/> Immediate (acute) <input type="checkbox"/> Delayed (chronic)		Max. Daily Amount (code): _____ Avg. Daily Amount (code): _____ No. of Days On-site (days): _____	
Certification (Read and sign after completing all sections) I certify under penalty of law that I have personally examined and am familiar with the information submitted in paper or through any inquiry of those individuals responsible for obtaining the information, I believe that the identified information is true, accurate, and complete. Steve Belliose VP-Quality Assurance Name and official title of owner/operator OR owner/operator's authorized representative: _____ Signature: <u>Steve Belliose</u> Date signed: <u>2/27/03</u>		Container Type: _____ Pressure: _____ Temperature: _____ Storage Codes and Locations (Non-Confidential): _____ Storage Locations: _____ Northwest side of building (Outside): _____		Optional Attachments: <input type="checkbox"/> I have attached a site plan <input type="checkbox"/> I have attached a list of site coordinate abbreviations <input type="checkbox"/> I have attached a description of dikes and other safeguards measures	

**Tier Two EMERGENCY AND HAZARDOUS CHEMICAL INVENTORY**

**Facility Identification**

Name Kittyhawk Products  
 Street 11651 Monarch Street  
 City Garden Grove County Orange State CA Zip 92841  
 SIC Code 3599 Dm & Brad Number 02-486-5532

FOR OFFICIAL USE ONLY  
 ID # \_\_\_\_\_  
 Date Received \_\_\_\_\_

Important: Read all instructions before completing form

Reporting Period From January 1 to December 31, 2006

Owner/Operator Name  
 Name Charles Bairre  
 Mail Address 11651 Monarch Street  
Garden Grove, CA 92841  
 Emergency Contact  
 Name Charles Bairre Title Owner  
 Phone (714) 895-5024 24 Hr. Phone (714) 745-8950  
 Name Dennis Poor Title President  
 Phone (714) 895-5024 24 Hr. Phone 301-701-78

**Chemical Description**

CAS 7440-37-1 Trade Secret  
 Chem. Name ARGON  
 Check all that apply:  Pure  Mix  Solid  Liquid  Gas  EHS

CAS \_\_\_\_\_ Trade Secret  
 Chem. Name \_\_\_\_\_  
 Check all that apply:  Pure  Mix  Solid  Liquid  Gas  EHS

CAS \_\_\_\_\_ Trade Secret  
 Chem. Name \_\_\_\_\_  
 Check all that apply:  Pure  Mix  Solid  Liquid  Gas  EHS

Certification (Read and sign after completing all sections)  
 I certify under penalty of law that I have personally examined and am familiar with the information submitted in pages one through \_\_\_\_\_ and that based on my inquiry of those individuals responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.

Steve Bellajac-VP- Quality Assurance  
 Name and official title of owner/operator OR authorized representative  
 Signature Steve Bellajac  
 Date signed 04/05/06

**Physical and Health Hazards**  
 (check all that apply)

Fire  
 Sudden Release of Pressure  
 Reactivity  
 Immediate (acute)  
 Delayed (chronic)

Fire  
 Sudden Release of Pressure  
 Reactivity  
 Immediate (acute)  
 Delayed (chronic)

Fire  
 Sudden Release of Pressure  
 Reactivity  
 Immediate (acute)  
 Delayed (chronic)

**Inventory**

Max. Daily Amount (code)	0	1	4
Avg. Daily Amount (code)	0	4	4
No. of Days On-site (days)	3	6	5

Max. Daily Amount (code)	
Avg. Daily Amount (code)	
No. of Days On-site (days)	

Max. Daily Amount (code)	
Avg. Daily Amount (code)	
No. of Days On-site (days)	

Container Type	A	2	7
Pressure			
Temperature			

**Storage Codes and Locations (Non-Confidential)**  
 Storage Locations  
 Northwest side of Building (Outside)

[X] Check if information below is identical to the information submitted last year.

Optional Attachments  
 I have attached a site plan  
 I have attached a list of site coordinate abbreviations  
 I have attached a description of dikes and other safeguards measures

# GARDEN GROVE



## FIRE DEPARTMENT

### HAZARDOUS MATERIALS DISCLOSURE PROGRAM

#### REPORTING FORMS PACKET: PART 1



#### KITTYHAWK PRODUCTS

HOT ISOSTATIC PROCESSING  
RESEARCH & DEVELOPMENT  
PROTOTYPE WORK-TOOLING

11651 MONARCH STREET  
GARDEN GROVE, CA 92841  
PH: (714) 895-5024  
FAX: (714) 893-8709  
PGR: (714) 802-5931

STEVE BELLOISE  
VICE PRESIDENT  
QUALITY ASSURANCE  
E-MAIL: sbelloise@kittyhawkinc.com

#### FOR OFFICIAL USE ONLY

APPROVED BY: Shirley DATE: 2-28-01  
NEW BUSINESS  EXISTING  UPDATE   
FEE: 1 2 3 4 5 6  
OWNERSHIP CHANGE: \_\_\_\_\_  
ADDRESS CHANGE: \_\_\_\_\_  
TIER II:  FAC:  CON.  BUS LIST:  PICK:

*changed 3/13/01*





# 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)	2/23/01	ENDING (2)	12/31/01	(3) PAGE 1 OF	7
BUSINESS NAME (4)	Kittyhawk Products		BUSINESS PHONE: (5)	714/895-5024	
SITE ADDRESS (6)	11651 Monarch St.				
CITY (7)	GARDEN GROVE	STATE (8)	CA	ZIP (9)	92841
DUN & BRADSTREET (OPTIONAL) OPERATOR NAME (10)	02-486-5532	SIC CODE (4 DIGIT #) (11)	3599		
(12)	Steve Belloise	OPERATOR PHONE (13)	714/895-5024		

### OWNER INFORMATION

OWNER NAME (14)	[REDACTED]	OWNER PHONE (15)	714/895-5024		
OWNER MAILING ADDRESS (16)	11651 Monarch St.				
CITY (17)	Garden Grove	STATE (18)	CA	ZIP (19)	92841

### ENVIRONMENTAL CONTACT

CONTACT NAME (20)	Steve Belloise	CONTACT PHONE (21)	714/895-5024		
MAILING ADDRESS (22)	11651 Monarch St.				
CITY (23)	Garden Grove	STATE (24)	CA	ZIP (25)	92841

Primary

### EMERGENCY CONTACTS

Secondary

Primary		Secondary	
NAME: (26)	[REDACTED]	NAME: (31)	Dave Barre
TITLE: (27)	Owner	TITLE: (32)	VP Sales
BUSINESS PHONE: (28)	714/895-5024	BUSINESS PHONE: (33)	714/895-5024
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 <u>Hot Isostatic Processing</u>	G. Underground Storage Tanks	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N
B. Hours of Business Operation <u>5:00 A.M. - 12:30 A.M.</u>	H. Above ground Tank over 660 gal.	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
C. Total Number of Employees <u>21</u>		
D. Property Owner Name <u>Charles Barre Kittyhawk INC.</u>	Address <u>Same as Above</u>	
E. Schools, hospitals within 1,000 ft. of business property	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	
F. EPA I.D. Number		

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)	Steve Belloise		
Signature of Owner/Operator (39)	<u>Dennis Barre President</u>	Date (40)	2/23/01

**CALIFORNIA CHEMICAL INVENTORY FORM – DESCRIPTION PAGE**

**FORM 3**

(1)  ADD  DELETE  REVISE  NO CHANGE

PAGE (2) 2 OF 3) 7

BUSINESS NAME (4) Kittyhawk Products

CHEMICAL LOCATION (Address, Area, Building, etc.) (5) North West/Outside of Building

MAP # (if more than one) (6) 1 GRID # (7) 3B,C

CHEMICAL NAME (8) Ar, Liquified (Rare Gas)

COMMON NAME (9) Argon, Refrigerated Liquid

CAS # (10) 7440-37-1

FIRE CODE HAZARD CLASSES\* (13) Non-Flammable Liquid / CRYOGENIC

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) N/A

PHYSICAL STATE (17)  SOLID  LIQUID  GAS CURIES

FED HAZARD CATEGORIES (18)  FIRE  REACTIVE  PRESSURE RELEASE  ACUTE HEALTH  CHRONIC HEALTH

STATE WASTE CODE (19) N/A UNITS (22)  GAL  CU FT  LBS  TONS MAX DAILY AMT (23) 34,884

DAYS ON SITE (20) 365 \*If EHS, amounts must be in lbs. AVG DAILY AMT (24) 17,000

LARGEST CONTAINER (21) 34,884 ANNUAL WASTE AMT (25) C

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 Above  
 PLASTIC/NONMETALLIC DRUM  BAG(S)  IN MACHINERY OR EQUIP. Ground Tank

PRESSURE STORAGE (27)  AMBIENT  ABOVE AMBIENT  BELOW AMBIENT Outside

STORAGE TEMPERATURE (28)  AMBIENT  ABOVE AMBIENT  BELOW AMBIENT  CRYOGENIC

(29) % WT
1. <span style="border: 1px solid black; padding: 2px;">N/A</span>
2. <span style="border: 1px solid black; padding: 2px;"></span>
3. <span style="border: 1px solid black; padding: 2px;"></span>

(30) HAZARDOUS COMPONENTS	(31) EHS/AHM	(32) CAS #
<span style="border: 1px solid black; padding: 2px;">N/A</span>	<input type="checkbox"/> Y <input type="checkbox"/> N	
<span style="border: 1px solid black; padding: 2px;"></span>	<input type="checkbox"/> Y <input type="checkbox"/> N	
<span style="border: 1px solid black; padding: 2px;"></span>	<input type="checkbox"/> Y <input type="checkbox"/> N	

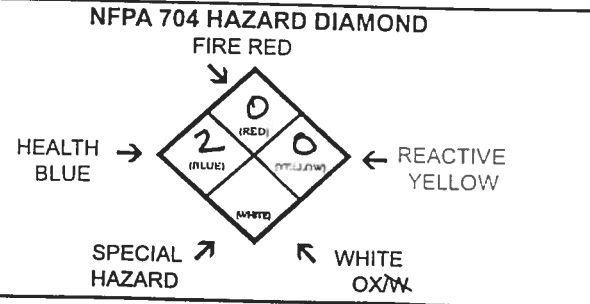
**(33) ADDITIONAL LOCALLY COLLECTED INFORMATION**  
\*COMPLETE BLOCK (33) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.

NFPA CLASSIFICATION

UN/DOT # UN 1006  
Refer to shipping papers or MSDS

DOT HAZARD CLASS Non-Flammable Gas  
Refer to shipping papers or MSDS

UFC HAZARD CLASS



**MAKE AS MANY COPIES OF CHEMICAL INVENTORY FORM AS NEEDED**



**M a t e r i a l   S a f e t y   D a t a   S h e e t**

**ARGON, REFRIGERATED LIQUID**

Page: 1  
Rev. Date  
08/07/89

Airco, Division of The BOC Group, Inc.  
575 Mountain Avenue  
Murray Hill, NJ 07974

Telephone: (201)464-8100

Emergency Contact: CHEMTREC  
Emergency Phone Number: (800)424-9300

**SECTION #1 - IDENTIFICATION**

Product: ARGON, REFRIGERATED LIQUID

CAS Number: 7440-37-1  
Product Code: MSDS CODE G-104  
Chemical Family: Rare Gas  
Chemical Formula: Ar, liquified

Synonyms: G-104

Hazard Rating - Health: 2 Moderate  
- Fire: 0 Negligible  
- Reactivity: 0 Negligible

**SECTION #2 - CHEMICAL COMPONENTS**

Component: ARGON  
CAS Number: Not Established      Percent of Mixture: 100.0000  
Simple Asphyxiant - maintain  
oxygen levels above 19.5%

**SECTION #3 - PHYSICAL DATA**

Boiling Point: - 302.6°F    - 189.9°C  
Melting Point: - 308.9°F    - 189.4°C  
Vapor Pressure: Above critical temp.  
Vapor Density (Air=1): 1.38  
Solubility (H2O): Very slight  
Percent Volatiles: 100

Appearance

A colorless gas.

M a t e r i a l   S a f e t y   D a t a   S h e e t

ARGON, REFRIGERATED LIQUID

Page: 2  
Rev. Date  
08/07/89

**SECTION #3 - PHYSICAL DATA Continued...**

Odor

Odorless

**SECTION #4 - FIRE FIGHTING & EXPLOSION DATA**

Flash Point: None°F

Lower Explosive Limit (%): None

Upper Explosive Limit (%): None

Fire and Explosion Hazards

Non-flammable!

Extinguishing Media

Use suitable media for surrounding fire.

Special Fire Fighting Instructions

None required.

**SECTION #5 - EXPOSURE and EFFECTS - INHALATION**

Routes of Exposure - Inhalation

Argon is a simple asphyxiant. Maintain oxygen levels above 19.5% at sea level.

Effects of overexposure to high concentrations so as to displace the oxygen in the air necessary for life may include any, all or none of the following:

- o Tingling of the tongue, fingertips or toes;
- o Weakened speech leading to the inability to utter sounds;
- o Rapid reduction in the ability to perform movements;
- o Loss of tactile sensations;
- o Heightened mental activity;

It should be recognized that it is possible that none of the above symptoms may occur in argon asphyxia so that there are no DEFINITE warning symptoms. Argon is nontoxic but the liberation of a large amount in a confined area could displace the amount of oxygen in air necessary to support life.

**SECTION #5 - EXPOSURE and EFFECTS - INHALATION Continued...**First Aid - Inhalation

PROMPT MEDICAL ATTENTION IS MANDATORY IN ALL CASES OF OVEREXPOSURE. RESCUE PERSONNEL SHOULD BE EQUIPPED WITH SELF-CONTAINED BREATHING APPARATUS.

Conscious persons should be assisted to an uncontaminated area and inhale fresh air. Quick removal from the contaminated area is most important. Unconscious persons should be moved to an uncontaminated area, given mouth-to-mouth resuscitation and supplemental oxygen. Further treatment should be symptomatic and supportive.

**SECTION #5 - EXPOSURE and EFFECTS - SKIN**Routes of Exposure - Skin

Contact with cryogenic liquid can cause tissue freezing or frostbite and cryogenic "burns".

First Aid - Skin

For dermal contact or frostbite, flush affected area with tepid water. DO NOT USE HOT WATER! A physician should see the patient promptly if the cryogenic "burn" has resulted in blistering of the dermal surface or in deep tissue freezing.

**SECTION #5 - EXPOSURE and EFFECTS - EYES**Routes of Exposure - Eyes

Contact with cryogenic liquid can cause tissue freezing or frostbite and cryogenic "burns" of the eyes.

First Aid - Eyes

IMMEDIATELY flush with tepid water in large quantities or with a sterile saline solution. Seek medical attention immediately in all cases of contact with liquid!

**SECTION #5 - EXPOSURE and EFFECTS - INGESTION**Routes of Exposure - Ingestion

Ingestion is unlikely. Large quantities of cryogenic liquid may cause freezing of tissue on contact.

**SECTION #5 - EXPOSURE and EFFECTS - INGESTION Continued...**First Aid - Ingestion

Although ingestion is unlikely, treat in a manner similar as skin contact for exposed tissue.

**SECTION #5 - MISCELLANEOUS TOXICOLOGICAL INFORMATION**

Carcinogenicity: NTP: No

IARC: No

OSHA: No

NOTE: Except where specified, the health hazard data and most of the other data in this material safety data sheet are for GASEOUS ARGON. One volume of liquid argon at its boiling point and atmospheric pressure will vaporize into approximately 840 volumes of gaseous argon at 70°F and 1 atmosphere.

**SECTION #6 - REACTIVITY & POLYMERIZATION**

Stability: Stable

Conditions to Avoid (Stability)

Product is inert.

Hazardous Polymerization: Will Not Occur

**SECTION #7 - SPILL, LEAK, & DISPOSAL PROCEDURES**Steps to be Taken in The Event of Spills, Leaks, or Release

Evacuate all personnel from affected areas. Use appropriate protective equipment. Liquid Argon is delivered into stationary vacuum-jacketed vessels at the customer's location or in portable vacuum-jacketed "liquid" cylinders. Stationary customer-site vessels should be operated in accordance with manufacturers and Airco/BOC instructions. Do not attempt to repair, adjust or in any way modify the operation of these vessels. If malfunction or other type of operational problem occurs, contact the closest Airco/BOC location immediately. Liquid Argon vessels should be used only in well ventilated areas in accordance with Airco/BOC's instructions. Cylinders must always be kept upright. Specialized trucks are needed for their movement.

Waste Disposal Methods

Do not attempt to dispose of waste or unused quantities. Return in the shipping container PROPERLY LABELED, WITH ANY VALVE OUTLET PLUGS OR CAPS SECURED AND VALVE PROTECTION CAP IN PLACE to Airco for proper disposal.

**SECTION #7 - SPILL, LEAK, & DISPOSAL PROCEDURES Continued...**

Waste Disposal Methods

SARA Hazard Classes: Sudden Release of Pressure Hazard

**SECTION #8 - SPECIAL PROTECTIVE MEASURES**

Ventilation

Use local exhaust ventilation to reduce concentrations to within current exposure limits. A laboratory type hood is suitable for handling small or limited quantities. Maintain adequate oxygen levels.

Eye Protection

Safety goggles or glasses plus face shield.

Skin Protection

Use loose fitting insulated gloves.

Respiratory Protection

An airline respirator with full face piece equipped with an escape bottle or a Self Contained Breathing Apparatus should be available for emergency use. Operate this equipment in the positive pressure demand mode, PPD!

Other Protection

Safety shoes.

**SECTION #9 - SPECIAL PRECAUTIONS - STORAGE & HANDLING**

Storage & Handling Conditions

Use only in well-ventilated areas. Do not drag, slide or roll cylinders. Use a suitable hand truck for cylinder movement. Protect cylinders from physical damage. Store in cool, dry, well-ventilated area of non-combustible construction away from heavily trafficked areas and emergency exits. Do not allow the temperature where cylinders are stored to exceed 125°F. Cylinders should be stored upright and firmly secured to prevent falling or being knocked over. Use a "first in-first out" inventory system to prevent full cylinders being stored for excessive periods of time.

Never carry a compressed gas cylinder or a container of a gas in cryogenic

**SECTION #9 - SPECIAL PRECAUTIONS - STORAGE & HANDLING Continued...**

**Storage & Handling Conditions**

liquid form in an enclosed space such as a car trunk, van or station wagon. A leak can result in a fire, explosion, asphyxiation or a toxic exposure.

Liquid density at Boiling Point : 87 lb/ft<sup>3</sup> (1393 Kg/m<sup>3</sup>).

**SECTION #10 - SHIPPING INFORMATION**

Proper Shipping Name: Argon, Refrigerated liquid

Hazard Class: Nonflammable Gas  
DOT Identification Number: UN1951  
DOT Shipping Label: Nonflammable Gas

**SECTION #11 - MISC COMMENTS & REFERENCE DOCUMENTATION**

Liquid argon cannot be handled in carbon or low alloy steels. Eighteen-eight and 18-10 stainless steel are acceptable as are pure copper and its alloys, nickel and its alloys, brass, bronze, silicon alloys, Monel (R), Inconel (R) and beryllium. Also see CGA safety bulletin SB-2 and CGA pamphlets P-9 and P-12. Liquid argon vessels should not be refilled except by qualified producers of compressed gases. Shipments of a liquid argon vessel which has not been filled by the owner or with his (written) consent, is a violation of Federal Law (49CFR).

**DISCLAIMER OF EXPRESSED AND IMPLIED WARRANTIES**

Although reasonable care has been taken in the preparation of this document, we extend no warranties and make no representations as to the accuracy or completeness of the information contained therein, and assume no responsibility regarding the suitability of this information for the user's intended purposes or for the consequences of its use. Each individual should make a determination as to the suitability of the information for their particular purpose(s).



**CALIFORNIA CHEMICAL INVENTORY FORM – DESCRIPTION PAGE**

(1)  ADD  DELETE  REVISE  NO CHANGE

PAGE (2) **3** OF 3) **7**

BUSINESS NAME (4) Kittyhawk Products  
 CHEMICAL LOCATION (Address, Area, Building, etc.) (5) North West/Outside of Building  
 MAP # (if more than one) (6) 1 GRID # (7) 3B

CHEMICAL NAME (8) RARE GAS TRADE SECRET (11)  Y  N  
 COMMON NAME (9) Argon AHM/\*EHS (12)  Y  N  
 CAS # (10) 7440-37-1  
 FIRE CODE HAZARD CLASSES\* (13) Non-Flammable Gas  
 \*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) N/A  
 PHYSICAL STATE (17)  SOLID  LIQUID  GAS CURIES  
 FED HAZARD CATEGORIES (18)  FIRE  REACTIVE  PRESSURE RELEASE  ACUTE HEALTH  CHRONIC HEALTH  
 STATE WASTE CODE (19) N/A UNITS (22)  GAL  CU FT  LBS  TONS MAX DAILY AMT (23) 20,000-49,999  
 DAYS ON SITE (20) 365 \*If EHS, amounts must be in lbs. AVG DAILY AMT (24) 35,000  
 LARGEST CONTAINER (21) 2,450 ANNUAL WASTE AMT (25) 0  
 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 Fixed/  
 PLASTIC/NONMETALLIC DRUM  BAG(S)  IN MACHINERY OR EQUIP. Pressurized  
 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/A</u>	<u>N/A</u>	<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 1006 Refer to shipping papers or MSDS  
 DOT HAZARD CLASS Non-Flammable Gas Refer to shipping papers or MSDS  
 UFC HAZARD CLASS \_\_\_\_\_

NFPA 704 HAZARD DIAMOND  
 FIRE RED  
 HEALTH BLUE  
 REACTIVE YELLOW  
 SPECIAL HAZARD  
 WHITE OX/WL

**MAKE AS MANY COPIES OF CHEMICAL INVENTORY FORM AS NEEDED**

AIRCO MATERIAL SAFETY DATA SHEET

Product Name: Argon

Synonyms: None

CAS Number: 7440-37-1

DOT Hazard Class: Nonflammable gas

Chemical Formula: Ar

DOT Identification Number: UN 1006

Chemical Family: Rare gas

Health Hazard Data

TWA: Argon is defined as a simple asphyxiant. Oxygen levels should be maintained at greater than 18 molar percent at normal atmospheric pressure which is equivalent to a partial pressure of 135 mm Hg (ACGIH, 1984-85).

Symptoms of Exposure:

Effects of exposure to high concentrations so as to displace the oxygen in air necessary for life may include any, all or none of the following:

- o Loss of balance or dizziness;
- o Tightness in the frontal area of the forehead;
- o Tingling of the tongue, fingertips or toes;
- o Weakened speech leading to the inability to utter sounds;
- o Rapid reduction in the ability to perform movements;
- o Reduced consciousness of the surroundings;
- o Loss of tactile sensations;
- o Heightened mental activity.

\*

Toxicological Properties:

Argon is nontoxic but the liberation of a large amount in a confined area could displace the amount of oxygen in air necessary to support life.

Recommended First Aid Treatment:

PROMPT MEDICAL ATTENTION IS MANDATORY IN ALL CASES OF OVEREXPOSURE TO ARGON. RESCUE PERSONNEL SHOULD BE EQUIPPED WITH SELF-CONTAINED BREATHING APPARATUS.

Inhalation: Conscious persons should be assisted to an uncontaminated area and inhale fresh air. Quick removal from the contaminated area is most important. Unconscious persons should be moved to an uncontaminated area, given mouth-to-mouth resuscitation and supplemental oxygen. Further treatment should be symptomatic and supportive.

\* It should be recognized that it is possible that none of the above symptoms may occur in argon asphyxia so that there are no definite warning symptoms.

Recommended First Aid Treatment: (Continued)

Hazardous Mixtures of Other Liquids, Solids, or Gases:

None

Physical Data

Boiling Point: -302.6°F (-185.9°C)

Liquid Density @ Boiling Point: 87 lb/ft<sup>3</sup> (1393 kg/m<sup>3</sup>)

Vapor Pressure @ 70°F (21.1°C): Above the critical temperature of -188.1°F (-122.3°C)

Specific Gravity @ 70°F, 1 atm (Air=1): 1.38

Solubility in Water: Very slightly

Freezing Point: -308.9°F (-189.4°C)

Appearance and Odor: Colorless, odorless gas

Fire and Explosion Hazard Data

Flash Point (Method Used): N/A

Auto Ignition Temperature: N/A

LEL: N/A UEL: N/A

Extinguishing Media: Nonflammable, inert gas

Electrical Classification: Nonhazardous

Special Fire Fighting Procedures: N/A

Unusual Fire and Explosion Hazards: N/A

Reactivity Data

~~XXXXXXXXXX~~  
Unstable or Stable

Conditions to Avoid:

Incompatibility (Materials to Avoid): None

Hazardous Decomposition Products: None

Hazardous Polymerization:

~~XXXXXXXXXX~~ Will not occur

Conditions to Avoid:

Spill or Leak Procedures

Steps to Be Taken in Case Material is Released or Spilled:

Evacuate all personnel from affected area. Use appropriate protective equipment. If leak is in user's equipment, be certain to purge piping with an inert gas prior to attempting repairs. If leak is in container or container valve, contact CHEMTREC for emergency assistance or your closest Airco location.

Waste Disposal Method:

Do not attempt to dispose of waste or unused quantities. Return in the shipping container properly labeled, with any valve outlet plugs or caps secured and valve protection cap in place to Airco for proper disposal.

Special Protection Information

Respiratory Protection: Positive pressure air line with mask or self-contained breathing apparatus should be available for emergency use.

Ventilation: See Local Exhaust

Local Exhaust: To prevent accumulation of high concentrations so as to reduce the oxygen level in the air to less than 18 molar percent.

Special:

Mechanical (Gen.):

Other:

Protective Gloves: Any material

Eye Protection: Safety goggles or glasses

Other Protective Equipment: Safety shoes

### Special Precautions

#### Special Labeling Information:

DOT Shipping Name: Argon or Argon, compressed      DOT Hazard Class: Nonflammable gas  
DOT Shipping Label: Nonflammable gas                      I.D. No.: UN 1006

#### Special Handling Recommendations:

Use only in well-ventilated areas. Valve protection caps must remain in place unless container is secured with valve outlet piped to use point. Do not drag, slide or roll cylinders. Use a suitable hand truck for cylinder movement. Use a pressure reducing regulator when connecting cylinder to lower pressure (<3,000 psig) piping or systems. Do not heat cylinder by any means to increase the discharge rate of product from the cylinder. Use a check valve or trap in the discharge line to prevent hazardous back flow into the cylinder.

For additional recommendations consult Compressed Gas Association's Pamphlets P-1, P-9, P-14, and Safety Bulletin SB-2.

#### Special Storage Recommendations:

Protect cylinders from physical damage. Store in cool, dry, well-ventilated area away from heavily trafficked areas and emergency exits. Do not allow the temperature where cylinders are stored to exceed 130F (54C). Cylinders should be stored upright and firmly secured to prevent falling or being knocked over. Full and empty cylinders should be segregated. Use a "first in-first out" inventory system to prevent full cylinders being stored for excessive periods of time.

For additional recommendations consult Compressed Gas Association's Pamphlets P-1, P-9, P-14, and Safety Bulletin SB-2.

#### Special Packaging Recommendations:

Argon is noncorrosive and may be used with any common structural material.

#### Other Recommendations or Precautions:

Compressed gas cylinders should not be refilled except by qualified producers of compressed gases. Shipment of a compressed gas cylinder which has not been filled by the owner or with his (written) consent is a violation of Federal Law (49CFR).

**CALIFORNIA CHEMICAL INVENTORY FORM – DESCRIPTION PAGE**

**FORM 3**

(1)  ADD  DELETE  REVISE  NO CHANGE

PAGE (2) 4 OF 3) 7

BUSINESS NAME (4) Kittyhawk Products

CHEMICAL LOCATION (Address, Area, Building, etc.) (5) North West/Outside of Building

MAP # (if more than one) (6) 1 GRID # (7) 4B

CHEMICAL NAME (8) Oxygen & Nitrogen Mixture

COMMON NAME (9) Air, Compressed

CAS # (10) 7727-37-9/7782-44-7/

FIRE CODE HAZARD CLASSES\* (13) Non-Flammable Gas , oxidizer

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) N/A UNITS (22)  GAL  CU FT  LBS  TONS

DAYS ON SITE (20) 365 \*If EHS, amounts must be in lbs.

LARGEST CONTAINER (21) 200200

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 Moveable  
 PLASTIC/NONMETALLIC DRUM  BAG(S)  IN MACHINERY OR EQUIP. **Pressurize**

PRESSURE STORAGE (27)  AMBIENT  ABOVE AMBIENT  BELOW AMBIENT

STORAGE TEMPERATURE (28)  AMBIENT  ABOVE AMBIENT  BELOW AMBIENT  CRYOGENIC

(29) % WT

1. <span style="border: 1px solid black; padding: 2px;">N/A</span>
2.
3.

(30) HAZARDOUS COMPONENTS	(31) EHS/AHM	(32) CAS #
<span style="border: 1px solid black; padding: 2px;">N/A</span>	<input type="checkbox"/> Y <input type="checkbox"/> N	
	<input type="checkbox"/> Y <input type="checkbox"/> N	
	<input type="checkbox"/> Y <input type="checkbox"/> N	

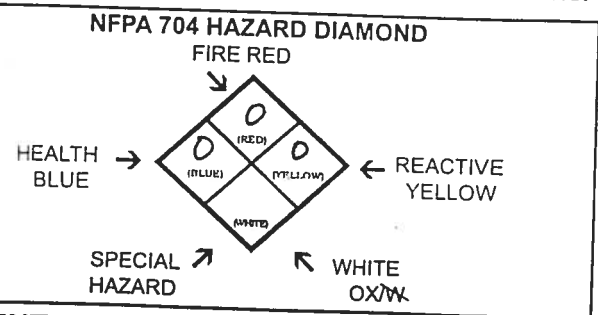
**(33) ADDITIONAL LOCALLY COLLECTED INFORMATION**  
 \*COMPLETE BLOCK (33) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.

NFPA CLASSIFICATION \_\_\_\_\_

UN/DOT # UN 1002/UN 1956/UN 3155  
 Refer to shipping papers or MSDS

DOT HAZARD CLASS Non-Flammable Gas  
 Refer to shipping papers or MSDS

UFC HAZARD CLASS \_\_\_\_\_



**MAKE AS MANY COPIES OF CHEMICAL INVENTORY FORM AS NEEDED**

# BOC GASES

## MATERIAL SAFETY DATA SHEET

**PRODUCT NAME: AIR, COMPRESSED**

### 1. Chemical Product and Company Identification

BOC Gases,  
Division of  
The BOC Group, Inc.  
575 Mountain Avenue  
Murray Hill, NJ 07974

BOC Gases  
Division of  
BOC Canada Limited  
5975 Falbourne Street, Unit 2  
Mississauga, Ontario L5R 3W6

TELEPHONE NUMBER: (908) 464-8100  
24-HOUR EMERGENCY TELEPHONE NUMBER:  
CHEMTREC (800) 424-9300

TELEPHONE NUMBER: (905) 501-1700  
24-HOUR EMERGENCY TELEPHONE NUMBER:  
(905) 501-0802  
EMERGENCY RESPONSE PLAN NO: 20101

PRODUCT NAME: AIR, COMPRESSED or COMPRESSED OXYGEN AND NITROGEN MIXTURE  
CHEMICAL NAME: Oxygen and Nitrogen Mixture  
COMMON NAMES/SYNONYMS: Compressed Oxygen and Nitrogen Mixture  
TDG (Canada) CLASSIFICATION: 2.2 (5.1)  
WHMIS CLASSIFICATION: A, C

PREPARED BY: Loss Control (908)464-8100/(905)501-1700  
PREPARATION DATE: 6/1/95  
REVIEW DATES: 6/7/96

### 2. Composition, Information on Ingredients

INGREDIENT	% VOLUME	PEL-COHA <sup>1</sup>	TLV-TWAP <sup>2</sup>	LD <sub>50</sub> or LC <sub>50</sub> Reference Values
Nitrogen FORMULA: N <sub>2</sub> CAS: 7727-37-9 RTECS #: QW9700000	2.0 to 98.0	Simple Asphyxiant	Simple Asphyxiant	Not Available
Oxygen FORMULA: O <sub>2</sub> CAS: 7782-44-7 RTECS #: RS2060000	2.0 to 98.0	Not Available	Not Available	Not Available

<sup>1</sup> As stated in 29 CFR 1910, Subpart Z (revised July 1, 1993)

<sup>2</sup> As stated in the ACGIH 1994-95 Threshold Limit Values for Chemical Substances and Physical Agents

### 3. Hazards Identification

#### EMERGENCY OVERVIEW

Mixtures with less than 19.5% oxygen act as an asphyxiant. Effects may include headaches, dizziness and loss of consciousness. High oxygen concentrations may promote combustion of flammable materials.

#### ROUTE OF ENTRY:

Skin Contact	Skin Absorption	Eye Contact	Inhalation	Ingestion
No	No	No	Yes	No

MSDS: G-113  
Revised: 6/7/96

**PRODUCT NAME: AIR, COMPRESSED**

**HEALTH EFFECTS:**

Exposure Limits No	Irritant No	Sensitization No
Teratogen No	Reproductive Hazard No	Mutagen Yes
Synergistic Effects None Reported		

Carcinogenicity: -- NTP: No IARC: No OSHA: No

**EYE EFFECTS:**

None known.

**SKIN EFFECTS:**

None known.

**INGESTION EFFECTS:**

None known.

**INHALATION EFFECTS:**

Air is nontoxic and necessary to support life. Mixtures with less than 19.5% oxygen act as an asphyxiant. Effects may include headaches, dizziness and loss of consciousness.

Not to be used as breathing air!

**NFPA HAZARD CODES**

Health: 0  
Flammability: 0  
Reactivity: 0

**HMIS HAZARD CODES**

Health: 0  
Flammability: 0  
Reactivity: 0

**RATINGS SYSTEM**

0 = No Hazard  
1 = Slight Hazard  
2 = Moderate Hazard  
3 = Serious Hazard  
4 = Severe Hazard

**4. First Aid Measures**

**EYES:**

None required.

**SKIN:**

None required.

**INGESTION:**

None required.



**PRODUCT NAME: AIR, COMPRESSED**

**INHALATION:**

Not to be used as breathing air!

**PROMPT MEDICAL ATTENTION IS MANDATORY IN ALL CASES OF OVEREXPOSURE. RESCUE PERSONNEL SHOULD BE EQUIPPED WITH SELF-CONTAINED BREATHING APPARATUS.**

Victims should be assisted to an uncontaminated area and inhale fresh air. Quick removal from the contaminated is most important. Unconscious persons should be moved to an uncontaminated area. If they are not breathing, administer artificial resuscitation. Further treatment should be symptomatic and supportive.

**5. Fire Fighting Measures**

Conditions of Flammability: Oxidizer		
Flash point: None	Method: Not Applicable	Autoignition Temperature: None
LEL(%): None	UEL(%): None	
Hazardous combustion products: None		
Sensitivity to mechanical shock: None		
Sensitivity to static discharge: None		

**FIRE AND EXPLOSION HAZARDS:**

High oxygen concentrations vigorously accelerate combustion.

**EXTINGUISHING MEDIA:**

Water spray to keep cylinders cool.

**FIRE FIGHTING INSTRUCTIONS:**

If possible, stop the flow of gas which is supporting the fire.

**6. Accidental Release Measures**

Evacuate all personnel from affected area. Use appropriate protective equipment. If leak is in user's equipment, be certain to purge piping with inert gas prior to attempting repairs. If leak is in container or container valve, contact the appropriate emergency telephone number listed in Section 1 or call your closest BOC location.

**7. Handling and Storage**

**Electrical classification:**

Nonhazardous.

Dry air is noncorrosive and may be used with all materials of construction. Moisture causes metal oxides which are formed with air to be hydrated so that they include volume and lose their protective role (rust formation). Concentrations of SO<sub>2</sub>, Cl<sub>2</sub>, salt, etc. in the moisture enhances the rusting of metals in air.

Oxygen should not be used as a substitute for compressed air in pneumatic equipment since this type of tool generally contains flammable lubricants.

Valve protection caps must remain in place unless container is secured with valve outlet piped to use point. Do not drag, slide or roll cylinders. Use a suitable hand truck for cylinder movement. Use a pressure reducing regulator when connecting cylinder to lower pressure (<3000 psig) piping or systems. Do not heat cylinder by

**PRODUCT NAME: AIR, COMPRESSED**

any means to increase the discharge rate of product from the cylinder. Use a check valve or trap in the discharge line to prevent hazardous back flow into the system.

Protect cylinders from physical damage. Store in cool, dry, well-ventilated area away from heavily trafficked areas and emergency exits. Do not allow the temperature where cylinders are stored to exceed 130°F (54°C). Cylinders should be stored upright and firmly secured to prevent falling or being knocked over. Full and empty cylinders should be segregated. Use a "first in-first out" inventory system to prevent full cylinders being stored for excessive periods of time. Post "NO SMOKING OR OPEN FLAMES" signs in the storage area or use area. There should be no sources of ignition in the storage or use area.

For additional storage recommendations, consult Compressed Gas Association Pamphlets P-1, G-7, and G-7.1.

Never carry a compressed gas cylinder or a container of a gas in cryogenic liquid form in an enclosed space such as a car trunk, van or station wagon. A leak can result in a fire, explosion, asphyxiation or a toxic exposure.

## 8. Exposure Controls, Personal Protection

### EXPOSURE LIMITS<sup>1</sup>:

CONTAMINANT	% VOLUME	PEL-DOSHA <sup>2</sup>	TLV-TWAIN <sup>3</sup>	Upper and Lower PELs/TLVs
Nitrogen FORMULA: N <sub>2</sub> CAS: 7727-37-9 RTECS #: QW9700000	2.0 to 98.0	Simple Asphyxiant	Simple Asphyxiant	Not Available
Oxygen FORMULA: O <sub>2</sub> CAS: 7782-44-7 RTECS #: RS2060000	2.0 to 98.0	Not Available	Not Available	Not Available 1

<sup>1</sup> Refer to individual state or provincial regulations, as applicable, for limits which may be more stringent than those listed here.

<sup>2</sup> As stated in 29 CFR 1910, Subpart Z (revised July 1, 1993)

<sup>3</sup> As stated in the ACGIH 1994-1995 Threshold Limit Values for Chemical Substances and Physical Agents.

### EYE/FACE PROTECTION:

Safety goggles or glasses.

### SKIN PROTECTION:

Protective gloves made of any suitable material.

### OTHER/GENERAL PROTECTION:

Safety shoes, safety shower.

**PRODUCT NAME: AIR, COMPRESSED**

### 9. Physical and Chemical Properties

PARAMETER	VALUE	UNITS
Physical state (gas, liquid, solid)	: Gas	
Vapor pressure	: Above critical temp.	psia
Vapor density at STP (Air = 1)	: 1.0	
Evaporation point	: Not Available	
Boiling point	: -317.8	°F
	: -194	°C
Freezing point	: Not Available	
	: Not Available	
	: Not Available	
pH	: Not Available	
Specific gravity	: Not Available	
Oil/water partition coefficient	: Not Available	
Solubility (H2O)	: Slightly soluble	
Odor threshold	: Not Applicable	
Odor and appearance	: Odorless; Colorless Gas	

### 10. Stability and Reactivity

**STABILITY:**  
Stable

**INCOMPATIBLE MATERIALS:**  
All flammable materials.

**HAZARDOUS DECOMPOSITION PRODUCTS:**  
None

**HAZARDOUS POLYMERIZATION:**  
Will not occur.

### 11. Toxicological Information

**REPRODUCTIVE:**  
Oxygen deficiency during pregnancy has produced developmental abnormalities in humans and experimental animals.

**MUTAGENIC:**  
Oxygen concentrations between 20 to 95% have produced genetic changes in mammalian cell assay test systems.

**OTHER:**  
High pressure effects (greater than two atmospheres of oxygen) are on the central nervous system. Improper decompression results in the accumulation of nitrogen in the blood.

**NOTE:** Compressed air is not intended for breathing use, since its oxygen contents may be below that which supports life.

### 12. Ecological Information

**MSDS: G-113**  
**Revised: 6/7/96**

**PRODUCT NAME: AIR, COMPRESSED**

No data given.

### 13. Disposal Considerations

Do not attempt to dispose of residual waste or unused quantities. Return in the shipping container **PROPERLY LABELED, WITH ANY VALVE OUTLET PLUGS OR CAPS SECURED AND VALVE PROTECTION CAP IN PLACE** to BOC Gases or authorized distributor for proper disposal.

### 14. Transport Information \*

Parameter	United States DOT	Canada TDG
PROPER SHIPPING NAME:	Air, Compressed Compressed gases, n.o.s. (Oxygen, Nitrogen)/ Compressed gases, oxidizing, n.o.s. (Oxygen, Nitrogen)	Air, Compressed Compressed gases, n.o.s. (Oxygen, Nitrogen)/ Compressed gases, oxidizing, n.o.s. (Oxygen, Nitrogen)
HAZARD CLASS:	2.2	2.2 (5.1)
DOT ID NUMBER:	UN 1002 UN 1956 UN 3158	UN 1002 UN 1956 UN 3158
SHIPPING LABEL:	NONFLAMMABLE GAS NONFLAMMABLE GAS NONFLAMMABLE GAS, OXIDIZER	NONFLAMMABLE GAS NONFLAMMABLE GAS NONFLAMMABLE GAS, OXIDIZER

\* Transport information is dependent on oxygen concentration. At concentrations greater than 22.5% oxygen, this product is classified as Compressed gases, oxidizing, n.o.s. At oxygen concentrations less than or equal to 22.5%, this product is classified as compressed gases, n.o.s.

### 15. Regulatory Information

#### SARA TITLE III NOTIFICATIONS AND INFORMATION

**SARA TITLE III - HAZARD CLASSES:**  
Sudden Release of Pressure Hazard

### 16. Other Information

Compressed gas cylinders shall not be refilled without the express written permission of the owner. Shipment of a compressed gas cylinder which has not been filled by the owner or with his/her (written) consent is a violation of transportation regulations.

#### **DISCLAIMER OF EXPRESSED AND IMPLIED WARRANTIES:**

Although reasonable care has been taken in the preparation of this document, we extend no warranties and make no representations as to the accuracy or completeness of the information contained herein, and assume no responsibility regarding the suitability of this information for the user's intended purposes or for the consequences of its use. Each individual should make a determination as to the suitability of the information for their particular purpose(s).

# CALIFORNIA CHEMICAL INVENTORY FORM – DESCRIPTION PAGE

**FORM 3**

(1)  ADD  DELETE  REVISE  NO CHANGE

PAGE (2) 5 OF (3) 7

BUSINESS NAME (4) Kittyhawk Products

CHEMICAL LOCATION (Address, Area, Building, etc.) (5) North West/Outside of Building

MAP # (if more than one) (6) 1 GRID # (7) 4B,C

CHEMICAL NAME (8) H

COMMON NAME (9) Hydrogen

CAS # (10) 133274-0

FIRE CODE HAZARD CLASSES\* (13) Inorganic Flammable Gas / Asphyxiant

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) N/A

DAYS ON SITE (20) 365

LARGEST CONTAINER (21) 200

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 Moveable/Pressurized  
 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

UNITS (22)  GAL  CU FT  LBS  TONS

MAX DAILY AMT (23) 200

AVG DAILY AMT (24) 100-200

ANNUAL WASTE AMT (25) 0

CHECK IF RADIOACTIVE (15)  (16) N/A CURIES

\*If EHS, amounts must be in lbs.

1. N/A
2.
3.

(30) HAZARDOUS COMPONENTS	(31) EHS/AHM	(32) CAS #
N/A	<input type="checkbox"/> Y <input type="checkbox"/> N	
	<input type="checkbox"/> Y <input type="checkbox"/> N	
	<input type="checkbox"/> Y <input type="checkbox"/> N	

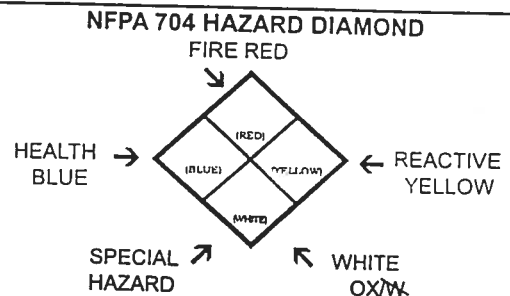
**(33) ADDITIONAL LOCALLY COLLECTED INFORMATION**  
**\*COMPLETE BLOCK (33) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.**

NFPA CLASSIFICATION \_\_\_\_\_

UN/DOT # UN 1049  
Refer to shipping papers or MSDS

DOT HAZARD CLASS Flammable Gas  
Refer to shipping papers or MSDS

UFC HAZARD CLASS \_\_\_\_\_



**MAKE AS MANY COPIES OF CHEMICAL INVENTORY FORM AS NEEDED**



Division of The BOC Group, Inc.

575 Mountain Avenue  
Murray Hill  
New Jersey 07974  
Telephone: 201-464-8100  
TWX: 710-984-7970

# MATERIAL SAFETY DATA SHEET

Welding Consumables  
and Related Products  
Conforms to OSHA 1910.1200

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## IDENTIFICATION

---

PRODUCT NAME: Hydrogen

CHEMICAL FAMILY: Inorganic  
Flammable Gas

SYNONYMS: Water Gas, Normal Hydrogen

DOT HAZARD CLASS: Flammable gas

CAS NUMBER: 133<sup>2</sup>74-0

DOT IDENTIFICATION NUMBER: UN 1049

CHEMICAL FORMULA: H<sub>2</sub>

CHEMTREC: 800-424-9300

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## HEALTH HAZARD DATA

---

### TIME WEIGHTED AVERAGE EXPOSURE LIMIT:

Hydrogen is defined as a simple asphyxiant. Oxygen levels should be maintained at greater than 18 molar percent at normal atmospheric pressure which is equivalent to a partial pressure of 135 mm Hg. (ACGIH, 1984-85), no OSHA PEL.

### SYMPTOMS OF EXPOSURE:

Inhalation: High concentrations of hydrogen so as to exclude an adequate supply of oxygen to the lungs causes dizziness, deeper breathing due to air hunger, possible nausea and eventual unconsciousness.

### TOXICOLOGICAL PROPERTIES:

Hydrogen is inactive biologically and essentially nontoxic; therefore, the major property is the exclusion of an adequate supply of oxygen to the lungs.

DATE OF ISSUE 11/1/86  
SUPERSEDES ALL PREVIOUS ISSUES

RECOMMENDED FIRST AID TREATMENT:

IMMEDIATE MEDICAL ATTENTION IS MANDATORY IN ALL CASES OF OVEREXPOSURE TO HYDROGEN. RESCUE PERSONNEL SHOULD BE EQUIPPED WITH SELF-CONTAINED BREATHING APPARATUS

Inhalation: Conscious persons should be assisted to an uncontaminated area and inhale fresh air. Quick removal from the contaminated area is most important. Unconscious persons should be moved to an uncontaminated area, given mouth-to-mouth resuscitation and supplemental oxygen. Further treatment should be symptomatic and supportive.

Hazardous Mixtures of Other Liquids, Solids, or Gases:

Hydrogen is flammable over a very wide range in air.

PHYSICAL DATA

Boiling Point: = -432°F (-252.8°C)

Liquid Density @ Boiling Point: 4.43 lb/ft<sup>3</sup> (70.96 kg/m<sup>3</sup>)

Vapor Pressure @ 70°F (21.1°C): above the critical temp. of -399.8°F (-239.9°C)

Specific Gravity @ 70°F, 1 atm (Air=1): 0.070

Solubility in Water: Very slightly

Freezing Point: -434.6°F (-259.2°C)

Appearance and Odor: Colorless, odorless gas

FIRE/EXPLOSION HAZARDS DATA

Flash Point (Method Used): Gas

Auto Ignition Temperature: 1058°F (570°C)

LEL: 4

UEL: 74.5

Extinguishing Media: Water, carbon dioxide, dry chemical

Electrical Classification: Class 1, Group B

Special Fire Fighting Procedures: If possible, stop the flow of hydrogen. Cool surrounding containers with water spray. Hydrogen burns with an almost invisible flame of relatively low thermal radiation.

Unusual Fire and Explosion Hazards: Hydrogen is very light and rises very rapidly in air. Should a hydrogen fire be extinguished and the flow of gas continue, increase ventilation to prevent an explosion hazard, particularly in the upper portions of buildings or sheds where the gas might "collect".

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**SPECIAL PRECAUTIONS**

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**Special Labeling Information:**

DOT Shipping Name: Hydrogen or Hydrogen, Compressed

DOT Hazard Class: Flammable Gas

DOT Shipping Label: Flammable gas

I.D. No.: UN 1049

**Special Handling Recommendations:**

Use only in well-ventilated areas. Valve protection caps must remain in place unless container is secured with valve outlet piped to use point. Do not drag, slide or roll cylinders. Use a suitable hand truck for cylinder movement. Use a pressure reducing regulator when connecting cylinder to lower pressure (< 3000 psig) piping or systems. Do not heat cylinder by any means to increase the discharge rate of product from the cylinder. Use a check valve or trap in the discharge line to prevent hazardous back flow into the cylinder.

For additional recommendations, consult Compressed Gas Association Pamphlets G-5, P-1, P-14, and Safety Bulletin SB-2. OSHA 1910-Subpart H

**Special Storage Recommendations:**

Protect cylinders from physical damage. Store in cool, dry, well-ventilated area away from heavily trafficked areas and emergency exits. Do not allow the temperature where cylinders are stored to exceed 130F (54C). Cylinders should be stored upright and firmly secured to prevent falling or being knocked over. Full and empty cylinders should be segregated. Use a "first in-first out" inventory system to prevent full cylinders being stored for excessive periods of time. Post "No Smoking or Open Flames" signs in the storage or use area. There should be no sources of ignition in the storage or use area.

For additional recommendations, consult Compressed Gas Association Pamphlets G-5, P-1, P-14, and Safety Bulletin SB-2. OSHA 1910 - Subpart H

**Special Packaging Recommendations:**

Hydrogen is noncorrosive and may be used with any common structural material.

**Other Recommendations or Precautions:**

Earth-ground and bond all lines and equipment associated with the hydrogen system. Electrical equipment should be nonsparking or explosion proof. Compressed gas cylinders should not be refilled except by qualified producers of compressed gases. Shipments of a compressed gas cylinder, which has not been filled by the owner or with his (written) consent, is a violation of Federal Law (49CFR).



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**REACTIVITY DATA**

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Stability: Stable

Incompatibility (Materials to Avoid): Oxizers

Hazardous Decomposition Products: None

Hazardous Polymerization: Will not occur

Conditions to Avoid: None

---

**SPILL OR LEAK PROCEDURES**

---

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Evacuate all personnel from affected area. Use appropriate protective equipment. IF leak is in user's equipment, be certain to purge piping with an inert gas prior to attempting repairs. If leak is in container or container valve, contact CHEMTREC for emergency assistance or your closest Airco location.

Waste Disposal Method:

Do not attempt to dispose of residual or unused quantities. Return in the shipping container properly labeled and valve protection cap in place to Airco for proper disposal.

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**SPECIAL PROTECTION INFORMATION**

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**Respiratory Protection:** Positive pressure air line with mask or self-contained breathing apparatus should be available for emergency use.

**Ventilation:** Hood with forced ventilation.

**Local Exhaust:** To prevent accumulation above the LEL.

**Special:** N/A

**Mechanical (Gen.):** In accordance with electrical codes.

**Other:** N/A

**Protective Gloves:** Plastic or rubber.

**Eye Protection:** Safety goggles or glasses.

**Other Protective Equipment:** Safety shoes, safety shower.

**CALIFORNIA CHEMICAL INVENTORY FORM – DESCRIPTION PAGE**

**FORM 3**

(1)  ADD  DELETE  REVISE  NO CHANGE

PAGE (2) 6 OF 3) 7

BUSINESS NAME (4) Kittyhawk Products

CHEMICAL LOCATION (Address, Area, Building, etc.) (5) North West/Outside of building

MAP # (if more than one) (6) 1 GRID # (7) 4B,C

CHEMICAL NAME (8) He

COMMON NAME (9) Helium

CAS # (10) 7440-59-7

FIRE CODE HAZARD CLASSES\* (13) Non-Flammable Gas

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

CHECK IF RADIOACTIVE (15)  (16) N/A CURIES

FED HAZARD CATEGORIES (18)  FIRE  REACTIVE  PRESSURE RELEASE  ACUTE HEALTH  CHRONIC HEALTH

STATE WASTE CODE (19) N/A

DAYS ON SITE (20) 365

LARGEST CONTAINER (21) 200

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

PLASTIC/NONMETALLIC DRUM  BAG(S)  IN MACHINERY OR EQUIP.  Other Moveable, Pressurized

MAX DAILY AMT (23) 200

AVG DAILY AMT (24) 100-200

ANNUAL WASTE AMT (25) φ

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. N/A	N/A	<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 1963  
Refer to shipping papers or MSDS

DOT HAZARD CLASS Non-Flammable Gas  
Refer to shipping papers or MSDS

UFC HAZARD CLASS \_\_\_\_\_

NFPA 704 HAZARD DIAMOND

HEALTH BLUE → (BLU) ← REACTIVE YELLOW

SPECIAL HAZARD ↗ (WH) ← WHITE OX/WX

FIRE RED (RED)

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Division of The BOC Group, Inc

575 Mountain Avenue  
Murray Hill  
New Jersey 07974  
Telephone: 201-464-8100  
TWX: 710-984-7970

# MATERIAL SAFETY DATA SHEET

## IDENTIFICATION

PRODUCT NAME: Helium,  
Refrigerated Liquid

CHEMICAL FAMILY: Inert Gas

SYNONYMS: Helium 4

DOT HAZARD CLASS: Nonflammable Gas

CAS NUMBER: 7440-59-7

DOT IDENTIFICATION NUMBER: UN 1963

CHEMICAL FORMULA: He

CHEMTREC: 800-424-9300

## HEALTH HAZARD DATA

### TIME WEIGHTED AVERAGE EXPOSURE LIMIT:

TWA: None established. Helium is defined as a simple asphyxiant. Oxygen levels should be maintained at greater than 18 percent at normal atmospheric pressure which is equivalent to a partial pressure of 135 mm Hg. (ACGIH, 1984-85)

### SYMPTOMS OF EXPOSURE:

Effects of exposure to high concentrations so as to displace the oxygen in the air necessary for life are headache, dizziness, labored breathing and eventual unconsciousness. Breathing mixtures of helium with adequate oxygen to support life modifies the voice sound so that it is higher "pitched".

Contact with cryogenic liquid can cause tissue freezing or frostbite on dermal contact or if splashed in the eyes.

Note: Except where specified, the health hazard data and most of the other data in this material safety data sheet are for Gaseous Helium. One volume of liquid helium at its boiling point and atmospheric pressure will vaporize into approx. 754 volumes of gaseous helium at 70°F (21.1°C) and 1 atmosphere.

### TOXICOLOGICAL PROPERTIES

Helium is nontoxic but the liberation of a large amount in a confined area could by displacement reduce the amount of oxygen in air below the level necessary to support life.

Frostbite effects are a change in the color of the skin to gray or white possibly followed by blistering.

Listed as Carcinogen      National Toxicology    Yes  I.A.R.C.      Yes  OSHA    Yes   
or Potential Carcinogen    Program                    No  Monographs    No                     No

### RECOMMENDED FIRST AID TREATMENT:

PROMPT MEDICAL ATTENTION IS MANDATORY IN ALL CASES OF OVEREXPOSURE TO HELIUM. RESCUE PERSONNEL SHOULD BE EQUIPPED WITH SELF-CONTAINED BREATHING APPARATUS.

DATE OF ISSUE 7/1/86

Inhalation: Conscious persons should be assisted to an uncontaminated area and inhale fresh air. Quick removal from the contaminated area is most important. Unconscious persons should be moved to an uncontaminated area, given mouth-to-mouth resuscitation and supplemental oxygen. Further treatment should be symptomatic and supportive. Treat areas exposed to liquid as for frostbite.

Eye Contact: Immediately flush with tepid water in large quantities, or with a sterile saline solution. Seek medical attention.

For dermal contact or frostbite, flush affected area with lukewarm water. DO NOT USE HOT WATER. A physician should see the patient promptly if the cryogenic "burn" has resulted in blistering of the dermal surface or deep tissue freezing.

Hazardous Mixtures of Other Liquids, Solids, or Gases

None

---

PHYSICAL DATA

---

Boiling Point: Sublimation Point -452.1°F (-268.9°C)

Liquid Density @ Boiling Point: Solid Density = 7.8 lb/ft<sup>3</sup> (125 kg/m<sup>3</sup>)

Vapor Pressure @ 70°F (21.1°C): above the critical temp of -450.3°F (268°C)

Specific Gravity @ 70°F, 1 atm (Air=1): 0.14

Solubility in Water: Negligible

Freezing Point: -456.5°F (-271.3°C)

Appearance and Odor: Colorless, odorless gas. Liquid is water white.

---

FIRE/EXPLOSION HAZARDS DATA

---

Flash Point (Method Used): N/A

Auto Ignition Temperature: N/A

LEL: N/A

UEL: N/A

Extinguishing Media: Nonflammable, inert gas

Electrical Classification: Nonhazardous

Special Fire Fighting Procedures: N/A

Unusual Fire and Explosion Hazards: N/A

**CALIFORNIA CHEMICAL INVENTORY FORM – DESCRIPTION PAGE**

(1)  ADD  DELETE  REVISE  NO CHANGE

PAGE (2) 7 OF 3) 7

BUSINESS NAME (4) Kittyhawk Products  
 CHEMICAL LOCATION (Address, Area, Building, etc.) (5) Equipment/Machinery  
 MAP # (if more than one) (6) 1 GRID # (7) 2,3DEF/4,5 FGH

CHEMICAL NAME (8) Petroleum Hydrocarbons/Additives TRADE SECRET (11)  Y  N  
 COMMON NAME (9) Hydraulic Oil AHM /\*EHS (12)  Y  N  
 CAS # (10) 64742-54-7, 64742-65-0, 7440-66-6 Mixture  
 FIRE CODE HAZARD CLASSES\* (13) CIIIB

\*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) N/A  
 PHYSICAL STATE (17)  SOLID  LIQUID  GAS CURIES  
 FED HAZARD CATEGORIES (18)  FIRE  REACTIVE  PRESSURE RELEASE  ACUTE HEALTH  CHRONIC HEALTH  
 STATE WASTE CODE (19) N/A UNITS (22)  GAL  CU FT  LBS  TONS MAX DAILY AMT (23) 55  
 DAYS ON SITE (20) 365 \*If EHS, amounts must be in lbs. AVG DAILY AMT (24) 20  
 LARGEST CONTAINER (21) 55 ANNUAL WASTE AMT (25) 4  
 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

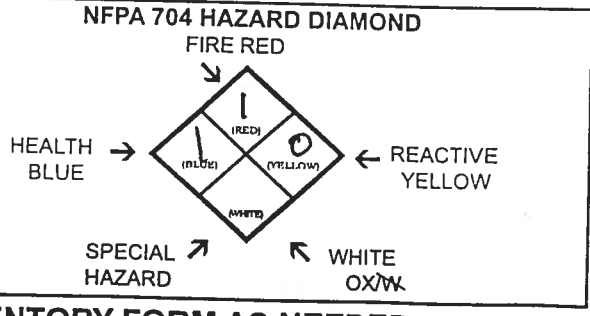
1. <u>N/A</u>
2.
3.

(30) HAZARDOUS COMPONENTS (31) EHS/AHM (32) CAS #

<u>N/A</u>	<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 # N/A Refer to shipping papers or MSDS  
 DOT HAZARD CLASS N/A Refer to shipping papers or MSDS  
 UFC HAZARD CLASS \_\_\_\_\_



**MAKE AS MANY COPIES OF CHEMICAL INVENTORY FORM AS NEEDED**

## MOBIL OIL CORPORATION MATERIAL SAFETY DATA BULLETIN

REVISED: 08/01/91

\*\*\*\*\* I. PRODUCT IDENTIFICATION \*\*\*\*\*  
MOBIL DTE 25

SUPPLIER: MOBIL OIL CORP. HEALTH EMERGENCY TELEPHONE:  
(609) 737-4411  
CHEMICAL NAMES AND SYNONYMS: PET. HYDROCARBONS AND ADDITIVES TRANSPORT EMERGENCY TELEPHONE:  
(800) 424 9300 (CHEMTREC)  
USE OR DESCRIPTION: HYDRAULIC OIL PRODUCT TECHNICAL INFORMATION:  
(800) 662-4525

## \*\*\*\*\* II. TYPICAL CHEMICAL AND PHYSICAL PROPERTIES \*\*\*\*\*

APPEARANCE: DARK AMBER LIQUID ODOR: MILD PH: NA  
VISCOSITY AT 100 F, SUS: 238.0 AT 40 C, CS: 46.0  
VISCOSITY AT 210 F, SUS: 48.0 AT 100 C, CS: 7.0  
FLASH POINT F(C): > 395 (202) (ASTM D-92)  
MELTING POINT F(C): NA POUR POINT F(C): -10 (-23)  
BOILING POINT F(C): > 600 (316)  
RELATIVE DENSITY, 15/4 C: 0.885 SOLUBILITY IN WATER: NEGLIGIBLE  
VAPOR PRESSURE-MM HG 20C: < .1

NA=NOT APPLICABLE NE=NOT ESTABLISHED D=DECOMPOSES  
FOR FURTHER INFORMATION, CONTACT YOUR LOCAL MARKETING OFFICE.

## \*\*\*\*\* III. POTENTIALLY HAZARDOUS INGREDIENTS \*\*\*\*\*

NONE

SEE SECTIONS XII AND XIII FOR REGULATORY AND FURTHER COMPOSITIONAL DATA.

SOURCES: A-ACGIH-TLV, A\*-SUGGESTED-TLV, M-MOBIL, O-OSHA, S-SUPPLIER  
NOTE: LIMITS SHOWN FOR GUIDANCE ONLY. FOLLOW APPLICABLE REGULATIONS.

## \*\*\*\*\* IV. HEALTH HAZARD DATA \*\*\*\*\*

--- INCLUDES AGGRAVATED MEDICAL CONDITIONS, IF ESTABLISHED ---  
THRESHOLD LIMIT VALUE: 5.00 MG/M3 SUGGESTED FOR OIL MIST  
EFFECTS OF OVEREXPOSURE: NOT EXPECTED TO BE A PROBLEM.

## \*\*\*\*\* V. EMERGENCY AND FIRST AID PROCEDURES \*\*\*\*\*

--- FOR PRIMARY ROUTES OF ENTRY ---  
EYE CONTACT: FLUSH WITH WATER.  
SKIN CONTACT: WASH CONTACT AREAS WITH SOAP AND WATER. HIGH PRESSURE  
ACCIDENTAL INJECTION THROUGH THE SKIN REQUIRES IMMEDIATE MEDICAL  
ATTENTION FOR POSSIBLE INCISION, IRRIGATION AND/OR DEBRIDEMENT.  
INHALATION: NOT EXPECTED TO BE A PROBLEM.  
INGESTION: NOT EXPECTED TO BE A PROBLEM. HOWEVER, IF GREATER THAN 1/2  
LITER (PINT) INGESTED, IMMEDIATELY GIVE 1 TO 2 GLASSES OF WATER AND  
CALL A PHYSICIAN, HOSPITAL EMERGENCY ROOM OR POISON CONTROL CENTER  
FOR ASSISTANCE. DO NOT INDUCE VOMITING OR GIVE ANYTHING BY MOUTH  
TO AN UNCONSCIOUS PERSON.

## \*\*\*\*\* VI. FIRE AND EXPLOSION HAZARD DATA \*\*\*\*\*

FLASH POINT F(C): &gt; 395(202) (ASTM D-92)

FLAMMABLE LIMITS. LEL: .6 UEL: 7.0

EXTINGUISHING MEDIA: CARBON DIOXIDE, FOAM, DRY CHEMICAL AND WATER FOG.

SPECIAL FIRE FIGHTING PROCEDURES: WATER OR FOAM MAY CAUSE FROTHING.

USE WATER TO KEEP FIRE EXPOSED CONTAINERS COOL. WATER SPRAY MAY BE

USED TO FLUSH SPILLS AWAY FROM EXPOSURE. FOR FIRES IN ENCLOSED

AREAS, FIREFIGHTERS MUST USE SELF-CONTAINED BREATHING APPARATUS.

PREVENT RUNOFF FROM FIRE CONTROL OR DILUTION FROM ENTERING STREAMS

OR DRINKING WATER SUPPLY.

UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE.

NFPA HAZARD ID: HEALTH: 0, FLAMMABILITY: 1, REACTIVITY: 0

## \*\*\*\*\* VII. REACTIVITY DATA \*\*\*\*\*

STABILITY (THERMAL, LIGHT, ETC.): STABLE

CONDITIONS TO AVOID: EXTREME HEAT.

INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS

HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

## \*\*\*\*\* VIII. SPILL OR LEAK PROCEDURE \*\*\*\*\*

ENVIRONMENTAL IMPACT: REPORT SPILLS AS REQUIRED TO APPROPRIATE

AUTHORITIES. U. S. COAST GUARD REGULATIONS REQUIRE IMMEDIATE

REPORTING OF SPILLS THAT COULD PEACH ANY WATERWAY INCLUDING

INTERMITTENT DRY CREEKS. REPORT SPILL TO COAST GUARD TOLL FREE

NUMBER (800) 424-8802. IN CASE OF ACCIDENT OR ROAD SPILL NOTIFY

CHEMTREC (800) 424-9300.

PROCEDURES IF MATERIAL IS RELEASED OR SPILLED: ADSORB ON FIRE RETARDANT

TREATED SAWDUST, DIATOMACEOUS EARTH, ETC. SHOVEL UP AND DISPOSE OF

AT AN APPROPRIATE WASTE DISPOSAL FACILITY IN ACCORDANCE WITH

CURRENT APPLICABLE LAWS AND REGULATIONS, AND PRODUCT

CHARACTERISTICS AT TIME OF DISPOSAL.

WASTE MANAGEMENT: PRODUCT IS SUITABLE FOR BURNING IN AN ENCLOSED,

CONTROLLED BURNER FOR FUEL VALUE OR DISPOSAL BY SUPERVISED

INCINERATION. SUCH BURNING MAY BE LIMITED PURSUANT TO THE RESOURCE

CONSERVATION AND RECOVERY ACT. IN ADDITION, THE PRODUCT IS

SUITABLE FOR PROCESSING BY AN APPROVED RECYCLING FACILITY OR CAN BE

DISPOSED OF AT ANY GOVERNMENT APPROVED WASTE DISPOSAL FACILITY.

USE OF THESE METHODS IS SUBJECT TO USER COMPLIANCE WITH APPLICABLE

LAWS AND REGULATIONS AND CONSIDERATION OF PRODUCT CHARACTERISTICS

AT TIME OF DISPOSAL.

## \*\*\*\*\* IX. SPECIAL PROTECTION INFORMATION \*\*\*\*\*

EYE PROTECTION: NO SPECIAL EQUIPMENT REQUIRED.

SKIN PROTECTION: NO SPECIAL EQUIPMENT REQUIRED. HOWEVER, GOOD PERSONAL

HYGIENE PRACTICES SHOULD ALWAYS BE FOLLOWED.

RESPIRATORY PROTECTION: NO SPECIAL REQUIREMENTS UNDER ORDINARY

CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.

VENTILATION: NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE

AND WITH ADEQUATE VENTILATION.

## \*\*\*\*\* X. SPECIAL PRECAUTIONS \*\*\*\*\*

\*\* NO SPECIAL PRECAUTIONS REQUIRED.

\*\*\*\*\* XI. TOXICOLOGICAL DATA \*\*\*\*\*

---ACUTE TOXICOLOGY---

ORAL TOXICITY (RATS): SLIGHTLY TOXIC (ESTIMATED) ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

DERMAL TOXICITY (RABBITS): SLIGHTLY TOXIC (ESTIMATED) ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

INHALATION TOXICITY (RATS): NOT APPLICABLE ---HARMFUL CONCENTRATIONS OF MISTS AND/OR VAPORS ARE UNLIKELY TO BE ENCOUNTERED THROUGH ANY CUSTOMARY OR REASONABLY FORESEEABLE HANDLING, USE, OR MISUSE OF THIS PRODUCT.

EYE IRRITATION (RABBITS): EXPECTED TO BE NON-IRRITATING. ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

SKIN IRRITATION (RABBITS): EXPECTED TO BE NON-IRRITATING. ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

---SUBCHRONIC TOXICOLOGY (SUMMARY)---

SEVERELY SOLVENT REFINED AND SEVERELY HYDROTREATED MINERAL BASE OILS HAVE BEEN TESTED AT MOBIL ENVIRONMENTAL AND HEALTH SCIENCES LABORATORY BY DERMAL APPLICATION TO RATS 5 DAYS/WEEK FOR 90 DAYS AT DOSES SIGNIFICANTLY HIGHER THAN THOSE EXPECTED DURING NORMAL INDUSTRIAL EXPOSURE. EXTENSIVE EVALUATIONS INCLUDING MICROSCOPIC EXAMINATION OF INTERNAL ORGANS AND CLINICAL CHEMISTRY OF BODY FLUIDS, SHOWED NO ADVERSE EFFECTS.

---CHRONIC TOXICOLOGY (SUMMARY)---

THE BASE OILS IN THIS PRODUCT ARE SEVERELY SOLVENT REFINED AND/OR SEVERELY HYDROTREATED. CHRONIC MOUSE SKIN PAINTING STUDIES OF SIMILAR OILS SHOWED NO EVIDENCE OF CARCINOGENIC EFFECTS.





## KITTYHAWK PRODUCTS

HOT ISOSTATIC PROCESSING • R & D • ISO 9002 REGISTERED  
11651 MONARCH STREET • GARDEN GROVE, CA 92841  
Tel. (714) 895-5024 • Fax (714) 893-8709

# Memorandum

**To:** Captain Stephen Shirley (Fire Department)  
**From:** Steve Belloise- VP Quality Assurance  
**Date:** 2/26/01  
**Re:** Disclosure Program

---

### Enclosed:

1. **Business information Form 1 with site plan and process description/equipment list attached.**
2. **Six Form 3 inventory forms with MSDS attached.**
3. **Kittyhawk Products Emergency/Evacuation Plan which includes:**
  - **Personnel Emergency Notifications and Responsibilities**
  - **Employee Evacuation and staging areas**
  - **Employee Responsibilities**
  - **Training Requirements**
  - **Emergency Notifications**
  - **Prevention**

**Please contact me if you require any additional information.**

Thank you,

**Steve Belloise**

# Questions & Answers

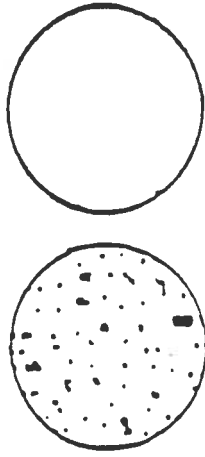
**Q. What is HIP?**

**A.** Hot Isostatic Processing is a process in which components are subjected to the simultaneous application of heat & high pressure in an inert gas medium. Using "hot isostatic pressure", the material is changed, in simple terms, to a 'plastic state' which collapses the voids. The clean surfaces of the voids bond together making components or parts stronger. In most cases, this does not change or alter the shape of the parts.

**Q. What are the benefits?**

**A.** Create high strength bonds.  
 Improve mechanical properties.  
 Improve fatigue life.  
 Remove internal porosity.  
 Improve the x-ray standard.  
 Improve property scatter.  
 Reduce rejection rate.  
 Reduce scrap losses.  
 Improved machine surface quality.  
 Reduce machining & weld repair.

## Photo Micrographs



Before: Microvoidage in as cast condition A356 aluminum.

After: Microvoidage eliminated by HIP (970 °F / 15 KSI / 2 hrs).

**Q. How long is turn-around time?**

**A.** Kittyhawk Products not only provides the best customer service, but we offer the fastest turn-around time in the HIP'ing industry at 48 hours!

**Q. Why use HIP?**

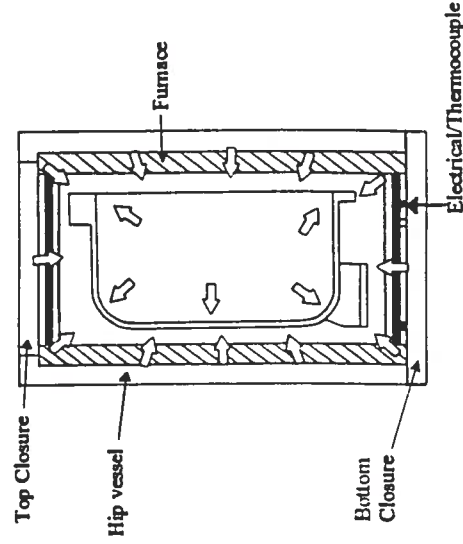
**A.** The HIP process not only results in higher quality and improved mechanical properties, but it accomplishes this at greatly reduced costs. Tooling is simple and inexpensive, scrap is dramatically reduced and machining is minimized. Savings also result from the rejuvenation of old parts. Additionally, because HIP is not size or shape dependent and can be used on a wide variety of materials, it allows for increased design flexibility.

**Q. What gets HIPed?**

**A.** Turbine and airframe components.  
 Metal matrix composites and cladding.  
 Powdered metal or ceramic components and billets.  
 Medical implants.  
 Engine run components. (Rejuvenation)  
 Any metal or ceramic based products that require integrity, or premium surface finishes.  
 Assemblies requiring Diffusion Bonding.  
 High pressure valves & pumps.  
 Automotive parts.  
 Recreational parts that require premium surface finishes.

## Schematic of a typical HIP vessel

Big arrows indicate "Hot Isostatic Pressure"  
 (Is the equal pressure from every direction)



**Q. How is pricing established?**

**A.** Pricing is based on size and/or weight, what kind of material and at which cycle your parts need to run. Combining or "piggybacking" your part with other customers that run at the same cycle will produce significant cost savings. Bulk prices per pound start as low as \$1.50. Full load pricing is based on the operational cost of the unit on a per cycle basis.

# KITTYHAWK PRODUCTS TYPICAL CYCLES

Material	Parameters	Alloys
Aluminum	950°F/2-6 hrs/15ksi	A201, A206 335, A335, 356,
Aluminum	970°F/2-3 hrs/15ksi	357, A357, A201, A206 C.P., Ti-6-4, Ti-5-2.5, Ti-6-4-4-2, Ti-6-2-4-6, Ti-6-6-2, Ti-8-1-1
Titanium	1650°F/2 hrs/15ksi 1750°F/2-4 hrs/15ksi	304, 316, 321, 347, CF-8, CF-M, 15-5PH, 4130, 17-4PH, IN718, H13, RENE 220, HSS 4340
Steel	2050°F/2-4 hrs/15ksi 2100°F/3-4 hrs/15ksi 2125°F/3-4 hrs/15ksi	
Superalloy	2050°F/3-4 hrs/15ksi 2125°F/2-4 hrs/15ksi	IN718, 13-8 MO IN 718, RENE 77, RENE 80
Superalloy	2165°F/4 hrs/15ksi 2175°F/4 hrs/15ksi	X-40, X-45, RENE 77, RENE 80, GTD111, IN718, U500, IN713, IN713LC
Superalloy	2200°F/4 hrs/15ksi	
Medical	2225°F/4 hrs/15ksi	F75

## EQUIPMENT CAPABILITIES

Unit #	Furnace	DIA.	HT.	Temperature Degrees°F	Pressure PSI
18	MOLY	18 in.	60 in.	2350°F	15,000
40	MOLY	40 in.	60 in.	2300°F	15,000
46	MOLY	46 in.	80 in.	2300°F	15,000

Kittyhawk, Inc  
11651 Monarch Street Garden Grove, CA 92841  
Phone: 714-895-5024 Fax 714-893-8709



# Fax

**To:** Capt. Tom Powell (GG-Fire) **From:** Steve Belloise  
 Dept.

**Fax:** 714-741-5640 **Pages:** 2

**Phone:** **Date:** 04/05/06


**Re:** Tier Two Emergency & **CC:**  
 Hazardous Inventory 2006

Urgent  For Review  Please Comment  Please Reply  Please Recycle

Capt. Powell,

Attached is my Tier Two completed form for your records.  
Please call me if you have any questions or require  
any additional information.

Thank you,

  
Steve Belloise  
VP Quality Assurance  
Kittyhawk Products

Tier Two  
EMERGENCY  
AND  
HAZARDOUS  
CHEMICAL  
INVENTORY

Specific  
Information  
by Chemical

FOR  
OFFICIAL  
USE  
ONLY

Important: Read all instructions before completing form

Reporting Period From January 1 to December 31, 2006

[X] Check if information below is identical to the information submitted last year. 01

Facility Identification

Name Kittyhawk Products  
Street 11651 Monarch Street  
City Garden Grove County Orange State CA Zip 92841  
SIC Code 3599 Dun & Brad Number 02-486-5532

Owner/Operator Name

Name Charles Barre Phone (714) 895-5024  
Mail Address 11651 Monarch Street  
Garden Grove, CA 92841  
Emergency Contact

Name Charles Barre Title Owner  
Phone (714) 895-5024 24 Hr. Phone (714) 745-8950

Name Dennis Poor Title President  
Phone (714) 895-5024 24 Hr. Phone 301-701-78

Chemical Description

CAS 7440-37-1 Trade ARGON Secret

Check all that apply: Pure  Mix  Solid  Liquid  Gas  EHS Name

Physical and Health Hazards (check all that apply)

Fire of Pressure  
 Reactivity  
 Immediate (acute)  
 Delayed (chronic)

Inventory

Max. Daily Amount (code) 0 4  
Avg. Daily Amount (code) 0 4  
No. of Days On-site (days) 3 6 5

Container Type Pressure Temperature

Storage Codes and Locations (Non-Confidential)

Table with 3 columns: A, 2, 7. Row 1: Northwest side of Building (Outside) Storage Locations

CAS Chem. Name Trade Secret

Check all that apply: Pure  Mix  Solid  Liquid  Gas  EHS Name

Max. Daily Amount (code) Avg. Daily Amount (code) No. of Days On-site (days)

Container Type Pressure Temperature

Storage Codes and Locations (Non-Confidential)

CAS Chem. Name Trade Secret

Check all that apply: Pure  Mix  Solid  Liquid  Gas  EHS Name

Max. Daily Amount (code) Avg. Daily Amount (code) No. of Days On-site (days)

Container Type Pressure Temperature

Storage Codes and Locations (Non-Confidential)

CAS Chem. Name Trade Secret

Check all that apply: Pure  Mix  Solid  Liquid  Gas  EHS Name

Max. Daily Amount (code) Avg. Daily Amount (code) No. of Days On-site (days)

Container Type Pressure Temperature

Storage Codes and Locations (Non-Confidential)

Certification (Read and sign after completing all sections)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in pages one through 1 and that based on my inquiry of those individuals responsible for obtaining the information, I believe that the information is true, accurate, and complete.

Name and official title of owner/operator OR owner/operator's authorized representative: Steve Belluscio-VP, Quality Assurance Signature: [Signature] Date signed: 04/05/06

Optional Attachments:  I have attached a site plan  I have attached a list of site coordinate abbreviations  I have attached a description of dikes and other safeguards measures



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**facsimile transmittal**

To: Capt. Steve Shirley (Local Fire Dept) Fax: 714/741-5640

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From: Steve Belloise Date: 2/20/01

---

Re: Tier 2 Emergency & Hazardous Chemical Inventory Pages: 2

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Urgent     For Review     Please Comment     Please Reply     Please Recycle

The following is Kittyhawk Products Tier 2 reporting form for 2001. If I am required to send this out to other agencies please contact me with the appropriate information. Please contact me if you have any questions or require any additional information.

Thank you,

Steve Belloise  
VP Quality Assurance

.....

**Tier Two  
EMERGENCY  
AND  
HAZARDOUS  
CHEMICAL  
INVENTORY**

**Facility Identification**  
 Name KITTYHAWK PRODUCTS  
 Street 11651 MONARCH ST.  
 City GARDEN GROVE County ORANGE State CA Zip 92841  
 SIC Code 3398-0000 Dun & Brad Number 02-486-5532

FOR OFFICIAL USE ONLY  
 ID # \_\_\_\_\_  
 Date Received \_\_\_\_\_

**Important: Read all instructions before completing form** Reporting Period From January 1 to December 31, 2000

Check if information below is identical to the information submitted last year.

**Owner/Operator Name** 714  
**Emergency Contact**  
 Name \_\_\_\_\_ Title \_\_\_\_\_  
 Phone \_\_\_\_\_ 24 Hr. Phone \_\_\_\_\_  
 Name \_\_\_\_\_ Title \_\_\_\_\_  
 Phone \_\_\_\_\_ 24 Hr. Phone \_\_\_\_\_

**Chemical Description**

CAS Chem. Name 7440-37-1 Trade Secret   
ARSENIC  
 Check all that apply:  Pure  Mix  Solid  Liquid  Gas  EHS  
 EHS Name \_\_\_\_\_

CAS Chem. Name \_\_\_\_\_ Trade Secret   
 Check all that apply:  Pure  Mix  Solid  Liquid  Gas  EHS  
 EHS Name \_\_\_\_\_

CAS Chem. Name \_\_\_\_\_ Trade Secret   
 Check all that apply:  Pure  Mix  Solid  Liquid  Gas  EHS  
 EHS Name \_\_\_\_\_

**Physical and Health Hazards (check all that apply)**  
 Fire  Sudden Release of Pressure  Reactivity  Immediate (acute)  Delayed (chronic)  
 Sudden Release of Pressure  Reactivity  Immediate (acute)  Delayed (chronic)  
 Fire  Sudden Release of Pressure  Reactivity  Immediate (acute)  Delayed (chronic)

**Inventory**  
 Max. Daily Amount (code) 04  
 Avg. Daily Amount (code) 04  
 No. of Days On-site (days) 365

**Inventory**  
 Max. Daily Amount (code) \_\_\_\_\_  
 Avg. Daily Amount (code) \_\_\_\_\_  
 No. of Days On-site (days) \_\_\_\_\_

**Inventory**  
 Max. Daily Amount (code) \_\_\_\_\_  
 Avg. Daily Amount (code) \_\_\_\_\_  
 No. of Days On-site (days) \_\_\_\_\_

**Inventory**  
 Max. Daily Amount (code) \_\_\_\_\_  
 Avg. Daily Amount (code) \_\_\_\_\_  
 No. of Days On-site (days) \_\_\_\_\_

**Storage Codes and Locations (Non-Confidential)**  
 Storage Locations  
NORTH WEST SIDE OF BUILDING.

**Certification (Read and sign after completing all sections)**  
 I certify under penalty of law that I have personally examined and am familiar with the information submitted in pages one through 1, and that based on my inquiry of those individuals responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.  
 Name and official title of owner/operator OR owner/operator's authorized representative STEVE BELLOISE Signature Steve Belloise Date signed 3/1/00  
 Optional Attachments  
 I have attached a site plan  
 I have attached a list of site coordinate abbreviations  
 I have attached a description of dikes and other safeguards measures

-607-3708-