



**FIRE SAFETY SURVEY
GARDEN GROVE FIRE DEPARTMENT**

11301 Acacia Parkway, Garden Grove, CA 92842
Bus 714-741-5600 Fax 714-741-5640

File # 8965
Fire District 2425
Inspector FPB Shift N
Next Insp 7 / 2013
IR 3

Occupant or DBA GARDEN GROVE MEDICAL PLAZA Business Phone 714 537-5160

Address 12555 GARDEN GROVE Blvd Suite _____ Zip 92843

Business Owner PRIME HEALTH CARE SERVICES Phone 909 464-8896

Emergency Contact [REDACTED] Phone [REDACTED]

Group _____ Load _____ Sprinklers F/P/N F 5 yr. Cert. 9 / 2012 Haz Mat

Fire Permits sent email 5/7/13
741031 NON-FLAM. COMP. GASES, 801031 HAZARDOUS MATERIALS - use, handling or storage,

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

SIGNS

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

EXITS

- Provide/maintain approved panic hardware (CFC 1008.1.9)
- Remove locks, chains, bolts or bars from exit door (CFC 1008.1.8)
- Remove exit door/hardware (CFC 1008.1.8.5)
Location _____
- Remove exit obstruction (CFC 1028.3)
- Provide/maintain illuminated exit sign(s) (CFC 1011.2)
- Provide and maintain approved emergency lighting (CFC 1006.1)

ACCESS

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

FIRE PROTECTION EQUIP. AND SYS.

- Provide ___ extinguishers ___2A10BC ___40BC ___K (CFC 906.1)
- Service and tag extinguisher(s) (CFC 901.6)
- Hang extinguisher(s) 3.5'-5' from floor (Title 19, Sec.567.6)
- Clean filters, ducts, hood above cooking surface (CFC 904.11.6.4)
- Service auto-extinguishing system semi-annually (CFC 904.11.6.3)
- 5 yr certification on sprinkler/standpipe system (Title 19, Sect. 904)

ASSEMBLY OCCUPANCIES

- Post maximum occupancy load sign (CFC 1004.3)
- Remove combustible decorative material (CFC 807.1.2)
- Remove storage under stairway (CFC 315.2.2)

ELECTRICAL SAFETY PRE-CAUTION:

- Discontinue use of extension cords (CFC 605.6)
- Keep 30" clear for access in front of electrical panel (CFC 605.3)
- Provide/replace electrical ___cover ___socket ___power strip (CFC 605.1)
Location _____

HAZ-MAT SAFETY PRE-CAUTIONS

Complete Hazardous Materials Disclosure submittal
~~714-741-5628~~ (CFC 2701.5.1, 2701.5.2)
website: www.esubmit.ocgov.com

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

MISCELLANEOUS

- Lower storage ___18" below sprinklers or ___2' from ceiling (CFC 315.2.1)
- Secure compressed gas cylinders (CFC 3003.5.3)
- Post ___Business License ___Fire Department Permit (CFC 105.6)

ADDITIONAL VIOLATIONS AND/OR NOTES

NO VIOLATIONS

Maintain clear path to exit door from office: suite 402. ✓ ok 6/11/13

Patch ceiling in EVS closet 3rd fl - ✓ ok 6/11/13

Business representative signature X Paul Hall Date 5-21-13

Inspector ID # S. Soltis 3303 Date 5-21-13

Cleared ___/___/___ Mailback card due ___/___/___ Re-inspection date 6/11/13 Final Notice ___/___/___

Zimbra**sabrinas@ci.garden-grove.ca.us**

e-submit for 12555 Garden grove

From : Sabrina Soltis <sabrinas@ci.garden-grove.ca.us> Mon, May 19, 2014 08:59 AM
Subject : e-submit for 12555 Garden grove
To : David Baker <dbaker@primehealthcare.com>
Cc : Richard Bravo <rbravo@primehealthcare.com>

Gentlemen ~

We are so close to you guys being done with this initial e-submit requirement. You submitted for 12555 Garden Grove on 4/2/14, I declined the submission that day, for the reason that the emergency plan was not filled out. If you could sign back in, and fill out the business emergency plan page then resubmit for that address, I will be able to accept the submittal and that building will be cleared of all pending violations.

Thank you for your prompt attention to the matter.

Sabrina Soltis
Senior Fire Protection Specialist
Garden Grove Fire Dept
714-741-5630 (office)
714-741-5640 (fax)
sabrinas@ci.garden-grove.ca.us



GARDEN GROVE FIRE DEPARTMENT

11301 Acacia Parkway, P. O. Box 3070
Garden Grove, CA 92842 (714) 741-5600

FINAL NOTICE AND ORDER OF THE FIRE CHIEF

Date 3/5/2014

Address of violation(s): 12555 Garden Grove Insp. No 8965

Occupant or DBA: Garden Grove Medical Plaza

Business Owner Information:

Building Owner Information:

Owner: Prime Health Care

Owner: _____

Address: _____

Address: _____

City: _____

City: _____

Phone: _____ Zip: _____

Phone: _____ Zip: _____

A fire safety inspection at the above-named occupancy revealed violation(s) of the California Fire Code. You were provided written notification of the violation(s) and a reinspection was scheduled for 6/11/13, 9/2013.

Upon reinspection, the following violation(s) was/were found to be uncorrected:

Failure to complete Hazardous Materials submittal online (E-submit)

Pursuant to Section 110.4 of the 2013 California Fire Code as adopted by Section 18.04.010 of the Garden Grove Municipal Code, you are hereby ordered to make all corrections as listed.

A FINAL reinspection will be made on March 26, 2014. Failure to comply with all items of this order listed above constitutes a criminal offense and may subject the violator to criminal prosecution, administrative fines in an amount up to \$1,000 per violation and/or other enforcement actions as available.

S. Soltis 3303
Inspector

Condition upon Final reinspection: _____

Inspector Signature: _____ Date: _____

Administrative Citation issued on _____



GARDEN GROVE FIRE DEPARTMENT

11301 Acacia Parkway, P. O. Box 3070
Garden Grove, CA 92842 (714) 741-5600

FINAL NOTICE

AND ORDER OF THE FIRE CHIEF

Date 3/5/2014

Address of violation(s): 12555 Garden Grove Insp. No 8965

Occupant or DBA: Garden Grove Medical Plaza

Business Owner Information:

Building Owner Information:

Owner: Prime Health Care

Owner: _____

Address: _____

Address: _____

City: _____

City: _____

Phone: _____ Zip: _____

Phone: _____ Zip: _____

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S. Soltis 3303
Inspector

Condition upon Final reinspection: _____

Inspector Signature: _____ Date: _____

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**FIRE SAFETY SURVEY
GARDEN GROVE FIRE DEPARTMENT**

11301 Acacia Parkway, Garden Grove, CA 92842
Bus 714-741-5600 Fax 714-741-5640

File # 8965
Fire District 2425
Inspector FPB Shift N
Next Insp 7 / 2013
IR 3

Occupant or DBA	GARDEN GROVE MEDICAL PLAZA	Business Phone	714 537-5160
Address	12555 GARDEN GROVE Blvd	Suite	
		Zip	92843
Business Owner	PRIME HEALTH CARE SERVICES	Phone	909 464-8896
Emergency Contact	[REDACTED]	Phone	[REDACTED]
Group	Load	Sprinklers F/P/N	F 5 yr. Cert. 9 / 2012 Haz Mat <input checked="" type="checkbox"/>

Fire Permits *sent email 5/7/13*
41031 NON-FLAM. COMP. GASES, 801031 HAZARDOUS MATERIALS - use, handling or storage,

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

- SIGNS**
- Provide address visible from the street (CFC 505.1)
 - Provide hazardous materials warning signs (CFC 2703.5)
- EXITS**
- Provide/maintain approved panic hardware (CFC 1008.1.9)
 - Remove locks, chains, bolts or bars from exit door (CFC 1008.1.8)
 - Remove exit door/hardware (CFC 1008.1.8.5)
Location _____
 - Remove exit obstruction (CFC 1028.3)
 - Provide/maintain illuminated exit sign(s) (CFC 1011.2)
 - Provide and maintain approved emergency lighting (CFC 1006.1)
- ACCESS**
- Provide outside Knox Box (CFC 506.1)
 - Remove obstructions to fire apparatus access (CFC 503.4)
- FIRE PROTECTION EQUIP. AND SYS.**
- Provide ___ extinguishers ___2A10BC ___40BC ___K (CFC 906.1)
 - Service and tag extinguisher(s) (CFC 901.6)
 - Hang extinguisher(s) 3.5'-5' from floor (Title 19, Sec.567.6)
 - Clean filters, ducts, hood above cooking surface (CFC 904.11.6.4)
 - Service auto-extinguishing system semi-annually (CFC 904.11.6.3)
 - 5 yr certification on sprinkler/standpipe system (Title 19, Sect. 904)
- ASSEMBLY OCCUPANCIES**
- Post maximum occupancy load sign (CFC 1004.3)
 - Remove combustible decorative material (CFC 807.1.2)
 - Remove storage under stairway (CFC 315.2.2)
- ELECTRICAL SAFETY PRE-CAUTION!**
- Discontinue use of extension cords (CFC 605.6)
 - Keep 30" clear for access in front of electrical panel (CFC 605.3)
 - Provide/replace electrical ___cover ___socket ___power strip (CFC 605.1)
Location _____
- HAZ-MAT SAFETY PRE-CAUTIONS**
- Complete Hazardous Materials Disclosure submittal 714-741-5628 (CFC 2701.5.1, 2701.5.2)
website: www.esubmit.ocgov.com
 - Provide approved cabinet if more than 10 gal. flammable liquids (CFC 3404.3.4.3)
 - Provide approved safety containers(s) for flammable liquids (CFC 3404.3.1)
- MISCELLANEOUS**
- Lower storage ___18" below sprinklers or ___2' from ceiling (CFC 315.2.1)
 - Secure compressed gas cylinders (CFC 3003.5.3)
 - Post ___Business License ___Fire Department Permit (CFC 105.6)

ADDITIONAL VIOLATIONS AND/OR NOTES NO VIOLATIONS

Maintain clear path to exit door from office suite 402. ✓ ok 6/11/13
etch ceiling in EVS closet 3rd fl - ✓ ok 6/11/13
Business representative signature *X [Signature]* Date *5-21-13*
Inspector ID # *S. Soltis 3303* Date *5-21-13*

Cleared ___/___/___ Mailback card due ___/___/___ Re-inspection date *6/11/13* Final Notice ___/___/___

Zimbra**sabrinas@ci.garden-grove.ca.us**

e-submit for 12555 Garden grove

From : Sabrina Soltis <sabrinas@ci.garden-grove.ca.us> Mon, May 19, 2014 08:59 AM
Subject : e-submit for 12555 Garden grove
To : David Baker <dbaker@primehealthcare.com>
Cc : Richard Bravo <rbravo@primehealthcare.com>

Gentlemen ~

We are so close to you guys being done with this initial e-submit requirement. You submitted for 12555 Garden Grove on 4/2/14, I declined the submission that day, for the reason that the emergency plan was not filled out. If you could sign back in, and fill out the business emergency plan page then resubmit for that address, I will be able to accept the submittal and that building will be cleared of all pending violations.

Thank you for your prompt attention to the matter.

Sabrina Soltis
Senior Fire Protection Specialist
Garden Grove Fire Dept
714-741-5630 (office)
714-741-5640 (fax)
sabrinas@ci.garden-grove.ca.us



**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: GARDEN GROVE MEDICAL PLAZA **Telephone:** 714 537-5160
Site Address: 12555 GARDEN GROVE BLVD **Zip Code:** 92813

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 [Redacted] Signature [Redacted]
 Job Title Director of Facilities Date 5-12-10
 Fire Department Inspector B. Hansen ID # 0020



**FIRE SAFETY SURVEY
GARDEN GROVE FIRE DEPARTMENT**

11301 Acacia Parkway, Garden Grove, CA 92842
Bus 714-741-5600 Fax 714-741-5640

new 8965

File # **354**
Fire District **2425**
Inspector **FPB** Shift **N**
Next Insp **7 / 2009**

Occupant or DBA GARDEN GROVE MEDICAL PLAZA Business Phone 714 537-5160

Address 12555 GARDEN GROVE Blvd Suite _____ Zip 92843

Business Owner Tenet Health System Prime Health Care Services Phone 714-537-5160
~~949-724-9883~~

Emergency Contact [REDACTED] Phone [REDACTED]

Group _____ Load _____ Sprinklers F/P/N F 5 yr. Cert. 07/21/2002 Haz Mat

Fire Permits

801031 HAZARDOUS MATERIALS - use, handling or storage,

4/2007

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

SIGNS

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

EXITS

- Provide/maintain approved panic hardware (CFC 1008.1.9)
- Remove locks, chains, bolts or bars from exit door (CFC 1008.1.8)
- Remove exit door/hardware (CFC 1008.1.8.5)
Location _____
- Remove exit obstruction (CFC 1028.3)
- Provide/maintain illuminated exit sign(s) (CFC 1011.2) *replace exist 5th W W 5th 4th*
- Provide and maintain approved emergency lighting (CFC 1006.1)

ACCESS

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

FIRE PROTECTION EQUIP. AND SYS.

- Provide ___ extinguishers ___2A10BC ___40BC ___K (CFC 906.1)
- Service and tag extinguisher(s) (CFC 901.6)
- Hang extinguisher(s) 3.5'-5' from floor (Title 19, Sec.567.6)
- Clean filters, ducts , hood above cooking surface (CFC 904.11.6.4)
- Service auto-extinguishing system semi-annually (CFC 904.11.6.3)
- 5 yr certification on sprinkler/standpipe system (Title 19, Sect. 904)

ADDITIONAL VIOLATIONS AND/OR NOTES

Exit signs need replacement: 5th #1 E+W; 4th #1 E+W; 3rd W+E

- Check security camera storage on reinspection

ASSEMBLY OCCUPANCIES

- Post maximum occupancy load sign (CFC 1004.3)
- Remove combustibile decorative material (CFC 807.1.2)
- Remove storage under stairway (CFC 315.2.2)

ELECTRICAL SAFETY PRE-CAUTION:

- Discontinue use of extension cords (CFC 605.6)
- Keep 30" clear for access in front of electrical panel (CFC 605.3)
- Provide/replace electrical ___cover ___socket ___power strip (CFC 605.1)
Location _____

HAZ-MAT SAFETY PRE-CAUTIONS

- Complete Hazardous Materials Disclosure packet 714-741-5636 (CFC 2701.5.1)
- Provide approved cabinet if more than 10 gal. flammable liquids (CFC 3404.3.4.3)
- Provide approved safety containers(s) for flammable liquids (CFC 3404.3.1)

MISCELLANEOUS

- Lower storage ___18" below sprinklers or ___2' from ceiling (CFC 315.2.1)
- Secure compressed gas cylinders (CFC 3003.5.3)
- Post ___Business License ___Fire Department Permit (CFC 105.6)

NO VIOLATIONS

Business representative signature [Signature] Date 7-16-09

Inspector ID # S. Solis 3303 Date 7/16/09

Cleared 8/17/09 Mailback card due 1/1 Re-inspection date 8/16/09 Final Notice 1/1



CITY OF GARDEN GROVE FIRE DEPARTMENT

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

FORM 1

Hazardous Materials Business Information Form

Page ____ of ____ 3

BUSINESS INFORMATION

FACILITY # (Supplied by GGFD)	3 0 0 3 5	BEGINNING DATE	1	ENDING DATE	2
BUSINESS NAME	GARDEN GROVE MEDICAL PLAZA			BUSINESS PHONE	5
BUSINESS SITE ADDRESS					
12555 GARDEN GROVE BLVD					
CITY	GARDEN GROVE		7	STATE	8
			CA	ZIP	92843
DUN & BRADSTREET	10	SIC CODE (4 DIGIT #)	11	FIRE DISTRICT	12
			8062		
COUNTY	ORANGE				
BUSINESS OPERATOR NAME	PRIME HEALTH CARE SERVICES			OPERATOR'S PHONE	15
				(909) 464-8896	

BUSINESS OWNER

OWNER NAME	PRIME HEALTH CARE SERVICES			OWNER PHONE	17
					(909) 464-8896
OWNER MAILING ADDRESS					
12479 CENTRAL AVE					
CITY	CHINO		19	STATE	20
			CA	ZIP	91710

ENVIRONMENTAL CONTACT

CONTACT NAME	[REDACTED]			CONTACT PHONE	23
					[REDACTED]
CONTACT MAILING ADDRESS					
12601 GARDEN GROVE BLVD					
CITY	GARDEN GROVE		25	STATE	26
			CA	ZIP	92843

PRIMARY

EMERGENCY CONTACTS

SECONDARY

NAME	[REDACTED]		28	NAME	RICHARD BRAVO		33
TITLE	DIRECTOR OF FACILITIES		29	TITLE	TECH. COORDINATOR		34
BUSINESS PHONE	714 741-3395		30	BUSINESS PHONE	714 741-3366		35
24-HR. PHONE	[REDACTED]		31	24-HR. PHONE	[REDACTED]		36
PAGER #	[REDACTED]		32	PAGER #	[REDACTED]		37

ADDITIONAL LOCALLY COLLECTED INFORMATION

DESCRIBE THE TYPE OF BUSINESS OPERATION:	HOSPITAL		33	TOTAL # OF EMPLOYEES	39
				620	
BILLING ADDRESS (IF DIFFERENT FROM ABOVE)					
PROPERTY OWNER NAME	42	ADDRESS	43	PHONE	44
PRIME HEALTH CARE SERVICES		12479 CENTRAL AVE		909 464-8896	

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.

[REDACTED]	45	DATE	46
NAME OF DOCUMENT PREPARER (print)			
TITLE OF SIGNER	48	TITLE OF DOCUMENT PREPARER	50
Director of Facilities -			



**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: GARDEN GROVE MEDICAL PLAZA **Telephone:** 714 741 395
Site Address: 12555 GARDEN GROVE BLVD **Zip Code:** 92843

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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

[Redacted]

Signature

[Redacted]

Job Title

Director of Facilities

Date

11-6-08



Hazardous Material Disclosure

Business Information / Chemical Inventory / Business Emergency Plan



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

Address: 12555 GARDEN GROVE BLVD
 Occupant or DBA: GARDEN GROVE MEDICAL PLAZA
 Owner/Manager: _____

Date: 5/6/08
 File No: 354
 Phone: _____

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:

Responsible Party: [REDACTED] 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. MACIAS ID #: _____

Condition Upon Re-inspection: _____ Date: _____



CITY OF GARDEN GROVE FIRE DEPARTMENT

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

Hazardous Materials Business Information Form

BUSINESS INFORMATION

FACILITY (SFD)		3 0 0 3 5	BEGINNING DATE	1 1	ENDING DATE	2
			5-6-08		5-6-09	
BUSINESS NAME				4	BUSINESS PHONE	
Garden Grove Hospital					714 537-5160	
BUSINESS SITE ADDRESS						
12555 12601 Garden Grove Blvd.						
CITY			7	STATE	8	ZIP
GARDEN GROVE				CA		92843
DUN & BRADSTREET			10	SIC CODE (4 DIGIT #)		11
				8062		FIRE DISTRICT
COUNTY						
ORANGE						
BUSINESS OPERATOR NAME				14	OPERATOR'S PHONE	
Tenet Health Care						

BUSINESS OWNER

OWNER NAME		16	OWNER PHONE		17
Tenet Health Corp.			714 428-6800		
OWNER MAILING ADDRESS					
3 MacArthur place suite 300					
CITY			19	STATE	20
San Ana				CA	
				ZIP	21
				90207	

ENVIRONMENTAL CONTACT

CONTACT NAME		22	CONTACT PHONE		23
[REDACTED]			714 741-3395		
CONTACT MAILING ADDRESS					
12601 Garden Grove Blvd.					
CITY			25	STATE	26
Garden Grove				CA	
				ZIP	27
				92843	

PRIMARY

EMERGENCY CONTACTS

SECONDARY

NAME	28	NAME	33
[REDACTED]		Richard Bravo	
TITLE	29	TITLE	34
Director of Facilities		Tech Coordinator.	
BUSINESS PHONE	30	BUSINESS PHONE	35
714 741 3395		714 741-3366	
24-HR. PHONE	31	24-HR. PHONE	36
[REDACTED]			
PAGER #	32	PAGER #	37
[REDACTED]			

ADDITIONAL LOCALLY COLLECTED INFORMATION

DESCRIBE THE TYPE OF BUSINESS OPERATION:		38	TOTAL # OF EMPLOYEES	39
Hospital			620	
BILLING ADDRESS (IF DIFFERENT FROM ABOVE)			40	ATTENTION
				41
PROPERTY OWNER NAME	42	ADDRESS	43	PHONE
Tenet		3 MacArthur place suite 300		714 428-6800

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.

		45	DATE	46
			5-6-08	
TITLE OF SIGNER		48	TITLE OF DOCUMENT PREPARER	
Director of facilities				
		49	NAME OF DOCUMENT PREPARER (print)	
		50	TITLE OF DOCUMENT PREPARER	



**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: Garden Grove Medical Plaza Telephone: 537-5160
Site Address: 12555 Garden Grove Blvd Zip Code: 92843

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 LLOYD HIMES

Signature L Himes

Job Title Safety Officer

Date 4-18-01

UNIFIED PROGRAM CONSOLIDATED FORM

FACILITY INFORMATION

BUSINESS ACTIVITIES

Page 1 of _____

I. FACILITY IDENTIFICATION

FACILITY ID#																				1. EPA ID # (Hazardous Waste Only)	2.
--------------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	------------------------------------	----

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

Garden Grove Medical Plaza

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...
<p>A. HAZARDOUS MATERIALS</p> <p>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?</p>	<p><input checked="" type="checkbox"/> YES <input type="checkbox"/> NO 4. ✓ HAZARDOUS MATERIALS INVENTORY - CHEMICAL DESCRIPTION (OES 2731)</p>
<p>B. UNDERGROUND STORAGE TANKS (USTs)</p> <p>1. Own or operate underground storage tanks?</p> <p>2. Intent to upgrade existing or install new USTs?</p> <p>3. Need to report closing a UST?</p>	<p><input type="checkbox"/> YES <input checked="" type="checkbox"/> NO 5. ✓ UST FACILITY (Formerly SWRCB Form A)</p> <p><input type="checkbox"/> YES <input checked="" type="checkbox"/> NO 6. ✓ UST TANK (one page per tank) (Formerly Form B)</p> <p><input type="checkbox"/> YES <input checked="" type="checkbox"/> NO 7. ✓ UST FACILITY</p> <p>✓ UST TANK (one per tank)</p> <p>✓ UST INSTALLATION - CERTIFICATE OF COMPLIANCE (one page per tank) (Formerly Form C)</p> <p>✓ UST TANK (closure portion-one page per tank)</p>
<p>C. ABOVE GROUND PETROLEUM STORAGE TANKS (ASTs)</p> <p>Own or operate ASTs above these thresholds:</p> <ul style="list-style-type: none"> - 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? 	<p><input type="checkbox"/> YES <input checked="" type="checkbox"/> NO 8. ✓ NO FORM REQUIRED TO CUPAS</p>
<p>D. HAZARDOUS WASTE</p> <p>1. Generate hazardous waste?</p> <p>2. Recycle more than 100 kg/month of excluded or exempted recyclable materials (per HSC §25143.2)?</p> <p>3. Treat hazardous waste on site?</p> <p>4. Treatment subject to financial assurance requirements (for Permit by Rule and Condition Authorization)?</p> <p>5. Consolidate hazardous waste generated at a remove site?</p> <p>6. Need to report the closure/removal of a tank that was classified waste and cleaned onsite?</p>	<p><input type="checkbox"/> YES <input checked="" type="checkbox"/> NO 9. ✓ EPA ID NUMBER - provide at the top of this page</p> <p><input type="checkbox"/> YES <input checked="" type="checkbox"/> NO 10. ✓ RECYCLABLE MATERIALS REPORT (one per recycler)</p> <p><input type="checkbox"/> YES <input checked="" type="checkbox"/> NO 11. ✓ ONSITE HAZARDOUS WASTE TREATMENT - FACILITY (Formerly DTSC Forms 1772)</p> <p>✓ ONSITE HAZARDOUS WASTE TREATMENT - UNIT (one page per unit) (Formerly DTSC Forms 1772A,B,C,D and L)</p> <p><input type="checkbox"/> YES <input checked="" type="checkbox"/> NO 12. ✓ CERTIFICATION OF FINANCIAL ASSURANCE (Formerly DTSC Form 1232)</p> <p><input type="checkbox"/> YES <input checked="" type="checkbox"/> NO 13. ✓ REMOTE WASTE/CONSOLIDATION SITE ANNUAL NOTIFICATION (Formerly DTSC Form 1196)</p> <p><input type="checkbox"/> YES <input checked="" type="checkbox"/> NO 14. ✓ HAZARDOUS WASTE TANK CLOSURE CERTIFICATION (Formerly DTSC Form 1249)</p>

E. LOCAL REQUIREMENTS 15.

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

GARDEN GROVE



FIRE DEPARTMENT

HAZARDOUS MATERIALS DISCLOSURE PROGRAM

REPORTING FORMS PACKET: PART 1

GARDEN GROVE MEDICAL PLAZA
12555 GARDEN GROVE BLVD.
741-3366

FOR OFFICIAL USE ONLY

APPROVED BY: SHIRLEY DATE: 7-25-00

NEW BUSINESS _____ EXISTING _____ UPDATE X

FEE: 1 2 3 4 5 6

OWNERSHIP CHANGE _____

ADDRESS CHANGE: _____

TIER II ___ FAC: ___ CON. ___ BUS LIST: ___ PICK: ___



CITY OF GARDEN GROVE, FIRE DEPARTMENT

11301 ACACIA PARKWAY, GARDEN GROVE, CALIFORNIA 92842

(714) 741-5600

(714) 741-5636

HAZARDOUS MATERIALS BUSINESS INFORMATION FORM

FORM 1

BUSINESS INFORMATION

CALENDAR YEAR BEGINNING (1)	<u>7-18-00</u>	ENDING (2)	<u>12-31-00</u>	(3) PAGE 1 OF	
BUSINESS NAME (4)	<u>GARDEN GROVE MEDICAL PLAZA</u>		BUSINESS PHONE: (5)		
SITE ADDRESS (6)	<u>12555 GARDEN GROVE BLVD</u>				
CITY (7)	<u>GARDEN GROVE</u>	STATE (8)	<u>CA</u>	ZIP (9)	<u>92843</u>
DUN & BRADSTREET (OPTIONAL) OPERATOR NAME (12)	<u>GARDEN GROVE HOSPITAL</u>		SIC CODE (4 DIGIT #) (11)	<u>8062</u>	
			OPERATOR PHONE (13)	<u>537-5160</u>	

OWNER INFORMATION

OWNER NAME (14)	<u>TENET HEALTH SYSTEM</u>	OWNER PHONE (15)	<u>949-724-9883</u>
OWNER MAILING ADDRESS (16)	<u>2010 MAIN ST.</u>		
CITY (17)	<u>IRVINE</u>	STATE (18)	<u>CA</u>
		ZIP (19)	<u>92614</u>

ENVIRONMENTAL CONTACT

CONTACT NAME (20)	<u>LLOYD HIMES</u>	CONTACT PHONE (21)	<u>714-741-3366</u>
MAILING ADDRESS (22)	<u>12601 GARDEN GROVE BLVD</u>		
CITY (23)	<u>GARDEN GROVE</u>	STATE (24)	<u>CA</u>
		ZIP (25)	<u>92843</u>

Primary

EMERGENCY CONTACTS

Secondary

NAME: (26)	<u>LLOYD HIMES</u>	NAME: (31)	<u>EVAN JACOBSEN</u>
TITLE: (27)	<u>SAFETY OFFICER</u>	TITLE: (32)	<u>PROPERTY MANAGER</u>
BUSINESS PHONE: (28)	<u>714-741-3366</u>	BUSINESS PHONE: (33)	<u>714-741-4851</u>
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>OFFICE BUILDING</u>	G. Underground Storage Tanks <input type="checkbox"/> Y <input checked="" type="checkbox"/> N
B. Hours of Business Operation <u>8-5 PM</u>	H. Above ground Tank over 660 gal. <input type="checkbox"/> Y <input checked="" type="checkbox"/> N
C. Total Number of Employees <u>N/A</u>	
D. Property Owner Name <u>TENET HEALTH SYSTEM</u> Address _____	
E. Schools, hospitals within 1,000 ft. of business property Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	
F. EPA I.D. Number <u>N/A</u>	

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)		
Signature of Owner/Operator (39)		Date (40)

GARDEN GROVE MEDICAL PLAZA

CHEMICAL LOCATIONS

MAP # 1

- O at M3 Biohazardous medical waste
- E at M7 Electrical shut-off
- C at M7 Compressed gas – Oxygen and nitrous oxide
- G at A7 Natural gas shut- off
- W at B8 Water shut-off

MAP # 2

- O at L4 and K4 Outlet for compressed gas on map #1

CALIFORNIA CHEMICAL INVENTORY FORM – DESCRIPTION PAGE

(1) ADD DELETE REVISE NO CHANGE

PAGE (2) OF 3)

BUSINESS NAME (4) Garden Grove Medical Plaza
 CHEMICAL LOCATION (5) (Address, Area, Building, etc.) under ramp in store room
 MAP # (if more than one) (6) MAP #1 GRID # (7) M-7

CHEMICAL NAME (8) Nitrous Oxide TRADE SECRET (11) Y N
 COMMON NAME (9) _____ AHM / *EHS (12) Y N
 CAS # (10) 10024-97-2 *IF EHS BOX IS "Y" ALL AMOUNTS MUST BE IN LBS
 FIRE CODE HAZARD CLASSES* (13) TOXIC / OTHER HEALTH HAZARDS

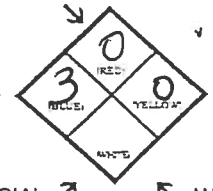
*COMPLETE BLOCK (13) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.

TYPE (14) PURE MIXTURE WASTE CHECK IF RADIOACTIVE (15) (16) _____
 PHYSICAL STATE (17) SOLID LIQUID GAS CURIES _____
 FED HAZARD CATEGORIES (18) FIRE REACTIVE PRESSURE RELEASE ACUTE HEALTH CHRONIC HEALTH
 STATE WASTE CODE (19) NJA UNITS (22) GAL CU FT LBS TONS MAX DAILY AMT (23) 1000
 DAYS ON SITE (20) 365 *If EHS, amounts must be in lbs. AVG DAILY AMT (24) 1000
 LARGEST CONTAINER (21) 235 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
 PLASTIC/NONMETALLIC DRUM BAG(S) IN MACHINERY OR EQUIP.
 PRESSURE STORAGE (27) AMBIENT ABOVE AMBIENT BELOW AMBIENT
 STORAGE TEMPERATURE (28) AMBIENT ABOVE AMBIENT BELOW AMBIENT CRYOGENIC

(29) % WT	(30) HAZARDOUS COMPONENTS	(31) EHS/AHM	(32) CAS #
1.		<input type="checkbox"/> Y <input type="checkbox"/> N	
2.		<input type="checkbox"/> Y <input type="checkbox"/> N	
3.		<input type="checkbox"/> Y <input type="checkbox"/> N	

(33) ADDITIONAL LOCALLY COLLECTED INFORMATION

*COMPLETE BLOCK (33) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.

NFPA CLASSIFICATION _____ NFPA 704 HAZARD DIAMOND
 *UN/DOT # _____ FIRE RED
 Refer to shipping papers or MSDS
 DOT HAZARD CLASS _____ HEALTH BLUE →  ← REACTIVE YELLOW
 Refer to shipping papers or MSDS
 UFC HAZARD CLASS _____ SPECIAL HAZARD ↗ WHITE OX/YX ↖

MAKE AS MANY COPIES OF CHEMICAL INVENTORY FORM AS NEEDED

LIQUID AIR CALIFORNIA PLZ -- NITROUS OXIDE - NITROUS OXIDE,USP
MATERIAL SAFETY DATA SHEET
NSN: 6505001301940
Manufacturer's CAGE: 18260
Part No. Indicator: A
Part Number/Trade Name: NITROUS OXIDE

=====
General Information
=====

Item Name: NITROUS OXIDE,USP
Company's Name: LIQUID AIR CORP CALIFORNIA PLZ
Company's Street: 2121 N CALIFORNIA BLVD
Company's City: WALNUT CREEK
Company's State: CA
Company's Country: US
Company's Zip Code: 94598
Company's Emerg Ph #: 415-977-6500
Company's Info Ph #: 415-977-6500
Distributor/Vendor # 1: COYNE CYLINDER CO (205-883-2100)
Distributor/Vendor # 1 Cage: 8N807
Record No. For Safety Entry: 003
Tot Safety Entries This Stk#: 009
Status: SMU
Date MSDS Prepared: 08AUG89
Safety Data Review Date: 29MAY91
Supply Item Manager: CX
MSDS Serial Number: BMSVB
Hazard Characteristic Code: G3

=====
Ingredients/Identity Information
=====

Proprietary: NO
Ingredient: NITROUS OXIDE *
Ingredient Sequence Number: 01
Percent: >98
NIOSH (RTECS) Number: QX1350000
CAS Number: 10024-97-2
OSHA PEL: NOT ESTABLISHED *
ACGIH TLV: 50 PPM; 9192 *
Other Recommended Limit: NONE SPECIFIED

=====
Physical/Chemical Characteristics
=====

Appearance And Odor: COLORLESS GAS; REFRIGERATED LIQUID IS WATER WHITE;
SLIGHTLY SWEET ODOR
Boiling Point: -127F,-88C
Melting Point: -131.5
Vapor Pressure (MM Hg/70 F): GAS
Vapor Density (Air=1): 1.529
Decomposition Temperature: UNKNOWN
Evaporation Rate And Ref: GAS
Solubility In Water: SLIGHTLY SOLUBLE
Percent Volatiles By Volume: 100
Corrosion Rate (IPY): UNKNOWN

=====
Fire and Explosion Hazard Data
=====

Extinguishing Media: USE COPIOUS QUANTITIES OF WATER FOR FIRES WITH
NITROUS OXIDE AS THE OXIDIZER. USE EXTINGUISHER BASED ON MATERIALS BURNED
Special Fire Fighting Proc: WEAR FIRE FIGHTING PROTECTIVE EQUIPMENT AND A
FULL FACED SELF CONTAINED BREATHING APPARATUS. EVACUATE AREA. COOL FIRE
EXPOSED CONTAINERS WITH WATER SPRAY.
Unusual Fire And Expl Hazrds: COMBUSTION OR HEAT OF FIRE MAY PRODUCE
HAZARDOUS DECOMPOSITION PRODUCTS AND VAPORS. NITROUS OXIDE MAY OXIDIZE SOME
METALS AT ELEVATED TEMPERATURES.

=====
 Reactivity Data
 =====

Stability: YES

Cond To Avoid (Stability): HIGH HEAT AND OPEN FLAMES; ALL FLAMMABLE MATERIALS.

Materials To Avoid: ALL FLAMMABLE MATERIALS, ALUMINUM, BORON, HYDRIDES, SODIUM, PHOSPHINE.

Hazardous Decomp Products: AT ELEVATED TEMPERATURES, NITROUS OXIDE DECOMPOSES INTO NITROGEN AND OXYGEN. N2O MAY EXPLODE IN SOME FIRE CASES.

Hazardous Poly Occur: NO

Conditions To Avoid (Poly): NOT APPLICABLE

 =====

 Health Hazard Data
 =====

LD50-LC50 Mixture: LC50 (ORAL RAT) IS 1068 MG/M3

Route Of Entry - Inhalation: YES

Route Of Entry - Skin: YES

Route Of Entry - Ingestion: YES

Health Haz Acute And Chronic: HIGH CONCENTRATIONS MAY CAUSE DEEP BREATHING, DIZZINESS, NAUSEA AND EVENTUAL UNCONSCIOUSNESS DUE TO INADEQUATE OXYGEN. CAUSES ANESTHETIC EFFECTS; ACTS AS A SLIGHT NARCOTIC. DIRECT PHYSICAL CONTACT WITH LIQUID NITROUS OXIDE WILL CAUSE FROSTBITE AND COLD BURN DAMAGE.

Carcinogenicity - NTP: NO

Carcinogenicity - IARC: NO

Carcinogenicity - OSHA: NO

Explanation Carcinogenicity: NITROUS OXIDE IS NOT LISTED BY IARC, NTP OR OSHA AS A CARCINOGEN.

Signs/Symptoms Of Overexp: DEEP BREATHING, DIZZINESS, NAUSEA. ACTS AS AN ANESTHETIC WITH MILD NARCOTIC EFFECTS. LAUGHTER EFFECTS SEEM TO OCCUR AFTER INCIPIENT ASPHYXIA ACCOMPANIED BY THE SUDDEN RETURN OF OXGEN AS IN AIR. CONTACT WITH SKIN/EYES WILL CAUSE FROSTBITE.

Med Cond Aggravated By Exp: PERSONS WITH A HISTORY OF RESPIRATORY DISORDERS MAY BE AT INCREASED RISK FROM EXPOSURE.

Emergency/First Aid Proc: EYES: REMOVE VICTIM FROM EXPOSURE AND ALLOW LIQUID TO EVAPORATE. CONSULT AN OPHTHALMOLOGIST. SKIN:FLUSH AFFECTED AREAS WITH LUKEWARM WATER. INHALATION:REMOVE VICTIM TO FRESH AIR AND GIVE ARTIFICIAL RESUSCITATION AND SUPPLEMENTAL OXYGEN AS NEEDED. CONSULT A PHYSICIAN IN ALL CASES OF EXPOSURE.

 =====

 Precautions for Safe Handling and Use
 =====

Steps If Matl Released/Spill: WEAR PROTECTIVE EQUIPMENT, ELIMINATE SOURCES OF IGNITION, AND VENTILATE AREA AS REQUIRED. PIPING AND OTHER EQUIPMENT MAY NEED TO BE PURGED.

Neutralizing Agent: NONE SPECIFIED BY MANUFACTURER.

Waste Disposal Method: DISPOSE OF IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS.

Precautions-Handling/Storing: STORE IN A COOL, DRY, WELL VENTILATED AREA AWAY FROM SOURCES OF IGNITION. KEEP CONTAINER CLOSED WHEN NOT IN USE. PROTECT FROM PHYSICAL DAMAGE.

Other Precautions: VALVE PROTECTION CAPS SHOULD BE USED UNLESS CONTAINER IS SECURED. DO NOT DRAG, SLIDE, OR ROLL CYLINDERS. USE A PRESSURE REDUCING REGULATION. DO NOT HEAT CYLINDER TO INCREASE PRODUCT FLOW. DO NOT STORE ABOVE 125F.

 =====

 Control Measures
 =====

Respiratory Protection: IF VENTILATION DOES NOT MAINTAIN INHALATION EXPOSURES BELOW PEL (TLV), USE POSITIVE PRESSURE AIR LINE WITH MASK OR SCBA FOR EMERGENCY USE.

Ventilation: LOCAL VENTILATION MAY BE NEEDED.

Protective Gloves: GLOVES TO PROTECT AGAINST FROSTBITE.

Eye Protection: SAFETY GLASSES/CHEMICAL SPLASH GOGGLES

 =====

Other Protective Equipment: SAFETY SHOWER AND EYE BATH. INDUSTRIAL TYPE WORK CLOTHING AND APRON AS REQUIRED INCLUDING SAFETY SHOES.
Work Hygienic Practices: WASH THOROUGHLY AFTER HANDLING AND BEFORE EATING OR DRINKING. LAUNDRY CONTAMINATED CLOTHING BEFORE REUSE.
Suppl. Safety & Health Data: KEEP CYLINDERS SECURED. AVOID USE IN CONFINED SPACES. AVOID BREATHING VAPORS.

=====
Transportation Data
==========
Disposal Data
==========
Label Data
=====

Label Required: YES
Technical Review Date: 29MAY91
Label Status: F
Common Name: NITROUS OXIDE
Chronic Hazard: NO
Signal Word: WARNING!
Acute Health Hazard-Slight: X
Contact Hazard-Slight: X
Fire Hazard-Slight: X
Reactivity Hazard-Moderate: X
Special Hazard Precautions: STORE IN A COOL, DRY, WELL VENTILATED AREA AWAY FROM SOURCES OF IGNITION. KEEP CONTAINER CLOSED WHEN NOT IN USE. PROTECT FROM PHYSICAL DAMAGE. FIRST AID: EYES: REMOVE VICTIM FROM EXPOSURE AND ALLOW LIQUID TO EVAPORATE. CONSULT AN OPHTHALMOLOGIST. SKIN: FLUSH AFFECTED AREAS WITH LUKEWARM WATER. INHALATION: REMOVE VICTIM TO FRESH AIR AND GIVE ARTIFICIAL RESUSCITATION AND SUPPLEMENTAL OXYGEN AS NEEDED. CONSULT A PHYSICIAN IN ALL CASES OF EXPOSURE. CAUSES DIZZINESS AND POSSIBLE UNCONSCIOUSNESS DUE TO LACK OF OXYGEN AND MILDLY NARCOTIC EFFECT.
Protect Eye: Y
Protect Skin: Y
Protect Respiratory: Y
Label Name: AIRCO INDUSTRIAL GASES
Label Street: 575 MOUNTAIN AVE
Label City: MURRAY HILL
Label State: NJ
Label Zip Code: 07974-2006
Label Country: US
Label Emergency Number: 201-464-8100

CALIFORNIA CHEMICAL INVENTORY FORM – DESCRIPTION PAGE

(1) ADD DELETE REVISE NO CHANGE

PAGE (2) OF 3)

BUSINESS NAME (4) Garden Grove Medical Plaza
 CHEMICAL LOCATION (5) under ramp in store room
 MAP # (if more than one) (6) MAP* GRID # (7) M-7

CHEMICAL NAME (8) Oxygen TRADE SECRET (11) Y N
 COMMON NAME (9) OXYGEN AHM / *EHS (12) Y N
 CAS # (10) 7782-44-7 *IF EHS BOX IS "Y" ALL AMOUNTS MUST BE IN LBS
 FIRE CODE HAZARD CLASSES* (13) OXIDER - NON FLAMMABLE GAS

*COMPLETE BLOCK (13) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.

TYPE (14) PURE MIXTURE WASTE CHECK IF RADIOACTIVE (15) (16)
 PHYSICAL STATE (17) SOLID LIQUID GAS CURIES
 FED HAZARD CATEGORIES (15) FIRE REACTIVE PRESSURE RELEASE ACUTE HEALTH CHRONIC HEALTH
 STATE WASTE CODE (13) N/A UNITS (22) GAL CU FT LBS TONS MAX DAILY AMT (23) 1200
 DAYS ON SITE (20) 365 *If EHS, amounts must be in lbs. AVG DAILY AMT (24) 1200
 LARGEST CONTAINER (21) 235 ANNUAL WASTE AMT (25) 0
 STORAGE CONTAINER (25) ABOVE GROUND TANK - INSIDE CAN BOX(S) TANK WAGON
 UNDER GROUND TANK CARBOY CYLINDER RAIL CAR
 TANK INSIDE BUILDING SILO GLASS CONTAINER
 STEEL DRUM FIBER DRUM PLASTIC CONTAINER Other
 PLASTIC/NONMETALLIC DRUM BAG(S) IN MACHINERY OR EQUIP.

PRESSURE STORAGE (27) AMBIENT ABOVE AMBIENT BELOW AMBIENT

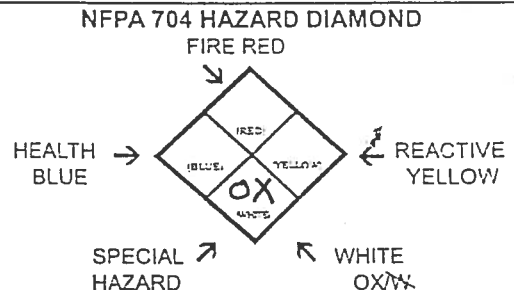
STORAGE TEMPERATURE (23) AMBIENT ABOVE AMBIENT BELOW AMBIENT CRYOGENIC

(29) % WT	(30) HAZARDOUS COMPONENTS	(31) EHS/AHM	(32) CAS #
1.		<input type="checkbox"/> Y <input type="checkbox"/> N	
2.		<input type="checkbox"/> Y <input type="checkbox"/> N	
3.		<input type="checkbox"/> Y <input type="checkbox"/> N	

(33) ADDITIONAL LOCALLY COLLECTED INFORMATION

*COMPLETE BLOCK (33) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.

NFPA CLASSIFICATION
 UN/DOT # 1072
 Refer to shipping papers or MSDS
 DOT HAZARD CLASS 2.2
 Refer to shipping papers or MSDS
 UFC HAZARD CLASS _____



MAKE AS MANY COPIES OF CHEMICAL INVENTORY FORM AS NEEDED

AGA GAS -- OXYGEN, COMPRESSED, 295 A 121 - ~~CYLINDER, COMPRESSED GAS~~
MATERIAL SAFETY DATA SHEET
NSN: 8120002535976
Manufacturer's CAGE: 0KPC9
Part No. Indicator: A
Part Number/Trade Name: OXYGEN, COMPRESSED, 295 A 121

=====
General Information
=====

Item Name: CYLINDER, COMPRESSED GAS
Company's Name: AGA GAS INC
Company's Street: 6225 OAKTREE BLVD
Company's P. O. Box: 94737
Company's City: CLEVELAND
Company's State: OH
Company's Country: US
Company's Zip Code: 44131
Company's Emerg Ph #: 216-642-6600
Company's Info Ph #: 216-642-6600/304-485-3555
Distributor/Vendor # 1: ERIE MFG CO (800-558-3916)
Distributor/Vendor # 1 Cage: 20846
Record No. For Safety Entry: 001
Tot Safety Entries This Stk#: 002
Status: SE
Date MSDS Prepared: 01MAR91
Safety Data Review Date: 09APR97
Supply Item Manager: CX
MSDS Preparer's Name: UNKNOWN
MSDS Serial Number: CDLVF
Specification Number: UNKNOWN
Spec Type, Grade, Class: UNKNOWN
Hazard Characteristic Code: G4
Unit Of Issue: EA
Unit Of Issue Container Qty: 0.1-6LBS (MFR)
Type Of Container: CYLINDER
Net Unit Weight: 0.1-6 LBS
NRC/State License Number: NOT RELEVANT

=====
Ingredients/Identity Information
=====

Proprietary: NO
Ingredient: OXYGEN
Ingredient Sequence Number: 01
Percent: UNKNOWN
NIOSH (RTECS) Number: RS2060000
CAS Number: 7782-44-7
OSHA PEL: NOT ESTABLISHED
ACGIH TLV: NOT ESTABLISHED
Other Recommended Limit: NONE RECOMMENDED

=====
Physical/Chemical Characteristics
=====

Appearance And Odor: COLORLESS, ODORLESS GAS AT NORMAL TEMPERATURE AND PRESSURE
Boiling Point: -297F, -183C
Melting Point: -362F, -219C
Vapor Density (Air=1): 1.11
Specific Gravity: 1.141 (LIQUID)
Decomposition Temperature: UNKNOWN
Evaporation Rate And Ref: NOT RELEVANT
Solubility In Water: SLIGHT
Percent Volatiles By Volume: 100
Viscosity: NOT RELEVANT
Radioactivity: NOT RELEVANT

Fire and Explosion Hazard Data

Flash Point: NON-FLAMMABLE
Lower Explosive Limit: NOT RELEVANT
Upper Explosive Limit: NOT RELEVANT
Extinguishing Media: WATER SPRAY, CARBON DIOXIDE, FOAM/DRY CHEMICAL FOR SURROUNDING FIRE. WATER IS PREFERRED EXTINGUISHER FOR COMBUSTIBLES.
Special Fire Fighting Proc: WEAR NIOSH-APPROVED SELF-CONTAINED BREATHING APPARATUS. MOVE CONTAINERS AWAY IF POSSIBLE. STOP FLOW OF OXYGEN WHICH IS SUPPORTING THE FIRE.
Unusual Fire And Expl Hazrds: ACCELERATES COMBUSTION. CONTACT WITH EASILY OXIDIZABLE ORGANIC/COMBUSTIBLE MATERIALS MAY RESULT IN IGNITION, VIOLENT COMBUSTION OR EXPLOSION.

Reactivity Data

Stability: YES
Cond To Avoid (Stability): HEATING CYLINDERS TO INCREASE FLOW RATE
Materials To Avoid: ALL FLAMMABLE MATERIALS ESPECIALLY OILS AND GREASES, COMBUSTIBLE MATERIALS
Hazardous Decomp Products: NONE
Hazardous Poly Occur: NO
Conditions To Avoid (Poly): NOT RELEVANT

Health Hazard Data

LD50-LC50 Mixture: NOT RELEVANT
Route Of Entry - Inhalation: YES
Route Of Entry - Skin: NO
Route Of Entry - Ingestion: NO
Health Haz Acute And Chronic: TARGET ORGANS: LUNGS, CNS. ACUTE- EYE/SKIN/ORAL: UNLIKELY (GAS). INHALE: HIGH CONCENTRATIONS (>75 MOLAR %) MAY CAUSE HYPEROXIA (CNS EFFECTS) WITH SYMPTOMS OF DIZZINESS, NAUSEA, CRAMPS, HYPOTHERMIA, RESPIRATION DIFFICULTIES, UNCONSCIOUSNESS/FAINTING, HEARING PROBLEMS, CONVULSIONS CAPABLE OF LEADING TO DEATH. CHRONIC- NONE.
Carcinogenicity - NTP: NO
Carcinogenicity - IARC: NO
Carcinogenicity - OSHA: NO
Explanation Carcinogenicity: OXYGEN IS NOT LISTED AS A CARCINOGEN BY THE IARC, NTP OR OSHA.
Signs/Symptoms Of Overexp: COUGH, SORE THROAT, CHEST PAIN, DIZZINESS, TINGLING SENSATION, MUSCULAR TWITCHING, UNCONSCIOUSNESS, HEARING PROBLEMS, CONVULSIONS, DEATH
Med Cond Aggravated By Exp: UNKNOWN
Emergency/First Aid Proc: PROMPT MEDICAL ATTENTION IS MANDATORY IN ALL CASES OF OVEREXPOSURE TO OXYGEN. RESCUE PERSONNEL SHOULD BE AWARE OF EXTREME FIRE HAZARD ASSOCIATED WITH OXYGEN-RICH ATMOSPHERE. INHALED: REMOVE TO FRESH AIR. PROVIDE CPR IF NEEDED. TREATMENT SHOULD BE SYMPTOMATIC AND SUPPORTIVE.

Precautions for Safe Handling and Use

Steps If Matl Released/Spill: STOP LEAK IF WITHOUT RISK. VENTILATE AREA OR MOVE LEAKING CONTAINER TO WELL-VENTILATED AREA. REMOVE ALL FLAMMABLE MATERIALS. OXYGEN MUST NEVER BE PERMITTED TO STRIKE AN OILY SURFACE, GREASY CLOTHES, OR OTHER COMBUSTIBLE MATERIAL.
Neutralizing Agent: NOT RELEVANT
Waste Disposal Method: DISPOSE OF IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS. DO NOT ATTEMPT TO DISPOSE OF RESIDUAL OR UNUSED QUANTITIES. RETURN IN THE SHIPPING CONTAINER PROPERLY LABELED, WITH ANY VALVE OR CAPS SECURED TO YOUR SUPPLIER FOR PROPER DISPOSAL
Precautions-Handling/Storing: STORE IN COOL, DRY, VENTILATED AREA AWAY FROM INCOMPATIBLES. STORE CYLINDERS UPRIGHT & SECURED, BELOW 125F/52C. PROTECT CYLINDERS FROM PHYSICAL DAMAGE
Other Precautions: OXYGEN VIGOROUSLY ACCELERATES COMBUSTION. AVOID CONTACT

WITH OILS, GREASES AND OTHER FLAMMABLE MATERIALS. NOTE: REVERSE FLOW INTO CYLINDER MAY CAUSE RUPTURE. NEVER WORK ON A PRESSURIZED SYSTEM. NEVER LUBRICATE USING COMBUSTIBLES.

=====
Control Measures
=====

Respiratory Protection: NONE REQUIRED UNDER NORMAL USE. HOWEVER, NIOSH-APPROVED AIR-SUPPLIED RESPIRATORS ARE REQUIRED WHILE WORKING IN CONFINED SPACES WITH THIS PRODUCT. THE RESPIRATORY PROTECTION USE MUST CONFORM WITH OSHA RULES AS SPECIFIED IN 29 CFR 1910.134.

Ventilation: LOCAL EXHAUST TO PREVENT ACCUMULATION OF OXYGEN CONCENTRATION. MECHANICAL (GENERAL) IS ACCEPTABLE.

Protective Gloves: ANY MATERIAL FOR CYLINDER HANDLING

Eye Protection: SAFETY GOGGLES/GLASSES

Other Protective Equipment: SAFETY SHOES FOR CYLINDER HANDLING, SAFETY SHOWER, EYE WASH FOUNTAIN

Work Hygienic Practices: OBSERVE GOOD INDUSTRIAL HYGIENE PRACTICES AND RECOMMENDED PROCEDURES. WASH THOROUGHLY BEFORE EATING AND AFTER HANDLING.

Suppl. Safety & Health Data: OXYGEN SHOULD NOT BE USED AS A SUBSTITUTE FOR COMPRESSED AIR IN PNEUMATIC EQUIPMENT SINCE THIS TYPE GENERALLY CONTAINS FLAMMABLE LUBRICANTS. EQUIPMENT TO CONTAIN OXYGEN MUST BE "CLEANED FOR OXYGEN SERVICE". COMPRESSED GAS CYLINDERS SHOULD NOT BE REFILLED EXCEPT BY QUALIFIED PRODUCERS OF COMPRESSED GASES. READ LABELS.

=====
Transportation Data
=====

Trans Data Review Date: 97099

DOT PSN Code: LEH

DOT Proper Shipping Name: OXYGEN, COMPRESSED

DOT Class: 2.2

DOT ID Number: UN1072

DOT Label: NONFLAMMABLE GAS, OXIDIZER

DOT/DoD Exemption Number: NOT RELEVANT

IMO PSN Code: LBP

IMO Proper Shipping Name: OXYGEN, COMPRESSED

IMO Regulations Page Number: 2169

IMO UN Number: 1072

IMO UN Class: 2(2.2)

IMO Subsidiary Risk Label: OXIDIZING AGENT

IATA PSN Code: SWO

IATA UN ID Number: 1072

IATA Proper Shipping Name: OXYGEN, COMPRESSED

IATA UN Class: 2.2

IATA Subsidiary Risk Class: 5.1

IATA Label: NON-FLAMMABLE GAS & OXIDIZER

AFI PSN Code: SWO

AFI Prop. Shipping Name: OXYGEN, COMPRESSED

AFI Class: 2.2

AFI ID Number: UN1072

AFI Label: 5.1

AFI Basic Pac Ref: A6.3, A6.7

Additional Trans Data: PROPER SHIPPING NAME, UN ID NUMBER, DOT HAZARD CLASS PER MSDS. DOT SHIPPING LABEL: OXIDIZER. WEIGHT OF OXYGEN DEPENDS ON COLOR AND SIZE OF CYLINDER. A FULL SMALL SIZE CYLINDER CONTAINS 0.1 - 6 POUNDS OF OXYGEN GAS, PER MANUFACTURER.

=====
Disposal Data
=====

=====
Label Data
=====

Label Required: YES

Technical Review Date: 09APR97

MFR Label Number: UNKNOWN

Label Status: F

Common Name: OXYGEN, COMPRESSED, 295 A 121

Chronic Hazard: NO

Signal Word: WARNING!

Acute Health Hazard-Moderate: X

Contact Hazard-None: X

Fire Hazard-None: X

Reactivity Hazard-None: X

Special Hazard Precautions: TARGET ORGANS:LUNGS, CNS. ACUTE- EYE/SKIN/
ORAL:UNLIKELY (GAS). INHALE:HIGH CONCENTRATIONS OF GAS CAUSES HYPEROXIA.
MAY CAUSE UNCONSCIOUSNESS, HEARING PROBLEMS, CONVULSIONS CAPABLE OF LEADING
TO DEATH. CHRONIC- NONE. STORE IN VENTILATED AREA AWAY FROM INCOMPATIBLES.
STOP LEAK IF WITHOUT RISK. VENTILATE AREA. REMOVE ALL FLAMMABLE OR
COMBUSTIBLE MATERIALS. FIRST AID- PROMPT MEDICAL ATTENTION IS MANDATORY IN
ALL CASES OF OVEREXPOSURE TO OXYGEN. RESCUE PERSONNEL SHOULD BE AWARE OF
EXTREME FIRE HAZARD ASSOCIATED WITH OXYGEN-RICH ATMOSPHERE. INHALED:REMOVE
TO FRESH AIR. PROVIDE CPR IF NEEDED. TREATMENT SHOULD BE SYMPTOMATIC AND
SUPPORTIVE.

Protect Eye: Y•

Label Name: AGA GAS INC

Label Street: 6225 OAKTREE BLVD

Label P.O. Box: 94737

Label City: CLEVELAND

Label State: OH

Label Zip Code: 44131

Label Country: US

Label Emergency Number: 216-642-6600

CALIFORNIA CHEMICAL INVENTORY FORM – DESCRIPTION PAGE

(1) ADD DELETE REVISE NO CHANGE

PAGE (2) OF 3)

BUSINESS NAME (4) Garden Grove Medical Plaza
 CHEMICAL LOCATION (Address, Area, Building, etc.) (5) Suite # 200
 MAP # (if more than one) (6) MAP # 2 GRID # (7) L-4 & K-4

CHEMICAL NAME (8) Oxygen + Nitrous Oxide outlets TRADE SECRET (11) Y N
 COMMON NAME (9) _____ AHM / *EHS (12) Y N
 CAS # (10) 100 24-97-2 + 7782-44-7 *IF EHS BOX IS "Y" ALL AMOUNTS MUST BE IN LBS
 FIRE CODE HAZARD CLASSES* (13) _____

*COMPLETE BLOCK (13) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.

TYPE (14) PURE MIXTURE WASTE CHECK IF RADIOACTIVE (15) (16) _____
 PHYSICAL STATE (17) SOLID LIQUID GAS CURIES _____
 FED HAZARD CATEGORIES (18) FIRE REACTIVE PRESSURE RELEASE ACUTE HEALTH CHRONIC HEALTH
 STATE WASTE CODE (19) _____ UNITS (22) GAL CU FT LBS TONS MAX DAILY AMT (23) _____
 DAYS ON SITE (20) _____ *If EHS, amounts must be in lbs. AVG DAILY AMT (24) _____
 LARGEST CONTAINER (21) _____ ANNUAL WASTE AMT (25) _____
 STORAGE CONTAINER (26) ABOVE GROUND TANK - INSIDE CAN BOX(S) TANK WAGON
 UNDER GROUND TANK CARBOY CYLINDER RAIL CAR
 TANK INSIDE BUILDING SILO GLASS CONTAINER
 STEEL DRUM FIBER DRUM PLASTIC CONTAINER Other
 PLASTIC/NONMETALLIC DRUM BAG(S) IN MACHINERY OR EQUIP.
 PRESSURE STORAGE (27) AMBIENT ABOVE AMBIENT BELOW AMBIENT
 STORAGE TEMPERATURE (28) AMBIENT ABOVE AMBIENT BELOW AMBIENT CRYOGENIC

(29) % WT	(30) HAZARDOUS COMPONENTS	(31) EHS/AHM	(32) CAS #
1.		<input type="checkbox"/> Y <input type="checkbox"/> N	
2.		<input type="checkbox"/> Y <input type="checkbox"/> N	
3.		<input type="checkbox"/> Y <input type="checkbox"/> N	

(33) ADDITIONAL LOCALLY COLLECTED INFORMATION

*COMPLETE BLOCK (33) IF REQUESTED BY THE LOCAL FIRE CHIEF - REFER TO INSTRUCTIONS.

NFPA CLASSIFICATION _____ NFPA 704 HAZARD DIAMOND

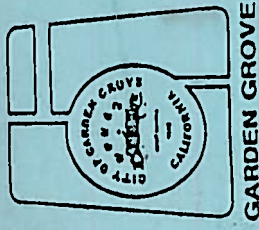
*UN/DOT # _____ Refer to shipping papers or MSDS

DOT HAZARD CLASS _____ Refer to shipping papers or MSDS

UFC HAZARD CLASS _____

The diagram is a diamond shape divided into four quadrants. The top quadrant is labeled 'FIRE RED'. The left quadrant is labeled 'HEALTH BLUE'. The right quadrant is labeled 'REACTIVE YELLOW'. The bottom quadrant is labeled 'SPECIAL HAZARD' and 'WHITE OX/WX'.

MAKE AS MANY COPIES OF CHEMICAL INVENTORY FORM AS NEEDED



A Hazardous Materials Disclosure Business is required by law to notify the Garden Grove Fire Department within 15 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.
5. Use of a previously undisclosed hazardous material.
6. A 100% increase in the quantity of a previously disclosed material.

	YES	NO
1. Are there any underground storage containers located on the business property?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Is trade secret protection requested for any of the information included in this disclosure?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Are there school(s), hospital(s), extended day care or long term health facilities within 1000 feet (straight line distance) of business property?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. Are extremely Hazardous Materials or Acutely Hazardous Materials being handled on business property (State and Federal reporting)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

I certify, under penalty of law that I have personally examined and am familiar with the information submitted and believe the submitted information is true, accurate, and complete.

Print Name of Owner/Operator David Howard, Safety Officer
 Print Name of Document Preparer: David Howard
 Signature of Owner/Operator: [Signature] Date: 11/11/97

NOTE: Keep a copy of entire disclosure packet for your records.

RETURN THE ORIGINAL DISCLOSURE FORM, BUSINESS PLAN, AND MSDS SHEETS TO THE GARDEN GROVE FIRE DEPARTMENT

CITY OF GARDEN GROVE, CALIFORNIA
 MAILING ADDRESS: P.O. BOX 3070, GARDEN GROVE, CALIFORNIA 92842
 714-741-5600

BUSINESS EMERGENCY PLAN

Business Name Garden Grove Medical Plaza
 Business Address 12555 Garden Grove Blvd. City Garden Grove State CA Zip 92843
 Mailing Address 12601 Garden Grove Blvd. City Garden Grove State CA Zip 92843
 Business Phone (714) 741-2727 Business License #DHS #060000152
 Fax Number (714) 741-3353
 Owner/Operator: Name Garden Grove Hospital Phone Number (714) 537-5160
 Address 12601 Garden Grove Blvd. City Garden Grove State CA Zip 92843
 Type of Business Operation Medical Office Building including independent hemodialysis and lithotripter services.
 EPA # CAL 000032304 SIC Code _____
 Emergency Contacts: Name David Howard (Safety Officer) or Mark Shuck (Engr. Director)
 Address 12601 Garden Grove Blvd. City Garden Grove State CA Zip 92843
 24 Hour Phone Number (714) 537-5160 Phone Number (714) 537-5160
 Property Owner: Name Tenet health Systems Phone Number (714) 724-4200
 Address 2010 Main Street, Suite 650 City Irvine State CA Zip 92614

Total Number of Employees 625 Dun and Brad Street Numbers _____

Office Use Only
 REC'D/APPR'D: SHIRLEY DATE: 12/18/97
 FEE: 1 2 3 4 NEW BUS: X EXISTG: _____ UPDATE: _____
 MLI# _____ Short _____ Long _____ MISC _____
 TIER II: _____ FAC: _____ CON: _____ BUS LIST: 10/12/93

BUSINESS NAME: Garden Grove Medical Plaza
 ADDRESS: 12555 Garden Grove Blvd.
 MLI # _____ (office use only)

HAZARDOUS MATERIALS DISCLOSURE FORM

DATE: 11/11/97
 PAGE # 1



1. MSDS #	2. TRADE NAME	3. HAZARDOUS SUBSTANCES IN PRODUCT (top 3 as per % weight on MSDS)	4. CAS NO.	5. SARA Hazard Class Table 1	6. Physical State Table 2	7. MAX. DAILY AMOUNT Table 3	8. AVG. DAILY AMOUNT Table 3	9. DAYS ON SITE	10. CONTAINER TYPE Table 4	11. STORAGE CODE PRESSURE/TEMP. Table 5	12. LOCATION NOTE BY QUADRANT AND DESCRIBE AREA	13. STATE WASTE NUMBER (3 DIGIT CODE)	14. DOT/ UN/NA NUMBER	15. HAZARD CLASS Table 6
1	Oxygen U.S.P.	Oxygen	7782-44-7	2-4	P-G	04	04	365	K	3 - 1	Quadrant X and Z Main medical gas storage room and cage Small gas cylinders located throughout bldg.	N/A	1072	15/17
2	Nitrous Oxide U.S.P.	Nitrous oxide	10024-97-2	2-4	P-G	04	04	365	K	3 - 1	Quadrant Z Main medical gas storage room	N/A	1070	15/17
3	Nitrogen U.S.P.	Nitrogen	7727-37-9	2-4	P-G	03	03	365	K	3 - 1	Quadrant X and Z Main medical gas storage room and cage	N/A	1066	15
4	Compressed Air U.S.P.	Nitrogen Oxygen Argon	132259-10-0	2-4	P-G	02	02	365	K	3 - 1	Quadrant X and Z Main medical gas storage room and cage	N/A	1002	15
5	Bleach	Sodium Hypochlorite Chlorine	7782-50-5 1310-73-2	3-4	P-L	00	00	365	L	1 - 1	Quadrant X Suite 100 storage room		Exempt	4/17
6	Renalin Sterilant	Hydrogen Peroxide Peracetic Acid Acetic Acid	7722-84-1 79-21-0 64-19-7	3-4	M-L	00	00	365	L	1 - 1	Quadrant X Suite 100 storage room		3149	4
7	Concentrate Powder for Bicarbonate Dialysate	N/A	N/A	3-4	P-S	01	01	365	C	1 - 1	Quadrant X Suite 100 storage room	N/A	N/A	14
8	Acid Concentrate for Bicarbonate Dialysate	Acetic Acid	64-19-7	3-4	P-L	02	02	365	E&L	1 - 1	Quadrant X Suite 100 storage room			14
9														
10														
11														
12														
13														
14														
15														

Table#1 SARA Hazard

1-Fire	Physical	Health
2-Sudden Release of Pressure	4-Immediate (Acute)	5-Delayed (Chronic)
3-Reactivity	P-Pure M-Mixture S-Solid (Report pounds) L-Liquid (Report gallons) G-Gas (Report cubic feet)	

Table#2 Physical State

P-Pure	M-Mixture
S-Solid (Report pounds)	L-Liquid (Report gallons)
G-Gas (Report cubic feet)	

TABLE # 3 Amount Chart

Value	Amount	Range
00	0	99
01	100	299
02	300	599
03	600	999
04	1000	5999
05	6000	9999
06	10000	19999
07	20000	49999+

Table#4 Container Type

A- Aboveground Tank
B- Bag(s)
C- Box(s)
D- Carboy(s)
E- Drum(s) or Barrel(s)
F- Fixed Pressurized Cylinders
G- Glass Containers
H- In Machinery or Equip.
I- Insulated Tank (Cryogenics)
J- Metal Containers
K- Movable Pressurized Cylinders
L- Plastic Containers
M- Rail Car
N- Silo
O- Tank inside building
P- Underground Tank
Q- Other

Table#5 Storage Code

Pressure	Temperature
1- Ambient	1- Ambient
2- Less than ambient	2 - Less than ambient, but not cryogenic
3- Greater than ambient	3 - Greater than ambient
	4 - Cryogenic
	* Ambient = room pressure or temperature

Table#6 Hazard Class (see MSDS sheets for info)

1- Blasting Agent	9- Explosive C	17- Oxidizer
2- Carcinogen	10- Flammable Compressed Gas	18- Pesticide
3- Combustible Liquids	11- Flammable Liquid	19- Poison A
4- Corrosive	12- Flammable Solid	(Compressed Poisonous Gas)
5- Cryogenics	13- Hypergolic	20- Poison B (Solid/Liquid)
6- Etiologic Agents	14- Irritant	21- Pyrophoric or Spontaneously Combustible
7- Explosive A	15- Non Flammable Compressed Gas	22- Radioactive
8- Explosive B	16- Organic Peroxide	

BUSINESS EMERGENCY PLAN

Business Name Garden Grove Medical Plaza

Business Address 12555 Garden Grove Blvd. **City** Garden Grove **State** CA **Zip** 92843

Mailing Address 12601 Garden Grove Blvd. **City** Garden Grove **State** CA **Zip** 92843

Business Phone (714) 741-2727

Fax Number (714) 741-3353

Owner/Operator: Name Garden Grove Hospital **Phone Number** (714) 537-5160

Address 12601 Garden Grove Blvd. **City** Garden Grove **State** CA **Zip** 92843

Primary Contact : Name David Howard (Safety Officer) or Mark Shuck (Engr. Director)

Address 12601 Garden Grove Blvd. **City** Garden Grove **State** CA **Zip** 92843

24 Hour Phone Number [REDACTED] **Phone Number** (714) 741-2727

Type of Business Operation Medical Office Building

PART I

EMERGENCY NOTIFICATIONS

GARDEN GROVE FIRE DEPARTMENT
BUSINESS EMERGENCY PLAN

PART I 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.

A) AGENCY NOTIFICATIONS

<u>Organization</u>	<u>Phone Number</u>
1. Fire Department	911
2. Police Department	911
3. Paramedics	911
4. Office of Emergency Services	(800) 852-7550 or (916) 427-4341

The State Office of Emergency Services shall be notified by the handler upon a release or threatened release of a hazardous material.

INFORMATION REQUIRED

- * Name of person and business.
- * Business street address.
- * Location of the incident.
- * Type incident (spill, gas release, etc...).
- * Nature and volume of materials involved.
- * Extent of injuries.
- * Possible hazards to human health and/or the environment.

B) MISCELLANEOUS CONTACT INFORMATION

	<u>PHONE NUMBER</u>
1. Hazardous Waste Contractor Name: <u>Safety Kleen Corp.</u>	(909) 823 - 3939
2. Insurance Company Name: <u>Hospital Underwriting Group</u>	(615) 885 - 5333
3. Poison Control Center	(714) 634 - 5988 1-800-411-8080

PART II

BUSINESS PERSONNEL EMERGENCY
NOTIFICATIONS AND RESPONSIBILITIES

GARDEN GROVE FIRE DEPARTMENT
BUSINESS EMERGENCY PLAN

PART II BUSINESS PERSONNEL EMERGENCY NOTIFICATIONS AND RESPONSIBILITIES

A) EMPLOYEE EVACUATION

1. The type of alarm signals that will be used to initiate an evacuation of the facility:

Fire alarm system with bells

(Describe)

2. Evacuation routes, emergency exits, and staging areas for employees at the facility:

a. Work area: 1st floor

Evacuation route: Corridors to North, South, and West

Emergency exits: Horizontal to North, South, and West

Staging area: North, South, and West parking lots - Dialysis patients to ER

b. Work area: 2nd floor

Evacuation route: Corridors to North, East, and West

Emergency exits: Horizontal to Northeast - Vertical to North & West

Staging area: North and West parking lots

c. Work area: 3rd floor

Evacuation route: Corridors to East and West

Emergency exits: Vertical to North and West

Staging area: North and West parking lots

d. Work area: 4th floor

Evacuation route: Corridors to East and West

Emergency exits: Vertical to North and West

Staging area: North and West parking lots

GARDEN GROVE FIRE DEPARTMENT
BUSINESS EMERGENCY PLAN

PART II BUSINESS PERSONNEL EMERGENCY NOTIFICATIONS AND RESPONSIBILITIES

A) EMPLOYEE EVACUATION:

1. The type of alarm signals that will be used to initiate an evacuation of the facility:

Fire alarm system with bells.

(Describe)

2. Evacuation routes, emergency exits, and staging areas for employees at the facility:

e. Work area: 5th floor

Evacuation route: Corridors to East and West

Emergency exits: Vertical to North and West

Staging area: North and West parking lots

b. Work area: N/A

Evacuation route: _____

Emergency exits: _____

Staging area: _____

c. Work area: N/A

Evacuation route: _____

Emergency exits: _____

Staging area: _____

d. Work area: N/A

Evacuation route: _____

Emergency exits: _____

Staging area: _____

GARDEN GROVE FIRE DEPARTMENT
BUSINESS EMERGENCY PLAN

B) "EMERGENCY COORDINATOR TASK COMPLETION SHEET"

_____ Date and time the incident was reported: _____ Date: _____
_____ Time: _____

_____ Identify the nature and extent of the incident.

_____ Activate internal facility alarms or communication systems.

_____ Notify the Fire Department.

_____ Designate an employee to direct emergency response units to the incident scene.

_____ Initiate prearranged mitigation and evacuation plans.

_____ Secure all emergency shut-off valves. (as required)

_____ Initiate internal company notifications.

_____ Account for all evacuated personnel.

_____ Have resource material available for use by responding agencies (maps, drawings, Material Safety Data Sheets (MSDS), etc...).

_____ Identify actions taken by the business to control the incident.

_____ Secure the incident scene to include treatment, storage or disposal of hazardous materials or waste involved.

_____ Other: (specify)

THIS FORM SHALL BE GIVEN TO THE EMERGENCY RESPONDERS
UPON THEIR ARRIVAL AT THE FACILITY.

GARDEN GROVE FIRE DEPARTMENT
BUSINESS EMERGENCY PLAN

C) EMPLOYEE RESPONSIBILITIES:

JOB TITLE : Team Leader

EMERGENCY FUNCTION(S)

- a. Report to accident scene.
- b. Determine the severity of accident.
- c. Notify hospital administration of accident at 537-5160 (PBX).
- d. Carry out orders of administration at Command Center.
- e. Verify all actions have been executed properly.

JOB TITLE : Evacuation Coordinator

EMERGENCY FUNCTION(S)

- a. Receive instructions from Team Leader.
- b. Notify staff of possible evacuation.
- c. Provide support and personnel to staging areas.
- d.

JOB TITLE : Emergency Coordinator

EMERGENCY FUNCTION(S)

- a. Establish Command Center.
- b. Team Leader to advise on extent of damage or injury.
- c. Coordinate all efforts to contain accident.
- d. Advise City Response Units as needed.
- e. Coordinate with Evacuation Coordinator.
- f. Complete Emergency Coordinator Task Sheet (see next page).

GARDEN GROVE FIRE DEPARTMENT
BUSINESS EMERGENCY PLAN

B) "EMERGENCY COORDINATOR TASK COMPLETION SHEET"

_____ Date and time the incident was reported: Date: _____

Time: _____

_____ Identify the nature and extent of the incident.

_____ Activate internal facility alarms or communication systems.

_____ Notify the Fire Department.

_____ Designate an employee to direct emergency response units to the incident scene.

_____ Initiate prearranged mitigation and evacuation plans.

_____ Secure all emergency shut-off valves. (as required)

_____ Initiate internal company notifications.

_____ Account for all evacuated personnel.

_____ Have resource material available for use by responding agencies (maps, drawings, Material Safety Data Sheets (MSDS), etc...).

_____ Identify actions taken by the business to control the incident.

_____ Secure the incident scene to include treatment, storage or disposal of hazardous materials or waste involved.

_____ Other: (specify)

THIS FORM SHALL BE GIVEN TO THE EMERGENCY RESPONDERS
UPON THEIR ARRIVAL AT THE FACILITY.

PART III
TRAINING

GARDEN GROVE FIRE DEPARTMENT
BUSINESS EMERGENCY PLAN

UTILIZE ADDITIONAL COPIES AS REQUIRED

EVACUATION DRILLS SHALL BE CONDUCTED ANNUALLY
OR MORE FREQUENTLY IF REQUIRED

Records of drills shall be maintained for a period of three years and shall be available for review by Fire Department personnel. The record shall include the facilitator's name, title, facility location, date of drill, and the signature of the facilitator.

PART III TRAINING (SEE YELLOW INSTRUCTION GUIDE PG. 8)

OUTLINE THE STEPS YOUR BUSINESS SHALL TAKE TO MEET THE TRAINING REQUIREMENTS NOTED IN THIS SECTION.

A) METHODS FOR SAFE HANDLING OF HAZARDOUS MATERIALS:

See attached page.

B) PROCEDURES FOR NOTIFICATION OF AND COORDINATION WITH EMERGENCY AGENCIES:

See attached page.

C) USE OF EMERGENCY RESPONSE EQUIPMENT AND SUPPLIES UNDER THE CONTROL OF THE HANDLER:

See attached page.

D) EMERGENCY MITIGATION PROCEDURES IN RESPONSE TO A RELEASE OR THREATENED RELEASE OF A HAZARDOUS MATERIAL:

See attached page.

E) RECORDS OF TRAINING (SEE YELLOW INSTRUCTION GUIDE PG. 9)

See attached page.

A. METHODS FOR SAFE HANDLING OF HAZARDOUS MATERIALS:

1. All personnel have been trained in proper handling of hazardous materials and use of appropriate protective equipment.
2. Material Safety Data Sheets are available for all employees handling hazardous materials to review.
3. All hazardous materials are properly stored, segregated, and labeled.

B. PROCEDURES FOR NOTIFICATION OF AND COORDINATION WITH EMERGENCY AGENCIES:

1. All personnel are familiar with notification of the Fire Department. Dial 911.
2. A designated employee is trained to call the State at (916) 427-4341 and report a release with the information required.

C. USE OF EMERGENCY RESPONSE EQUIPMENT AND SUPPLIES UNDER THE CONTROL OF THE HANDLER:

1. All personnel are trained in the proper use of fire extinguishers, onsite emergency response equipment, and supplies available.

D. EMERGENCY MITIGATION PROCEDURES IN RESPONSE TO A RELEASE OR THREATENED RELEASE OF A HAZARDOUS MATERIAL:

1. All personnel have been trained in evacuation procedures.
2. All personnel know what staging areas are designated for their use.
3. An emergency coordinator and alternate have been assigned.

E. RECORDS OF TRAINING:

Training will be accomplished upon hire and refresher training will be accomplished at least annually. Records of training will be maintained for a period of three years and will include the facilitator's name, title, type training given, date of training, and the signature of the facilitator. A copy of an employee sign-in sheet shall be attached. Education training and record keeping will be performed by the Education Department.

PART IV
PREVENTION

GARDEN GROVE FIRE DEPARTMENT
BUSINESS EMERGENCY PLAN

PART IV PREVENTION

LIST ACTIONS WHICH HAVE BEEN ACCOMPLISHED TO ABATE
HAZARDS RELATING TO THE USE, HANDLING, OR STORAGE OF
HAZARDOUS MATERIALS

HAZARDOUS MATERIALS
STORAGE LOCATION

PREVENTATIVE MEASURES

1. <u>Compressed gases storage areas</u>	<u>See note #1 below</u>
2. <u>Misc. hazardous materials storage areas</u>	<u>See note #2 below</u>
3. _____	_____
4. _____	_____
5. _____	_____
6. _____	_____
7. _____	_____
8. _____	_____

Comments relating to the listed storage areas:

Note 1: Compressed gases shall be stored upright, secured, and properly labeled.

Incompatible gases shall be stored seperately - storage areas shall be
labeled.

Note 2: All hazardous materials shall be properly stored and labeled. Incompatible
materials shall be stored seperately - M.S.D.S' shall be available to all
personnel handling hazardous materials. Storage areas will be labeled.

Note 3: This is a nonsmoking facility.

UTILIZE ADDITIONAL COPIES AS REQUIRED

PART V

A) SITE LAYOUT MAP

B) Site Plan

Use the symbols below to indicate on the attached sheet specific areas on the Site Plan. The Site Plan should be neat, clean, and drawn to scale if possible.

 HAZARDOUS MATERIAL LISTED BY SYMBOL AND NUMBER.

NOTE: THIS NUMBER SHOULD CORRESPOND WITH NUMBERS LISTED ON DISCLOSURE FORM.

 ELECTRICAL MAIN

 GAS MAIN

 WATER MAIN

 EVACUATION AREA

 NORTH DIRECTIONAL ARROW

 INDICATE KNOX BOX LOCATIONS (lock box for keys)

 AUTOMATED SPRINKLERED BUILDING **NEEDED ON ALL SPRINKLERED BUILDINGS.**

 FIRE DEPARTMENT SPRINKLER CONNECTION

 FIRE HYDRANT

M.S.D.S. #1

AIR LIQUIDE AMERICA CORPORATION
P. O. BOX 3047
HOUSTON, TX 77253

PAGE 1

MATERIAL SAFETY DATA SHEET

I - GENERAL INFORMATION

PRODUCT NAME OXYGEN

EMERGENCY TELEPHONE NO. 713-868-0302
MANUFACTURERS NAME AIR LIQUIDE AMERICA CORP.
TRADE NAME/SYNONYMS OXYGEN; OXYGEN USP; AVIATORS BREATHING OXYGEN (ABC)
CHEMICAL NAME AND SYNONYMS
OXYGEN
REVISION DATE: 09/05/89 PRODUCT ID. UN 1072 FORMULA O2
CHEMICAL FAMILY OXIDIZER CAS NUMBER 7782-44-7

***** SECTION NOTES *****

MSDS INFORMATION NUMBER: (713) 896-2140

II - HAZARDOUS INGREDIENTS

HAZARDOUS MIXTURES OF LIQUIDS AND GASES C/C TLV

OXYGEN 100 **
** NONE ESTABLISHED

III - PHYSICAL DATA

BOILING POINT -297.3F (-183.0C) @ 1 ATM
SPECIFIC GRAVITY (AIR = 1): 1.1049 @ 70F (21.1C) @ 1 ATM
VAPOUR PRESSURE N/A
PERCENT VOLATILE BY VOLUME (O/O) N/A (GAS)
DENSITY 0.08279 LB/CU FT @ 70 F (21.1 C) @ 1 ATM
EVAPORATION RATE N/A (GAS)
SOLUBILITY IN WATER 4.89SCC/100CC H2O @ 32 F (0 C)
MATERIAL AT NORMAL CONDITION GAS
EXPANSION RATIO (LIQUID TO GAS) N/A (GAS)

APPEARANCE AND ODOUR

COLORLESS. ODORLESS. TASTELESS GAS

IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT N/A
FLASH POINT (METHOD USED)
FLAMMABILITY LIMITS IN AIR (O/O BY VOL) LOWER N/A UPPER N/A

EXTINGUISHING MEDIA

MATERIAL IS NONFLAMMABLE. USE EXTINGUISHING MEDIA APPROPRIATE FOR SURROUNDING FIRE.

SPECIAL FIRE FIGHTING PROCEDURES

THOUGH NOT FLAMMABLE ITSELF, OXYGEN VIGOROUSLY ACCELERATES COMBUSTION. IF POSSIBLE, SHUT OFF OXYGEN GAS AND REMOVE CYLINDERS FROM FIRE AREA OR COOL WITH WATER TO AVOID EXCESSIVE PRESSURE BUILD UP.

UNUSUAL FIRE AND EXPLOSION HAZARD

MATERIALS WHICH DO NOT BURN IN AIR MAY BURN IN AN OXYGEN-ENRICHED ATMOSPHERE WHERE THE OXYGEN CONTENT EXCEEDS 21%. OXYGEN MAY FORM EXPLOSIVE COMPOUNDS WHEN EXPOSED TO COMBUSTIBLE MATERIALS OR OIL, GREASE, AND OTHER HYDROCARBON MATERIALS. PRESSURE CAN BUILD UP DUE TO HEAT AND CYLINDER MATERIALS. IF PRESSURE RELIEF DEVICES SHOULD FAIL TO

PRODUCT NAME MATERIAL SAFETY DATA SHEET
OXYGEN

RELIEVE PRESSURE.

V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE NONE ESTABLISHED
UNUSUAL CHRONIC TOXICITY *SEE OVEREXPOSURE SECTION*
CARCINOGENICITY NOT LISTED BY IARC, NTP, CSHA
ROUTES OF EXPOSURE INHALATION
EFFECTS OF OVEREXPOSURE

BREATHING 80% OR MORE OXYGEN AT ATMOSPHERIC PRESSURE FOR MORE THAN A FEW HOURS MAY CAUSE NASAL STUFFINESS, COUGH, SORE THROAT, CHEST PAIN AND BREATHING DIFFICULTY. BREATHING OXYGEN AT HIGHER PRESSURE INCREASES THE LIKELIHOOD OF ADVERSE EFFECTS WITHIN A SHORTER TIME PERIOD. EXPOSURE TO OXYGEN AT HIGHER PRESSURES FOR PROLONGED PERIODS HAS BEEN FOUND TO AFFECT VISION, NEUROMUSCULAR COORDINATION AND ATTENTIVE POWERS.

TOXICOLOGICAL PROPERTIES:

AT NORMAL CONCENTRATION AND PRESSURE, OXYGEN POSES NO TOXICITY HAZARDS. HOWEVER, AT ELEVATED CONCENTRATIONS AND PRESSURES, OXYGEN MAY CAUSE ADVERSE EFFECTS (SEE ABOVE).

EMERGENCY AND FIRST AID PROCEDURES

REDUCE OXYGEN PRESSURES TO 1 ATM AND/OR MOVE VICTIM INTO FRESH AIR.

RESCUE PERSONNEL SHOULD BE AWARE OF EXTREME FIRE HAZARDS ASSOCIATED WITH OXYGEN-ENRICHED ATMOSPHERES.

VI - REACTIVITY DATA

STABILITY STABLE

CONDITIONS TO AVOID

NONE.

INCOMPATIBILITY (MATERIALS TO AVOID)

OXYGEN REACTS EXPLOSIVELY WITH ETHERS, ALCOHOLS, AND HYDRO-CARBON MATERIALS. KEEP OXYGEN CONTAINERS FREE OF OIL AND/OR GREASE.

HAZARDOUS DECOMPOSITION PRODUCTS

NONE.

HAZARDOUS POLYMERIZATION WILL NOT OCCUR

CONDITIONS TO AVOID

NONE.

VII - SPILL OR LEAK PROCEDURES

PRODUCT NAME MATERIAL SAFETY DATA SHEET
OXYGEN

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

EVACUATE ALL UNNECESSARY PERSONNEL FROM AFFECTED AREA. SHUT OFF SOURCE OF OXYGEN IF POSSIBLE. VENTILATE AREA TO PREVENT OXYGEN-ENRICHED ATMOSPHERE. REMOVE SOURCES OF HEAT OR IGNITION. IF LEAKING FROM CONTAINER OR VALVE, CONTACT THE CLOSEST BIG THREE INDUSTRIES LOCATION, OR YOUR SUPPLIER.

WASTE DISPOSAL METHOD

DO NOT ATTEMPT TO DISPOSE OF RESIDUAL OR UNUSED QUANTITIES. RETURN TO YOUR SUPPLIER FOR DISPOSAL. FOR EMERGENCY DISPOSAL, SECURE THE CYLINDER AND BLOW DOWN SLOWLY TO THE ATMOSPHERE IN A WELL-VENTILATED AREA OR OUTDOORS.

VIII - SPECIAL PROTECTIVE INFORMATION

RESPIRATORY PROTECTION (SPECIFY TYPE)

NONE.

VENTILATION

NATURAL OR MECHANICAL WHERE GAS IS PRESENT -- *SEE NOTES*

PROTECTIVE GLOVES

IF USED, MUST BE CLEAN AND GREASE FREE

EYE PROTECTION

SAFETY GLASSES ARE RECOMMENDED WHEN HANDLING HIGH PRESSURE CYLINDERS.

OTHER PROTECTIVE EQUIPMENT

SAFETY SHOES WHEN HANDLING CYLINDERS.

***** SECTION NOTES *****

LOCAL EXHAUST: SUFFICIENT TO PREVENT OXYGEN-ENRICHED ATMOSPHERES OF OVER 21% OXYGEN.

IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

STORE AND USE WITH ADEQUATE VENTILATION. OXYGEN IS HEAVIER THAN AIR AND LEAKING GAS COULD ACCUMULATE IN LOW AREAS OR CONFINED SPACES CAUSING AN OXYGEN-ENRICHED ATMOSPHERE. CYLINDERS SHOULD BE STORED UPRIGHT WITH VALVE PROTECTION CAP IN PLACE AND FIRMLY SECURED TO PREVENT FALLING OR BEING KNOCKED OVER. PROTECT CYLINDERS FROM PHYSICAL DAMAGE; DO NOT DRAG, ROLL, SLIDE, OR DROP. USE A SUITABLE HAND TRUCK FOR CYLINDER MOVEMENT. DO NOT ALLOW THE TEMPERATURE WHERE CYLINDERS ARE STORED TO EXCEED 125 F (52 C). DO NOT STORE OXYGEN CLOSER THAN 20 FEET FROM FLAMMABLE OR COMBUSTIBLE MATERIALS. KEEP CYLINDERS FREE FROM OIL AND GREASE.

G.O.T. LABELING

OXYGEN --- YELLOW LABEL

VALVE 3/4" P. 1184 No. 1184

PRODUCT NAME MATERIAL SAFETY DATA SHEET
OXYGEN

CGA 540 OR CGA 870 (PIN INDEXED)

OTHER PRECAUTIONS

ALL GAUGES, VALVES, REGULATORS, PIPING AND EQUIPMENT TO BE USED IN OXYGEN SERVICE MUST BE CLEANED FOR OXYGEN SERVICE IN ACCORDANCE WITH CGA PAMPHLET G-4-1. OXYGEN IS NOT TO BE USED AS A SUBSTITUTE FOR COMPRESSED AIR. NEVER STRIKE A WELDING ARC ON ANY COMPRESSED GAS CYLINDER. REFILLING CYLINDERS WITHOUT THE CONSENT OF THE CYLINDER OWNER IS A VIOLATION OF FEDERAL LAW (49 CFR).

DOT PLACARD: OXYGEN

DOT PROPER SHIPPING NAME: OXYGEN, COMPRESSED

MISCELLANEOUS INFORMATION:

FURTHER INFORMATION ABOUT OXYGEN CAN BE FOUND IN THE FOLLOWING PAMPHLETS PUBLISHED BY:

THE COMPRESSED GAS ASSOCIATION (CGA)
1235 JEFFERSON DAVIS HIGHWAY
ARLINGTON, VA 22202
(703) 979-4341

- G-4-3: "COMMODITY SPECIFICATION FOR OXYGEN"
- G-4: "OXYGEN"
- G-4-1: "CLEANING EQUIPMENT FOR OXYGEN SERVICE"
- P-1: "SAFE CLEANING OF COMPRESSED GASES IN CONTAINERS"
- P-14: "ACCIDENT PREVENTION IN OXYGEN-RICH AND OXYGEN-DEFICIENT ATMOSPHERES"
- SB-8: "USE OF OXY-FUEL GAS WELDING AND CUTTING APPARATUS"
- AV-8: "CHARACTERISTICS AND SAFE HANDLING OF CRYOGENIC LIQUID AND GASEOUS OXYGEN"

NFPA RATINGS:
HEALTH: 0
FLAMMABILITY: 0
REACTIVITY: 0

HMS RATINGS:
HEALTH: 0
FLAMMABILITY: 0
REACTIVITY: 0

CERCLA RATINGS:
HEALTH: 0
FIRE: 0
REACTIVITY: 0
PERSISTANCE: 3

LISTED IN TSCA INVENTORY: YES

THIS PRODUCT SAFETY DATA SHEET IS OFFERED SOLELY FOR YOUR INFORMATION. CONSIDERATION, INVESTIGATION, IN COMPLIANCE WITH HAZARD COMMUNICATION STANDARD 29 CFR 1900.1200. AIR LIQUIDE AMERICA CORP. PROVIDES NO WARRANTIES, EITHER EXPRESS OR IMPLIED.



AIR LIQUIDE

M.S.D.S. #2

MATERIAL SAFETY DATA SHEET

Prepared to U.S. OSHA, CMA, ANSI and Canadian WHMIS Standards

1. PRODUCT IDENTIFICATION

CHEMICAL NAME; CLASS: NITROUS OXIDE

SYNONYMS: Nitrogen Monoxide; Nitrogen Oxide; Dinitrogen Monoxide; Hyponitrous Acid Anhydride; Laughing Gas; Nitrous Oxide USP

CHEMICAL FAMILY NAME: Inorganic Oxide

FORMULA: N₂O

PRODUCT USE:	Document Number: 10063 Used for anesthesia and analgesia; Oxidizing gas for atomic absorption photometry, propellant for aerosols, food additive and in manufacture of semiconductors
SUPPLIER/MANUFACTURER'S NAME:	AIR LIQUIDE AMERICA CORPORATION
ADDRESS:	2700 Post Oak Drive Houston, TX 77056-8229
EMERGENCY PHONE:	CHEMTREC: 1-800-424-9300
BUSINESS PHONE:	General MSDS Information 1-713/868-0440 Fax on Demand: 1-800/231-1366

2. COMPOSITION and INFORMATION ON INGREDIENTS

CHEMICAL NAME	CAS #	mole %	EXPOSURE LIMITS IN AIR					OTHER
			ACGIH		OSHA			
			TLV ppm	STEL ppm	PEL ppm	STEL ppm	IDLH ppm	
Nitrous Oxide	10024-97-2	> 99.6%	50, A4 (Not Classifiable as a Human Carcinogen)	NE	NE	NE	NE	NIOSH REL: 25 ppm CFG MAK: 100 ppm
Maximum Impurities		< 0.4%	None of the trace impurities in this product contribute significantly to the hazards associated with the product. All hazard information pertinent to this product has been provided in this Material Safety Data Sheet, per the requirements of the OSHA Hazard Communication Standard (29 CFR 1910.1200) and State equivalents standards.					

NE = Not Established

C = Ceiling Limit

See Section 16 for Definitions of Terms Used.

NOTE: all WHMIS required information is included. It is located in appropriate sections based on the ANSI Z400.1-1993 format.

NITROUS OXIDE - N₂O MSDS

EFFECTIVE DATE: FEBRUARY 20, 1997

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1997-04-29 14:15 #305 P.01

713 868 0632

FROM: AIR LIQUIDE

Page: 2 12-03-97 14:04:05

FAX: (713) 868-0632

FROM: AIR LIQUIDE AMERICA

3. HAZARD IDENTIFICATION

EMERGENCY OVERVIEW: Nitrous Oxide is a colorless, liquefied gas. The gas has a sweet odor. At high concentrations, Nitrous Oxide is an anesthetic and over-exposure will produce symptoms of drowsiness, weakness, and loss of coordination. At higher concentrations, the gas will act as an asphyxiant by displacing oxygen. Nitrous Oxide is a reproductive toxin. Escape of rapidly expanding gas from the cylinder can cause frostbite to any contaminated tissue. Nitrous Oxide is not flammable, but at elevated temperatures or if involved in a fire, the gas can act as an oxidizer to initiate and sustain the combustion of flammable materials. Adequate fire protection must be provided.

SYMPTOMS OF OVER-EXPOSURE BY ROUTE OF EXPOSURE:
The most significant route of over-exposure for this product is by inhalation.

INHALATION: Prolonged or repeated over-exposures to Nitrous Oxide has produced injury to the nervous system. Symptoms of such over-exposure include numbness, tingling of the hands and legs, loss of feeling in the fingers, and muscular weakness. Other effects of inhalation exposure include potential reproductive effects. Exposure to Nitrous Oxide may be associated with an increase in spontaneous abortions in humans. Single, prolonged exposures to Nitrous Oxide have resulted in bone marrow damage and adverse effects on the blood.

When Nitrous Oxide is inhaled in high concentrations, the gas acts a central nervous system depressant. Exposure to concentrations of 50% or greater will produce symptoms such as excitation, euphoria, dizziness, drowsiness, slurred speech, dulling of senses and narcosis. Inhalation of small amounts of this gas often produces a type of hysteria; therefore, a common name for Nitrous Oxide is "Laughing Gas". At higher concentrations approaching 100%, inhalation may cause deep breathing, dizziness, nausea and central nervous system effects.

WARNING! The misuse of Nitrous Oxide can cause death by reducing the amount of oxygen necessary to support life. Nitrous Oxide abuse can impair an individual's ability to make and implement life sustaining decisions.

High concentrations of this gas can cause an oxygen-deficient environment. Individuals breathing an oxygen deficient atmosphere may experience symptoms which include headaches, ringing in ears, dizziness, drowsiness, unconsciousness, nausea, vomiting, and depression of all the senses. Under some circumstances of over-exposure, death may occur. The following effects associated with various levels of oxygen are as follows:

<u>CONCENTRATION</u>	<u>SYMPTOM OF EXPOSURE</u>
2-16% Oxygen:	Breathing and pulse rate increased, muscular coordination slightly disturbed.
10-14% Oxygen	Emotional upset, abnormal fatigue, disturbed respiration.
6-10% Oxygen:	Nausea and vomiting, collapse or loss of consciousness.
Below 8%:	Convulsive movements, possible respiratory collapse, and death.

OTHER POTENTIAL HEALTH EFFECTS: Contact of the skin or eyes with liquid or rapidly gases (which are released under high pressure) may cause frostbite. Symptoms of frostbite include change in skin color to white or grayish-yellow. The pain after contact with liquid can quickly subside. Ingestion and absorption through the skin are not considered significant routes of entry of oxygen into the body.

HEALTH EFFECTS OR RISKS FROM EXPOSURE: An Explanation in Lay Terms. Over-exposure to Nitrous Oxide may cause the following health effects:

ACUTE: The most significant hazard associated with this gas is inhalation of oxygen-deficient atmospheres and effects on the central nervous system. Symptoms of oxygen deficiency or central nervous system depression include respiratory difficulty, ringing in ears, headaches, shortness of breath, wheezing, headache, dizziness, indigestion, nausea, fatigue weakness and, at high concentrations, unconsciousness or death may occur. The skin of a victim of over-exposure may have a blue color.

HAZARDOUS MATERIAL INFORMATION SYSTEM		
HEALTH	(BLUE)	2
FLAMMABILITY	(RED)	0
REACTIVITY	(YELLOW)	0
PROTECTIVE EQUIPMENT	B	
EYES	RESPIRATORY	HANDS
See Section 8		
For routine industrial applications		

3. HAZARD IDENTIFICATION (Continued)

Contact with liquid or rapidly expanding gases (which are released under high pressure) may cause frostbite. Symptoms of frostbite include change in skin color to white or grayish-yellow. The pain after contact with liquid can quickly subside.

CHRONIC: Chronic repeated over-exposures to Nitrous Oxide can produce injury to the nervous system. Symptoms of such over-exposure include numbness, tingling of the hands and legs, loss of feeling in the fingers, poor balance and muscular weakness. Other effects of inhalation exposure include potential reproductive effects. Exposure to Nitrous Oxide may be associated with an increase in spontaneous abortions in humans. Prolonged exposures to Nitrous Oxide can result in damage to the bone marrow and blood system. Refer to Section 11 (Toxicological Information) of this MSDS for additional information.

TARGET ORGANS: Respiratory system, central nervous system, blood system, reproductive system.

4. FIRST-AID MEASURES

RESCUERS SHOULD NOT ATTEMPT TO RETRIEVE VICTIMS OF EXPOSURE TO THIS PRODUCT WITHOUT ADEQUATE PERSONAL PROTECTIVE EQUIPMENT. At a minimum, Self-Contained Breathing Apparatus should be worn.

Remove victim(s) to fresh air, as quickly as possible. Persons suffering from lack of oxygen should be removed to fresh air. If victim is not breathing, or a dulling of senses occurs to the victim, administer artificial respiration. Only trained personnel should administer supplemental oxygen and/or cardio-pulmonary resuscitation, if necessary. Vomiting may occur as the person awakes. In order to prevent aspiration, exposed individuals should be placed on their side with their head at the level or slightly lower than their body.

Rescue personnel should be aware of the extreme fire hazards associated with oxidizer-enriched atmospheres.

SKIN EXPOSURE: Remove any clothing that may restrict circulation to any frozen area. Do not rub frozen parts as tissue damage may occur. As soon as practicable, place any affected area in warm water bath which has a temperature that does not exceed 105°F (40°C). NEVER USE HOT WATER. NEVER USE DRY HEAT. If area of frostbite is extensive, and if possible, remove clothing while showering with warm water. If warm water is not available, or is impractical to use, wrap the affected parts gently in blankets. Alternatively, if the fingers or hands are frostbitten, place the affected area of the body in the armpit. Encourage victim to gently exercise the affected part while being warmed. Seek immediate medical attention.

Frozen tissue is painless and appears waxy, with a possible yellow color. Frozen tissue will become swollen, painful and prone to infection when thawed. If the frozen part of the body has been thawed by the time medical attention has been obtained, cover the area with a dry sterile dressing and a large bulky protective covering.

Victim(s) must be taken for medical attention. Rescuers should be taken for medical attention, if necessary. Take copy of label and MSDS to physician or other health professional with victim(s).

5. FIRE-FIGHTING MEASURES

FLASH POINT, (method): Not applicable.

AUTOIGNITION TEMPERATURE: Not applicable.

FLAMMABLE LIMITS (In air by volume, %):

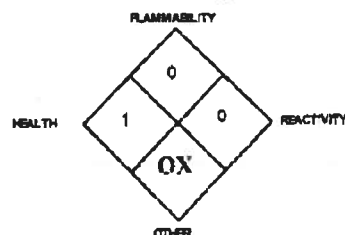
Lower (LEL): Not applicable.

Upper (UEL): Not applicable.

FIRE EXTINGUISHING MATERIALS: Non-flammable gas. Use extinguishing media appropriate for surrounding fire. In the event of fire, cool containers of this product with water to prevent failure. Use a water spray or fog to reduce or direct vapors.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Nitrous Oxide does not burn; however, containers, when involved in fire, may rupture or burst in the heat of the fire. Additionally, at temperatures above 200 °C or when involved in a fire, Nitrous Oxide is an oxidizer. At elevated temperatures, the product can act to initiate and sustain the combustion of combustible materials. At elevated temperatures, Nitrous Oxide will decompose to nitrogen and oxygen. Nitrous Oxide may form explosive compounds when exposed to combustible materials or grease and other hydrocarbon materials.

NFPA RATING



5. FIRE-FIGHTING MEASURES (Continued)

Water Spray: YES
Halon: YES

Carbon Dioxide: YES
Dry Chemical: YES

Foam: YES
Other: Any "ABC" Class.

Explosion Sensitivity to Mechanical Impact: Not Sensitive.
Explosion Sensitivity to Static Discharge: Not Sensitive.

SPECIAL FIRE-FIGHTING PROCEDURES: Structural fire-fighters must wear Self-Contained Breathing Apparatus and full protective equipment. Other information for pre-planning can be found in the North American Emergency Response Guidebook.

6. ACCIDENTAL RELEASE MEASURES

LEAK RESPONSE: Evacuate immediate area. Uncontrolled releases should be responded to by trained personnel using pre-planned procedures. Proper protective equipment should be used. In case of a spill, clear the affected area, protect people, and respond with trained personnel. Adequate fire protection must be provided.

Minimum Personal Protective Equipment should be **Level B: protective clothing, gloves and Self-Contained Breathing Apparatus.** Locate and seal the source of the leaking gas. Allow the gas to dissipate. Monitor the surrounding area for oxygen levels and the level of Nitrous Oxide. The atmosphere must have at least 19.5 percent oxygen before personnel can be allowed in the area without Self-Contained Breathing Apparatus. Reading should also indicate that Nitrous Oxide is not present in the atmosphere above acceptable levels before non-emergency personnel are permitted to re-enter the area. Attempt to close the main source valve prior to entering the area. If this does not stop the release (or if it is not possible to reach the valve), allow the gas to release in-place or remove it to a safe area and allow the gas to be released there.

7. HANDLING and USE

WORK PRACTICES AND HYGIENE PRACTICES: Be aware of any signs of dizziness or fatigue; exposures to fatal concentrations of this product could occur without any significant warning symptoms, due to oxygen deficiency. Non-sparking tools should be used.

STORAGE AND HANDLING PRACTICES: Cylinders should be stored upright and be firmly secured to prevent falling or being knocked-over. Cylinders can be stored in the open, but in such cases, should be protected against extremes of weather and from the dampness of the ground to prevent rusting.

Cylinders should be stored in dry, well-ventilated areas away from sources of heat, ignition and direct sunlight. Keep storage area clear of materials which can burn. Do not allow area where cylinders are stored to exceed 52°C (125°F). Store containers away from heavily trafficked areas and emergency exits. Store away from process and production areas, away from elevators, building and room exits or main aisles leading to exits.

Consider installation of leak detection and alarm for storage and use areas. Have appropriate extinguishing equipment in the storage area (i.e. sprinkler system, portable fire extinguishers).

Use non-sparking ventilation systems, approved explosion-proof equipment, and appropriate electrical systems. Electrical equipment used in gas-handling operations, or located in storage areas, should be non-sparking or explosion-proof. Use a check valve in the discharge line to prevent hazardous backflow. Never tamper with pressure relief valves and cylinders.

Keep the smallest amount necessary on-site at any one time. Full and empty cylinders should be segregated. Use a first-in, first-out inventory systems to prevent full containers from being stored for long periods of time.

WARNING: Because of its "laughing gas" anesthetic effect, Nitrous Oxide is often subject to theft and misuse. Cylinders should be stored and used in a controlled area.

SPECIAL PRECAUTIONS FOR HANDLING GAS CYLINDERS: Compressed gases can present significant safety hazards. The following rules are applicable to work situations in which cylinders are being used.

Before Use: Move cylinders with a suitable hand-truck. Do not drag, slide or roll cylinders. Do not drop cylinders or permit them to strike each other. Secure cylinders firmly. Leave the valve protection cap (where provided) in-place until cylinder is ready for use.

7. HANDLING and USE (Continued)

During Use: Use designated CGA fittings and other support equipment. Do not use adapters. Do not heat cylinder by any means to increase the discharge rate of the product from the cylinder. Do not use oils or grease on gas-handling fittings or equipment. Leak-check system with leak detection solution, never with flame. Immediately contact the supplier if there are any difficulties associated with operating cylinder valve. Never insert an object (e.g. wrench, screwdriver, pry bar, etc.) into valve cap openings. Doing so may damage valve, causing a leak to occur. Use an adjustable strap wrench to remove over-tight or rusted caps. Never strike an arc, on a compressed gas cylinder or make a cylinder part of an electric circuit.

After Use: Close main cylinder valve. Replace valve protection cap. Mark empty cylinders "EMPTY".

NOTE: Use only DOT or ASME code containers. Earth-ground and bond all lines and equipment associated with this product. Close valve after each use and when empty.

STANDARD VALVE CONNECTIONS FOR U.S. AND CANADA: Use the proper CGA connections, DO NOT USE ADAPTERS:

<u>THREADED:</u>	0-3000 psig	CGA 326
<u>PIN-INDEXED YOKE:</u>	0-3000 psig	CGA 910
<u>ULTRA HIGH INTEGRITY:</u>	0-3000 psig	712

PROTECTIVE PRACTICES DURING MAINTENANCE OF CONTAMINATED EQUIPMENT: Follow practices indicated in Section 6 (Accidental Release Measures). Make certain application equipment is locked and tagged-out safely. Purge gas handling equipment with inert gas (i.e. nitrogen) before attempting repairs. Always use product in areas where adequate ventilation is provided.

8. EXPOSURE CONTROLS - PERSONAL PROTECTION

VENTILATION AND ENGINEERING CONTROLS: Use with adequate ventilation. Local exhaust ventilation is preferred, because it prevents dispersion of this gas into the work place by eliminating it at its source. If appropriate, install automatic monitoring equipment to detect the level of oxygen.

RESPIRATORY PROTECTION: Maintain oxygen levels above 19.5% in the workplace. Use supplied air respiratory protection if oxygen levels are below 19.5% or during emergency response to a release of this product. If respiratory protection is required, follow the requirements of the Federal OSHA Respiratory Protection Standard (29 CFR 1910.134), or equivalent State standards.

EYE PROTECTION: Safety glasses.

HAND PROTECTION: Wear gloves when handling cylinders of this product, or specific gloves that are appropriate to the specific operation for which this product is used. If used, gloves must be free and clean of oil and grease.

BODY PROTECTION: Use body protection appropriate for task. Safety shoes are recommended when handling cylinders.

9. PHYSICAL and CHEMICAL PROPERTIES

GAS DENSITY @ 70°F (21.1°C) and 1 atm: 0.1148 lb/ft³ (1.947 kg/cu m³)

BOILING POINT: -88.5°C; -127.4°F

FREEZING/MELTING POINT @ 10 psig: -90.8°C; -131.5°F

SPECIFIC GRAVITY (air = 1) @ 70°F (21.1°C): 1.53

pH: Not applicable.

SOLUBILITY IN WATER vol/vol at 32°F (0°C) and 1 atm: 1.3

MOLECULAR WEIGHT: 44.013

EVAPORATION RATE (nBuAc = 1): Not applicable.

EXPANSION RATIO: Not applicable.

ODOR THRESHOLD: Not applicable.

SPECIFIC VOLUME (ft³/lb): 8.7

VAPOR PRESSURE @ 70°F (21.1°C) psig: 745

COEFFICIENT WATER/OIL DISTRIBUTION: Not applicable.

9. PHYSICAL and CHEMICAL PROPERTIES (Continued)

APPEARANCE AND COLOR: : This product is a colorless, liquefied gas with a sweet odor.

HOW TO DETECT THIS SUBSTANCE (warning properties): There are no unusual warning properties associated with a release of this product. In terms of leak detection, fittings and joints can be painted with a soap solution to detect leaks, which will be indicated by a bubble formation.

10. STABILITY and REACTIVITY

STABILITY: Normally stable.

DECOMPOSITION PRODUCTS: Nitrogen and oxygen.

MATERIALS WITH WHICH SUBSTANCE IS INCOMPATIBLE: Flammable materials, oils, grease, alkali metals, aluminum, boron, tin oxide, lithium hydride tungsten carbide. Nitrous Oxide forms explosive mixtures with phosphine, ammonia, carbon monoxide, hydrogen sulfide, hydrogen, and acetylene. This compound decomposes explosively at high temperatures, producing nitrogen and oxygen. This reaction will occur at lower temperatures in the presence of catalytic surfaces (i.e. silver, platinum, cobalt, copper oxides, or nickel oxides). Mixtures of Nitrous Oxide and silanes are stable, but such mixtures will detonate explosively when exposed to the atmosphere or elevated temperatures. Flashback into the cylinder resulting in catastrophic failure of the cylinder containing such mixtures can occur. Nitrous Oxide/Fuel gas mixtures are subject to all of the restrictions and precautions governing Fuel/Oxidizer mixtures.

HAZARDOUS POLYMERIZATION: Will not occur.

CONDITIONS TO AVOID: Avoid contact with incompatible materials. Cylinders exposed to high temperatures or direct flame can rupture or burst.

11. TOXICOLOGICAL INFORMATION

TOXICITY DATA: The following information is available for Nitrous Oxide.

SLN (*Drosophila melanogaster*,
inhalation) = 99 pph/6 months-C

DNA Inhibition Systems Test (rat,
inhalation) - 75000 ppm/24 hours

TCLo (inhalation, mouse) = 5000 ppm/4
hours (female, 14 day post); reproductive
effects

TCLo (inhalation, mouse) = 75 pph/6
hours (female, 14 day post); teratogenic
effects

TDL0 (inhalation, human) = 24 mg/kg/2
hours; central nervous system,
cardiovascular system, metabolic system
effects.
LCLo (inhalation, rat) = 1068 mg/m³/4
hours

SUSPECTED CANCER AGENT: Nitrous Oxide is not found on the following lists: FEDERAL OSHA Z LIST, NTP, CAL/OSHA, IARC; therefore it is not considered to be, nor suspected to be a cancer-causing agent by these agencies.

IRRITANCY OF PRODUCT: Contact with rapidly expanding gases can cause frostbite and damage to exposed skin and eyes

SENSITIZATION OF PRODUCT: Nitrous Oxide is not a sensitizer.

REPRODUCTIVE TOXICITY INFORMATION: Epidemiological studies suggest fetotoxic effects and higher rates of spontaneous abortions in humans who have been over-exposed to Nitrous Oxide. Although a definite causal relationship between Nitrous Oxide exposures and reproductive problems have not been established, exposure to the gas should be minimized. Listed below is additional information concerning the effects of Nitrous Oxide on the human reproductive system.

Mutagenicity: Nitrous Oxide is not expected to cause mutagenic effects in humans.

Embryotoxicity: Nitrous Oxide is reported to cause embryotoxic effects in laboratory animals. Refer to following paragraph for additional information.

Teratogenicity: Nitrous Oxide may cause teratogenic effects in humans. Exposure to Nitrous Oxide has caused embryo and fetal toxicity effects in laboratory animals. Such effects include reduced fetal weight, delayed ossification, and an increased incidence of visceral and skeletal variations.

Reproductive Toxicity: Nitrous Oxide may cause adverse reproductive effects in humans.

A mutagen is a chemical which causes permanent changes to genetic material (DNA) such that the changes will propagate through generation lines. An embryotoxin is a chemical which causes damage to a developing embryo (i.e. within the first eight weeks of pregnancy in humans), but the damage does not propagate across generational lines. A teratogen is a chemical which causes damage to a developing fetus, but the damage does not propagate across generational lines. A reproductive toxin is any substance which interferes in any way with the reproductive process.

11. TOXICOLOGICAL INFORMATION (Continued)

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Pre-existing respiratory conditions, central nervous system disorders, blood and immune system disorders, and pregnancies may be aggravated or adversely effected by over-exposure to this product. **Pregnant women should avoid any exposure to Nitrous Oxide.**

RECOMMENDATIONS TO PHYSICIANS: Provide oxygen, treat symptoms and reduce over-exposure. Nitrous Oxide may suppress immunological function when administered for anesthetic purposes. This may reduce the resistance to infection and other immuno-dependent disease processes. Nitrous Oxide may cause vitamin B-12 deficiency. Megaloblastic anemia and nervous system disorders can occur as a result of this chemically induced deficiency.

BIOLOGICAL EXPOSURE INDICES (BEIs): Currently, Biological Exposure Indices (BEIs) are not applicable for Nitrous Oxide.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL STABILITY: The gas will be dissipated rapidly in well-ventilated areas.

EFFECT OF MATERIAL ON PLANTS or ANIMALS: Any adverse effect on animals would be related to oxygen deficient environments, effects on the central nervous system, and potential reproductive problems. Symptoms of exposure would be similar for those described for humans. No adverse effect is anticipated to occur to plant-life, except for frost produced in the presence of rapidly expanding gases.

EFFECT OF CHEMICAL ON AQUATIC LIFE: No evidence is currently available on this product's effects on aquatic life. This gas is only slightly soluble in water.

13. DISPOSAL CONSIDERATIONS

PREPARING WASTES FOR DISPOSAL: Waste disposal must be in accordance with appropriate Federal, State, and local regulations. Return cylinders with any residual product to Air Liquide. Do not dispose of locally.

For emergency disposal, secure the cylinder and slowly discharge the gas to the atmosphere in a well-ventilated area or outdoors, away from all sources of ignition.

14. TRANSPORTATION INFORMATION

THIS MATERIAL IS HAZARDOUS AS DEFINED BY 49 CFR 172.101 BY THE U.S. DEPARTMENT OF TRANSPORTATION.

For Nitrous Oxide, Gas:

PROPER SHIPPING NAME: Nitrous oxide
HAZARD CLASS NUMBER and DESCRIPTION: 2.2 (Non-Flammable Gas)
UN IDENTIFICATION NUMBER: UN 1070
PACKING GROUP: Not applicable.
DOT LABEL(S) REQUIRED: Non-Flammable Gas, Oxidizer

For Liquefied Nitrous Oxide:

Nitrous Oxide, refrigerated liquid
2.2 (Non-Flammable Gas)
UN 2201
Not applicable.
Non-Flammable Gas, Oxidizer

NORTH AMERICAN EMERGENCY RESPONSE GUIDEBOOK NUMBER (1996): 122

MARINE POLLUTANT: Nitrous Oxide is not classified by the DOT as a Marine Pollutant (as defined by 49 CFR 172.101, Appendix B).

SPECIAL SHIPPING INFORMATION: Cylinders should be transported in a secure position, in a well-ventilated vehicle. The transportation of compressed gas cylinders in automobiles or in closed-body vehicles present serious safety hazards and should be discouraged.

NOTE: Shipment of compressed gas cylinders which have not been filled with the owners consent is a violation of Federal law (49 CFR, Part 173.301 (b)).

TRANSPORT CANADA TRANSPORTATION OF DANGEROUS GOODS REGULATIONS: THIS MATERIAL IS CONSIDERED AS DANGEROUS GOODS. Use the above information for the preparation of Canadian Shipments.

15. REGULATORY INFORMATION

SARA REPORTING REQUIREMENTS: This product is subject to the reporting requirements of Sections 302, 304 and 313 of Title III of the Superfund Amendments and Reauthorization Act., as follows:

COMPOUND	SARA 302	SARA 304	SARA 313
Nitrous Oxide	NO	NO	NO

SARA Threshold Planning Quantity: Not applicable.

TSCA INVENTORY STATUS: Nitrous Oxide is listed on the TSCA Inventory.

CERCLA REPORTABLE QUANTITY (RQ): Not applicable.

OTHER U.S. FEDERAL REGULATIONS:

- Nitrous Oxide is generally recognized as safe (GRAS) per 29 CFR 184.1545, as a direct human food ingredient when used as a propellant, aerating agent, dairy product, analog agent and gas.
- Nitrous Oxide USP is regulated by the FDA as a prescription drug.
- Depending on specific operations involving the use of this product, the regulations of the Process Safety Management of Highly Hazardous Chemicals may be applicable (29 CFR 1910.119). Under this regulation Nitrous Oxide is not listed in Appendix A.
- Nitrous Oxide does not contain any Class I or Class II ozone depleting chemicals (40 CFR part 82).
- Nitrous Oxide is not listed as a Regulated Substance, per 40 CFR, Part 68, of the Risk Management for Chemical Releases.

CALIFORNIA PROPOSITION 65: Nitrous Oxide is not on the California Proposition 65 lists.

STATE REGULATORY INFORMATION: Nitrous Oxide is covered under the following specific State regulations:

Alaska - Designated Toxic and Hazardous Substances: No. California - Permissible Exposure Limits for Chemical Contaminants: Nitrous Oxide. Florida - Substance List: No. Illinois - Toxic Substance List: Nitrous Oxide. Kansas - Section 302/313 List: No. Massachusetts - Substance List: No.	Minnesota - List of Hazardous Substances: Nitrous Oxide. Missouri - Employer Information/Toxic Substance List: No. New Jersey - Right to Know Hazardous Substance List: Nitrous Oxide. North Dakota - List of Hazardous Chemicals, Reportable Quantities: No.	Pennsylvania - Hazardous Substance List: No. Rhode Island - Hazardous Substance List: No. Texas - Hazardous Substance List: No. West Virginia - Hazardous Substance List: No. Wisconsin - Toxic and Hazardous Substances: No.
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OTHER CANADIAN REGULATIONS: Nitrous Oxide is categorized as a Controlled Product, Hazard Classes A, C and D2A as per the Controlled Product Regulations.

16. OTHER INFORMATION

SPECIAL PRECAUTIONS: All gauges, valves, regulators, piping and equipment to be used in Nitrous Oxide service must be cleaned for Oxygen service in accordance with CGA pamphlet G-4.1. Use piping and equipment adequately designed to withstand pressures and temperatures to be encountered. Nitrous Oxide may cause swelling of some elastomers. Use a check valve or other protective apparatus in any line or piping from the cylinder to prevent reverse flow.

MIXTURES: When two or more gases or liquefied gases are mixed, their hazardous properties may combine to create additional, unexpected hazards. Obtain and evaluate the safety information for each component before you produce the mixture. Consult an Industrial Hygienist or other trained person when you make your safety evaluation of the end product. Remember, gases and liquids have properties which can cause serious injury or death.

16. OTHER INFORMATION

Further information about Nitrous Oxide can be found in the following pamphlets published by: Compressed Gas Association Inc. (CGA), 1725 Jefferson Davis Highway, Suite 1004, Arlington, VA 22202-4102. Telephone: (703) 412-0900.

- G-4.1 "Cleaning Equipment of Oxygen Service"
- G-8.1 "Standard for Nitrous Oxide Systems at Consumer Sites"
- G-8.2 "Commodity Specification for Nitrous Oxide"
- P-1 "Safe Handling of Compressed Gases in Containers"
- P-14 "Accident Prevention in Oxygen-Rich and Oxygen Deficient Atmospheres"
- SB-2 "Oxygen Deficient Atmospheres"
- SB-6 "Nitrous Oxide Security and Control"
- AV-1 "Safe Handling and Storage of Compressed Gases"
- "Handbook of Compressed Gases"

PREPARED BY:

CHEMICAL SAFETY ASSOCIATES, Inc.
9163 Chesapeake Drive, San Diego, CA 92123-1002
619/585-0302

Fax on Demand: 1-800/231-1366



This Material Safety Data Sheet is offered pursuant to OSHA's Hazard Communication Standard, 29 CFR, 1910.1200. Other government regulations must be reviewed for applicability to this product. To the best of Air Liquide America Corporation's knowledge, the information contained herein is reliable and accurate as of this date; however, accuracy, suitability or completeness are not guaranteed and no warranties of any type, either express or implied, are provided. The information contained herein relates only to this specific product. If this product is combined with other materials, all component properties must be considered. Data may be changed from time to time. Be sure to consult the latest edition.



M.S.D.S. # 3

MATERIAL SAFETY DATA SHEET

Prepared to U.S. OSHA, CMA, ANSI and Canadian WHMIS Standards

1. PRODUCT IDENTIFICATION

CHEMICAL NAME; CLASS: NITROGEN

SYNONYMS: NF Nitrogen.
CHEMICAL FAMILY NAME: Inert Gas
FORMULA: N₂

NOTE: Nitrogen MAY BE SUPPLIED BY PIPELINE AT PRESSURES TO 800 psig.

PRODUCT USE:	Document Number: 10061 Medical, inerting and general analytical or synthetic chemical uses.
SUPPLIER/MANUFACTURER'S NAME:	AIR LIQUIDE AMERICA CORPORATION
ADDRESS:	2700 Post Oak Drive Houston, TX 77056-8229
EMERGENCY PHONE:	CHEMTREC: 1-800-424-9300
BUSINESS PHONE:	General MSDS Information 1-713/868-0440 Fax on Demand: 1-800/231-1366

2. COMPOSITION and INFORMATION ON INGREDIENTS

CHEMICAL NAME	CAS #	mole %	EXPOSURE LIMITS IN AIR					
			ACGIH		OSHA			OTHER
			TLV ppm	STEL ppm	PEL ppm	STEL ppm	IDLH ppm	
Nitrogen	7727-37-9	>99.99 %	There are no specific exposure limits for Nitrogen. Nitrogen is a simple asphyxiant (SA). Oxygen levels should be maintained above 19.5%.					
Maximum impurities		<0.01 %	None of the trace impurities in Nitrogen contribute significantly to the hazards associated with the product. All hazard information pertinent to Nitrogen has been provided in this Material Safety Data Sheet, per the requirements of the OSHA Hazard Communication Standard (29 CFR 1910.1200) and State equivalents standards.					

NE = Not Established C = Ceiling Limit See Section 16 for Definitions of Terms Used.

NOTE: all WHMIS required information is included. It is located in appropriate sections based on the ANSI Z400.1-1993 format.

3. HAZARD IDENTIFICATION

EMERGENCY OVERVIEW: Nitrogen is a colorless, odorless gas. The main health hazard associated with releases of this gas is asphyxiation, by displacement of oxygen.

SYMPTOMS OF OVER-EXPOSURE BY ROUTE OF EXPOSURE:
The most significant route of over-exposure for Nitrogen is by inhalation.

INHALATION: High concentrations of this gas can cause an oxygen-deficient environment. Individuals breathing such an atmosphere may experience symptoms which include headaches, ringing in ears, dizziness, drowsiness, unconsciousness, nausea, vomiting, and depression of all the senses. Under some circumstances of over-exposure, death may occur. The following effects associated with various levels of oxygen are as follows:

12-16% Oxygen:	Breathing and pulse rate increased, muscular coordination slightly disturbed.
10-14% Oxygen:	Emotional upset, abnormal fatigue, disturbed respiration.
6-10% Oxygen:	Nausea and vomiting, collapse or loss of consciousness.
Below 6%:	Convulsive movements possible respiratory collapse, and death.

HEALTH EFFECTS OR RISKS FROM EXPOSURE: An Explanation in Lay Terms. Over-exposure to Nitrogen may cause the following health effects:

ACUTE: The most significant hazard associated with this gas is inhalation of oxygen-deficient atmospheres. Symptoms of oxygen deficiency include respiratory difficulty, ringing in ears, headaches, shortness of breath, wheezing, headache, dizziness, indigestion, nausea, and, at high concentrations, unconsciousness or death may occur. The skin of a victim of over-exposure may have a blue color.

CHRONIC: There are currently no known adverse health effects associated with chronic exposure to this gas.

TARGET ORGANS: Respiratory system.

HAZARDOUS MATERIAL INFORMATION SYSTEM			
HEALTH	(BLUE)	0	
FLAMMABILITY	(RED)	0	
REACTIVITY	(YELLOW)	0	
PROTECTIVE EQUIPMENT			B
EYES	RESPIRATORY	HANDS	BODY
See Section 8			
For routine industrial applications			

4. FIRST-AID MEASURES

RESCUERS SHOULD NOT ATTEMPT TO RETRIEVE VICTIMS OF EXPOSURE TO NITROGEN WITHOUT ADEQUATE PERSONAL PROTECTIVE EQUIPMENT. At a minimum, Self-Contained Breathing Apparatus

Remove victim(s) to fresh air, as quickly as possible. Only trained personnel should administer supplemental oxygen and/or cardio-pulmonary resuscitation, if necessary.

Victim(s) must be taken for medical attention. Rescuers should be taken for medical attention, if necessary. Take copy of label and MSDS to physician or other health professional with victim(s).

5. FIRE-FIGHTING MEASURES

FLASH POINT, (method): Not applicable.

AUTOIGNITION TEMPERATURE: Not applicable.

FLAMMABLE LIMITS (in air by volume, %):

Lower (LEL): Not applicable.

Upper (UEL): Not applicable.

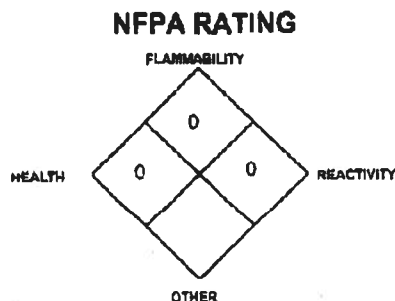
FIRE EXTINGUISHING MATERIALS: Non-flammable, inert gas.
Use extinguishing media appropriate for surrounding fire.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Nitrogen does not burn; however, containers, when involved in fire, may rupture or burst in the heat of the fire.

Explosion Sensitivity to Mechanical Impact: Not Sensitive.

Explosion Sensitivity to Static Discharge: Not Sensitive.

SPECIAL FIRE-FIGHTING PROCEDURES: Structural fire-fighters must wear Self-Contained Breathing Apparatus and full protective equipment.



6. ACCIDENTAL RELEASE MEASURES

LEAK RESPONSE: Evacuate immediate area. Uncontrolled releases should be responded to by trained personnel using pre-planned procedures. Proper protective equipment should be used. In case of a leak, clear the affected area, protect people, and respond with trained personnel.

Minimum Personal Protective Equipment should be **Level B: Self-Contained Breathing Apparatus**. Locate and seal the source of the leaking gas. Allow the gas, which is lighter than air to dissipate. Monitor the surrounding area for oxygen. The atmosphere must have at least 19.5 percent oxygen before personnel can be allowed in the area without Self-Contained Breathing Apparatus.

If leaking incidentally from the cylinder or its valve, contact your supplier.

7. HANDLING and USE

Nitrogen may be supplied by pipeline at pressures up to 600 psig.

WORK PRACTICES AND HYGIENE PRACTICES: Be aware of any signs of dizziness or fatigue; exposures to fatal concentrations of Nitrogen could occur without any significant warning symptoms, due to oxygen deficiency.

STORAGE AND HANDLING PRACTICES: Cylinders should be stored upright and be firmly secured to prevent falling or being knocked-over. Cylinders can be stored in the open, but in such cases, should be protected against extremes of weather and from the dampness of the ground to prevent rusting. Cylinders should be stored in dry, well-ventilated areas away from sources of heat, ignition and direct sunlight. Keep storage area clear of materials which can burn. Do not allow area where cylinders are stored to exceed 52°C (125°F). Store containers away from heavily trafficked areas and emergency exits. Store away from process and production areas, away from elevators, building and room exits or main aisles leading to exits. Protect cylinders against physical damage.

Use a check valve or other protective device in the discharge line to prevent hazardous backflow. Never temper with pressure relief valves and cylinders.

Keep the smallest amount necessary on-site at any one time. Full and empty cylinders should be segregated. Use a first-in, first-out inventory systems to prevent full containers from being stored for long periods of time.

7. HANDLING and USE (Continued)

SPECIAL PRECAUTIONS FOR HANDLING GAS CYLINDERS: Compressed gases can present significant safety hazards. The following rules are applicable to work situations in which cylinders are being used.

Before Use: Move cylinders with a suitable hand-truck. Do not drag, slide or roll cylinders. Do not drop cylinders or permit them to strike each other. Secure cylinders firmly. Leave the valve protection cap (where provided) in-place until cylinder is ready for use.

During Use: Use designated CGA fittings and other support equipment. Do not use adapters. Do not heat cylinder by any means to increase the discharge rate of the product from the cylinder. Do not use oils or grease on gas-handling fittings or equipment. Immediately contact the supplier if there are any difficulties associated with operating cylinder valve. Never insert an object (e.g wrench, screwdriver, pry bar, etc.) into valve cap openings. Doing so may damage valve, causing a leak to occur. Use an adjustable strap wrench to remove over-tight or rusted caps. Never strike an arc, on a compressed gas cylinder or make a cylinder part of an electric circuit.

After Use: Close main cylinder valve. Replace valve protection cap. Mark empty cylinders "EMPTY".

NOTE: Use only DOT or ASME code containers designed for gas storage. Close valve after each use and when empty.

STANDARD VALVE CONNECTIONS FOR U.S. AND CANADA: Use the proper CGA connections, **DO NOT USE ADAPTERS:**

THREADED:	0-3000 psig	CGA 580
	3001-5500 psig	CGA 680
	5501-7500 psig	CGA 677
PIN-INDEXED YOKE:	0-3000 psig	CGA 960 (Medical Use)
ULTRA HIGH INTEGRITY:	0-3000 psig	CGA 718

PROTECTIVE PRACTICES DURING MAINTENANCE OF CONTAMINATED EQUIPMENT: Follow practices indicated in Section 6 (Accidental Release Measures). Make certain application equipment is locked and tagged-out safely. Always use product in areas where adequate ventilation is provided.

8. EXPOSURE CONTROLS - PERSONAL PROTECTION

VENTILATION AND ENGINEERING CONTROLS: Use with adequate ventilation. Local exhaust ventilation is preferred, because it prevents chemical dispersion into the work place by eliminating it at its source. If appropriate, install automatic monitoring equipment to detect the level of oxygen.

RESPIRATORY PROTECTION: Maintain oxygen levels above 19.5% in the workplace. Use supplied air respiratory protection if oxygen levels are below 19.5% or during emergency response to a release of Nitrogen. If respiratory protection is required, follow the requirements of the Federal OSHA Respiratory Protection Standard (29 CFR 1910.134), or equivalent State standards.

EYE PROTECTION: Safety glasses.

HAND PROTECTION: Wear gloves when handling cylinders of Nitrogen. Otherwise, wear glove protection appropriate to the specific operation for which Nitrogen is used.

BODY PROTECTION: Use body protection appropriate for task. Safety shoes are recommended when handling cylinders.

9. PHYSICAL and CHEMICAL PROPERTIES

GAS DENSITY @ 32°F (0°C) and 1 atm: .072 lbs/cu ft (1.153 kg/m³)

BOILING POINT: -320.4 °F; -195.8 °C

FREEZING/MELTING POINT (@ 10 psig) -210 °C; -345.8 °F

SPECIFIC GRAVITY (air = 1) @ 70°F (21.1°C): 0.906

pH: Not applicable.

SOLUBILITY IN WATER vol/vol at 0 C and 1 atm: 0.023

MOLECULAR WEIGHT: 28.01

EVAPORATION RATE (nBuAc = 1): Not applicable.

EXPANSION RATIO: Not applicable.

ODOR THRESHOLD: Not applicable. Odorless.

SPECIFIC VOLUME (ft³/lb): 13.8

VAPOR PRESSURE @ (21.1°C) 70°F psig: Not applicable.

COEFFICIENT WATER/OIL DISTRIBUTION: Not applicable.

APPEARANCE AND COLOR: Nitrogen is a colorless, odorless gas.

HOW TO DETECT THIS SUBSTANCE (warning properties): There are no unusual warning properties associated with a release of Nitrogen.

10. STABILITY and REACTIVITY

STABILITY: Normally stable in gaseous state.

DECOMPOSITION PRODUCTS: None.

MATERIALS WITH WHICH SUBSTANCE IS INCOMPATIBLE: Titanium is the only element that will burn in Nitrogen. Lithium reacts slowly with Nitrogen at ambient temperatures.

HAZARDOUS POLYMERIZATION: Will not occur.

CONDITIONS TO AVOID: Contact with incompatible materials. Cylinders exposed to high temperatures or direct flame can rupture or burst.

11. TOXICOLOGICAL INFORMATION

TOXICITY DATA: There are no specific toxicology data for Nitrogen. Nitrogen is a simple asphyxiant, which acts to displace oxygen in the environment.

SUSPECTED CANCER AGENT: Nitrogen is not found on the following lists: FEDERAL OSHA Z LIST, NTP, CAL/OSHA, IARC; therefore it is not considered to be, nor suspected to be a cancer-causing agent by these agencies.

IRRITANCY OF PRODUCT: Not applicable.

SENSITIZATION OF PRODUCT: Nitrogen is not a sensitizer.

REPRODUCTIVE TOXICITY INFORMATION: Listed below is information concerning the effects Nitrogen on the human reproductive system.

Mutagenicity: Nitrogen is not expected to cause mutagenic effects in humans.

Embryotoxicity: Nitrogen is not expected to cause embryotoxic effects in humans.

Teratogenicity: Nitrogen is not expected to cause teratogenic effects in humans.

Reproductive Toxicity: Nitrogen is not expected to cause adverse reproductive effects in humans.

*A **mutagen** is a chemical which causes permanent changes to genetic material (DNA) such that the changes will propagate through generation lines. An **embryotoxin** is a chemical which causes damage to a developing embryo (i.e. within the first eight weeks of pregnancy in humans), but the damage does not propagate across generational lines. A **teratogen** is a chemical which causes damage to a developing fetus, but the damage does not propagate across generational lines. A **reproductive toxin** is any substance which interferes in any way with the reproductive process.*

11. TOXICOLOGICAL INFORMATION (Continued)

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Pre-existing respiratory conditions may be aggravated by over-exposure to Nitrogen.

RECOMMENDATIONS TO PHYSICIANS: Treat symptoms and reduce over-exposure.

BIOLOGICAL EXPOSURE INDICES (BEIs): Currently, Biological Exposure Indices (BEIs) are not applicable for Nitrogen.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL STABILITY: Nitrogen occurs naturally in the atmosphere. The gas will be dissipated rapidly in well-ventilated areas.

EFFECT OF MATERIAL ON PLANTS or ANIMALS: Any adverse effect on animals would be related to oxygen deficient environments. No adverse effect is anticipated to occur to plant-life, except for frost produced in the presence of rapidly expanding gases.

EFFECT OF CHEMICAL ON AQUATIC LIFE: No evidence is currently available on Nitrogen's effects on aquatic life.

13. DISPOSAL CONSIDERATIONS

PREPARING WASTES FOR DISPOSAL: Waste disposal must be in accordance with appropriate Federal, State, and local regulations. Return cylinders with any residual product to Air Liquide. Do not dispose of locally.

For emergency disposal, secure the cylinder and slowly discharge the gas to the atmosphere in a well-ventilated area or outdoors.

14. TRANSPORTATION INFORMATION

THIS MATERIAL IS HAZARDOUS AS DEFINED BY 49 CFR 172.101 BY THE U.S. DEPARTMENT OF TRANSPORTATION.

PROPER SHIPPING NAME:	Nitrogen, compressed
HAZARD CLASS NUMBER and DESCRIPTION:	2.2 (Non-Flammable Gas)
UN IDENTIFICATION NUMBER:	UN 1066
PACKING GROUP:	Not applicable.
DOT LABEL(S) REQUIRED:	Non-Flammable Gas
NORTH AMERICAN EMERGENCY RESPONSE GUIDEBOOK NUMBER (1996):	121

MARINE POLLUTANT: Nitrogen is not classified by the DOT as a Marine Pollutant (as defined by 49 CFR 172.101, Appendix B).

SPECIAL SHIPPING INFORMATION: Cylinders should be transported in a secure position, in a well-ventilated vehicle. The transportation of compressed gas cylinders in automobiles or in closed-body vehicles present serious safety hazards and should be discouraged.

NOTE: Shipment of compressed gas cylinders which have not been filled with the owners consent is a violation of Federal law (49 CFR, Part 173.301 (b)).

TRANSPORT CANADA TRANSPORTATION OF DANGEROUS GOODS REGULATIONS: THIS MATERIAL IS CONSIDERED AS DANGEROUS GOODS. Use the above information for the preparation of Canadian Shipments.

15. REGULATORY INFORMATION

SARA REPORTING REQUIREMENTS: Nitrogen is subject to the reporting requirements of Sections 302, 304 and 313 of Title III of the Superfund Amendments and Reauthorization Act., as follows:

COMPONENT	SARA 302	SARA 304	SARA 313
Nitrogen	NO	NO	NO

SARA Threshold Planning Quantity: Not applicable.

TSCA INVENTORY STATUS: Nitrogen is listed on the TSCA Inventory.

CERCLA REPORTABLE QUANTITY (RQ): Not applicable.

OTHER U.S. FEDERAL REGULATIONS:

- Generally recognized as safe (GRAS), as a direct human food ingredient when used as a propellant, aerating agent and gas, per 21, CFR, 184.1540. Nitrogen NF is regulated by the FDA as a prescription drug.
- Depending on specific operations involving the use of Nitrogen, the regulations of the Process Safety Management of Highly Hazardous Chemicals may be applicable (29 CFR 1910.119). Under this regulation Nitrogen is not listed in Appendix A.
- Nitrogen does not contain any Class I or Class II ozone depleting chemicals (40 CFR part 82).
- Nitrogen is not listed as a Regulated Substance, per 40 CFR, Part 68, of the Risk Management for Chemical Releases.

OTHER CANADIAN REGULATIONS: Nitrogen is categorized as a Controlled Product, Hazard Class A, as per the Controlled Product Regulations.

STATE REGULATORY INFORMATION: Nitrogen is covered under the following specific State regulations:

Alaska - Designated Toxic and Hazardous Substances: No. California - Permissible Exposure Limits for Chemical Contaminants: Nitrogen. Florida - Substance List: No. Illinois - Toxic Substance List: No. Kansas - Section 302/313 List: No. Massachusetts - Substance List: No.	Minnesota - List of Hazardous Substances: No. Missouri - Employer Information/Toxic Substance List: No. New Jersey - Right to Know Hazardous Substance List: Nitrogen. North Dakota - List of Hazardous Chemicals, Reportable Quantities: No.	Pennsylvania - Hazardous Substance List: Nitrogen. Rhode Island - Hazardous Substance List: Nitrogen. Texas - Hazardous Substance List: No. West Virginia - Hazardous Substance List: No. Wisconsin - Toxic and Hazardous Substances: No.
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CALIFORNIA PROPOSITION 65: Nitrogen is not on the California Proposition 65 lists.

16. OTHER INFORMATION

MIXTURES: When two or more gases or liquefied gases are mixed, their hazardous properties may combine to create additional, unexpected hazards. Obtain and evaluate the safety information for each component before you produce the mixture. Consult an Industrial Hygienist or other trained person when you make your safety evaluation of the end product. Remember, gases and liquids have properties which can cause serious injury or death.

16. OTHER INFORMATION (Continued)

Further information about Nitrogen can be found in the following pamphlets published by: Compressed Gas Association Inc. (CGA), 1725 Jefferson Davis Highway, Suite 1004, Arlington, VA 22202-4102. Telephone: (703) 412-0900.

- G-10.1 "Commodity Specification for Nitrogen"
- P-1 "Safe Handling of Compressed Gases in Containers"
- P-9 "Inert Gases, Argon, Nitrogen and Helium"
- P-14 "Accident Prevention in Oxygen-Rich, Oxygen-Deficient Atmospheres"
- SB-2 "Oxygen Deficient Atmospheres"
- AV-1 "Safe Handling and Storage of Compressed Gases"
"Handbook of Compressed Gases"

PREPARED BY:

CHEMICAL SAFETY ASSOCIATES, Inc.
9163 Chesapeake Drive, San Diego, CA 92123-1002
619/565-0302

Fax on Demand: 1-800/231-1366



This Material Safety Data Sheet is offered pursuant to OSHA's Hazard Communication Standard, 29 CFR, 1910.1200. Other government regulations must be reviewed for applicability to Nitrogen. To the best of Air Liquide America Corporation's knowledge, the information contained herein is reliable and accurate as of this date; however, accuracy, suitability or completeness are not guaranteed and no warranties of any type, either express or implied, are provided. The information contained herein relates only to this specific product. If Nitrogen is combined with other materials, all component properties must be considered. Data may be changed from time to time. Be sure to consult the latest edition.

AIR LIQUIDE AMERICA CORPORATION
P. O. BOX 3047
HOUSTON, TX 77253

PAGE 1

MATERIAL SAFETY DATA SHEET

I - GENERAL INFORMATION

PRODUCT NAME AIR

STILL CURRENT

EMERGENCY TELEPHONE NO. 713-868-0302
MANUFACTURER'S NAME AIR LIQUIDE AMERICA CORP.
TRADE NAME/SYNONYMS AIR, COMPRESSED AIR, BREATHING AIR, AIR USP
CHEMICAL NAME AND SYNONYMS AIR

REVISION DATE: 08/22/89 PRODUCT ID. UN 1002 FORMULA NONE
CHEMICAL FAMILY NONE CAS NUMBER 132259-10-0

***** SECTION NOTES *****

MSDS INFORMATION NUMBER: (713) 896-2140

II - HAZARDOUS INGREDIENTS

HAZARDOUS MIXTURES OF LIQUIDS AND GASES 0/0 TLV

HAZARDOUS MIXTURES OF LIQUIDS AND GASES	0/0	TLV
NITROGEN	78.0	N/A
OXYGEN	20.9	N/A
ARGON	0.9	N/A

III - PHYSICAL DATA

BOILING POINT -317.8F (-194.3C) @ 1 ATM
SPECIFIC GRAVITY (AIR = 1): 1.0 @ 70 F (21.1 C) @ 1 ATM
VAPOR PRESSURE N/A
PERCENT VOLATILE BY VOLUME (0/0) N/A (GAS)
DENSITY 0.07493 LB/CU FT @ 70 F (21.1 C) @ 1 ATM
VAPORATION RATE N/A (GAS)
SOLUBILITY IN WATER 2.925CC/100CC H2O @ 32 F (0 C)
STATE AT NORMAL CONDITION GAS
EXPANSION RATIO (LIQUID TO GAS) N/A (GAS)

APPEARANCE AND ODOR

COLORLESS, ODORLESS, TASTELESS GAS

IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT N/A
FLASH POINT (METHOD USED)
FLAMMABILITY LIMITS IN AIR (0/0 BY VOL) LOWER N/A UPPER N/A

EXTINGUISHING MEDIA

MATERIAL IS NONFLAMMABLE. USE EXTINGUISHING MEDIA APPROPRIATE FOR SURROUNDING FIRE.

SPECIAL FIRE FIGHTING PROCEDURES

NONE. IF POSSIBLE, REMOVE AIR CYLINDERS FROM FIRE AREA OR COOL WITH WATER TO AVOID EXCESSIVE PRESSURE BUILDUP.

UNUSUAL FIRE AND EXPLOSION HAZARD

PRESSURE CAN BUILD UP DUE TO HEAT AND CYLINDER MAY EXPLODE IF PRESSURE RELIEF DEVICES SHOULD FAIL TO RELIEVE PRESSURE.

From: AIR LIQUIDE AMERICA

Fax: (713)868-0632

03-08-96 18:17:46

Page: 4

AIR LIQUIDE AMERICA CORPORATION
 P. O. BOX 3047
 HOUSTON, TX 77253

PAGE 2

MATERIAL SAFETY DATA SHEET
 PRODUCT NAME AIR

AUTOIGNITION TEMPERATURE: N/A

ELECTRICAL CLASSIFICATION: NONHAZARDOUS

V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE NONE ESTABLISHED
 UNUSUAL CHRONIC TOXICITY *SEE OVEREXPOSURE SECTION*
 CARCINOGENICITY NOT LISTED BY IARC, NTP, OR OSHA
 ROUTES OF EXPOSURE INHALATION
 EFFECTS OF OVEREXPOSURE

NONE.

TOXICOLOGICAL PROPERTIES:

AIR IS NONTOXIC AND NECESSARY TO SUPPORT LIFE.

EMERGENCY AND FIRST AID PROCEDURES

NONE.

VI - REACTIVITY DATA

STABILITY STABLE

CONDITIONS TO AVOID

NONE

INCOMPATIBILITY (MATERIALS TO AVOID)

NONE.

HAZARDOUS DECOMPOSITION PRODUCTS

NONE.

HAZARDOUS POLYMERIZATION WILL NOT OCCUR

CONDITIONS TO AVOID

NONE

VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

SHUT OFF SOURCE OF AIR, IF POSSIBLE. IF LEAKING FROM CONTAINER OR VALVE, CONTACT THE CLOSEST BIG THREE INDUSTRIES LOCATION, OR YOUR SUPPLIER.

WASTE DISPOSAL METHOD

AIR LIQUIDE AMERICA CORPORATION
P. O. BOX 3047
HOUSTON, TX 77253

PAGE 3

MATERIAL SAFETY DATA SHEET
PRODUCT NAME AIR

RETURN TO YOUR SUPPLIER FOR DISPOSAL.

VIII - SPECIAL PROTECTIVE INFORMATION

RESPIRATORY PROTECTION (SPECIFY TYPE)

NONE REQUIRED.

VENTILATION

NONE

PROTECTIVE GLOVES

N/A

EYE PROTECTION

SAFETY GLASSES ARE RECOMMENDED WHEN HANDLING HIGH PRESSURE CYLINDERS.

OTHER PROTECTIVE EQUIPMENT

SAFETY SHOES WHEN HANDLING CYLINDERS.

IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

STORE AND USE WITH ADEQUATE VENTILATION. CYLINDERS SHOULD BE STORED UPRIGHT WITH VALVE PROTECTION CAP IN PLACE AND FIRMLY SECURED TO PREVENT FALLING OR BEING KNOCKED OVER. PROTECT CYLINDERS FROM PHYSICAL DAMAGE: DO NOT DRAG, ROLL, SLIDE, OR DROP. USE A SUITABLE HAND TRUCK FOR CYLINDER MOVEMENT. DO NOT ALLOW THE TEMPERATURE WHERE CYLINDERS ARE STORED TO EXCEED 125 F (52 C).

I.D.T. LABELING

NONFLAMMABLE GAS - GREEN LABEL

VALVE CONNECTION

346 OR 950 (PIN INDEXED)

OTHER PRECAUTIONS

NEVER STRIKE A WELDING ARC ON ANY COMPRESSED GAS CYLINDER. REFILLING CYLINDERS WITHOUT THE CONSENT OF THE CYLINDER OWNER IS A VIOLATION OF FEDERAL LAW (49 CFR).

DOT PLACARD: NONFLAMMABLE GAS

DOT PROPER SHIPPING NAME: AIR; OR AIR, COMPRESSED

MISCELLANEOUS INFORMATION:

FURTHER INFORMATION ABOUT AIR CAN BE FOUND IN THE FOLLOWING PAMPHLETS PUBLISHED BY:

THE COMPRESSED GAS ASSOCIATION
1235 JEFFERSON DAVIS HIGHWAY
ARLINGTON, VA 22202
(713) 979-4341

AIR LIQUIDE AMERICA CORPORATION
P. O. BOX 3047
HOUSTON, TX 77253

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MATERIAL SAFETY DATA SHEET
PRODUCT NAME AIR

G-7: "COMPRESSED AIR FOR HUMAN RESPIRATION"
P-1: "SAFE HANDLING OF COMPRESSED GASES IN CONTAINERS"

COMPRESSED AIR IS PRODUCED BY BIG THREE THROUGH COMPRESSION AND FILTRATION OF ATMOSPHERIC AIR.

NFPA RATINGS:
HEALTH: 0
FLAMMABILITY: 0
REACTIVITY: 0

HMS RATINGS:
HEALTH: 0
FLAMMABILITY: 0
REACTIVITY: 0

CERCLA RATINGS:
HEALTH: 0
FIRE: 0
REACTIVITY: 0
PERSISTANCE: 0

LISTED IN TSCA INVENTORY: YES

THIS PRODUCT SAFETY DATA SHEET IS OFFERED SOLELY FOR YOUR INFORMATION, CONSIDERATION, INVESTIGATION, IN COMPLIANCE WITH HAZARD COMMUNICATION STANDARD 9 CFR 1900.1200. AIR LIQUIDE AMERICA CORP. PROVIDES NO WARRANTIES, EITHER EXPRESS OR IMPLIED.



MSDS #5
+3-10-11

MATERIAL SAFETY DATA SHEET

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME Reliance Disinfectant Bleach BLEACH

PRODUCT CODE 4000147

ISSUE DATE 07-01-94

EMERGENCY TELEPHONE NUMBERS

MANUFACTURER Syco Chemical
STREET ADDRESS 1390 Enclave Parkway
CITY, STATE, ZIP Houston, Texas 77077

Medical Information: (800) 228-5635 x161
Transportation: (800) 424-9300
* For spill, leak, fire or transport accident emergencies.
Product Information: (713) 584-1790

SECTION 2 - COMPOSITION / INFORMATION ON INGREDIENTS

HAZARDOUS COMPONENT

EXPOSURE LIMITS

* - (see note below)	CAS No.	% by wt.	OSHA PEL	ACGIH TLV	NIOSH REL
Sodium hypochlorite (5 - 6% available chlorine)	7681-52-9	5.25 - 6.00	None (see next entry)	None (see next entry)	None (see next entry)
* Chlorine (see above)	7782-50-5	6.0 - 6.0	0.5 ppm TWA 1.0 ppm STEL	0.5 ppm TWA 1.0 ppm STEL	0.5 ppm TWA 1.0 ppm STEL
* Sodium hydroxide	1310-73-2	0.20 - 0.50	2 mg/m3 ceiling	2 mg/m3 ceiling	2 mg/m3; 15 min TWA ceiling

* - Asterisked ingredients are those considered hazardous according to the criteria of 29CFR 1910.1206. Other ingredients are listed for informational purposes to assist emergency medical response personnel.

SECTION 3 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW	Corrosive; may cause severe skin and eye irritation or chemical burns to broken skin. Vapors extremely irritating to eyes and respiratory tract. Harmful and potentially fatal if swallowed.
---------------------------	--

POTENTIAL HEALTH EFFECTS	
INGESTION	Can cause corrosion of mucous membranes, severe esophageal burns and perforation of esophagus or stomach.
INHALATION	Inhalation of vapors can cause bronchial irritation, coughing, difficulty in breathing, nausea and pulmonary edema.
EYE CONTACT	Corrosive to the eyes; may cause severe and permanent damage.
SKIN CONTACT	Severe irritant; contact can produce blistering and eczema.

SECTION 4 -- FIRST AID MEASURES

INGESTION	If swallowed, DO NOT induce vomiting. Immediately drink a large quantity of water. Do not use acidic antidotes or sodium bicarbonate (baking soda). Call a physician or poison control center immediately.
INHALATION	If exposed to excessive vapor levels, remove to fresh air and seek medical attention if cough or other symptoms develop.
EYE CONTACT	Immediately flush eye with plenty of cool, running water. Remove contact lenses if applicable, and continue flushing for at least 15 minutes. Get medical attention immediately.
SKIN CONTACT	Flush affected skin area with copious amounts of water and wash with soap and water. If irritation develops or persists, get medical attention. Remove clothing and wash before reuse.
NOTE TO PHYSICIAN	Information pertaining to ingestion toxicology, therapy, symptomatology and treatment can be found in <u>Clinical Toxicology of Commercial Products</u> , authored by Gosselin, Smith and Hodge and published by Williams & Wilkins, Baltimore, Maryland. See listing for Hypochlorite in Therapeutics Index, Section III.

SECTION 5 -- FIRE FIGHTING MEASURES

FLASH POINT / METHOD	None / N.A.	FLAMMABLE LIMITS	Not flammable or combustible
EXTINGUISHING MEDIA	If involved in a fire, alcohol foam, carbon dioxide, dry chemical or water fog. Use extinguishing media that is appropriate for surrounding fire.		
SPECIAL FIRE FIGHTING PROCEDURES	Avoid fumes from spilled or exposed liquid. Firefighters should wear full protective clothing and OSHA/NIOSH self-contained breathing apparatus. Cool fire-exposed containers with water spray from a safe distance.		
FIRE AND EXPLOSION HAZARDS	Sodium hypochlorite bleach is a strong oxidizing agent and decomposes when heated. Decomposition products may cause containers to explode. Vigorous reactions may occur with organic materials or oxidizable materials, causing fires.		

SECTION 6 -- ACCIDENTAL RELEASE MEASURES

RESPONSE TO SPILLS	Small spills: Dilute product by flooding area with large quantity of water and flush to sanitary sewer. Large spills: Contain run-off by diluting with suitable material. Soak up liquid on inert absorbent and transfer to approved container. Prevent spill from entering sewers or waterways.
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SECTION 7 -- HANDLING AND STORAGE

HANDLING PRECAUTIONS	Wash after handling and before eating. Use personal protective equipment and wear suitable chemical-resistant clothing. Keep container tightly closed when not in use. Follow label directions closely.
STORAGE PRECAUTIONS	Store upright in a cool (below 85 F), dry, well-ventilated area. Keep away from heat or direct sunlight. Separate from incompatible materials, such as acids, ammonia, soap-based product or organic materials. Protect containers from physical damage. Keep away from children.

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

HYGIENIC PRACTICES	Avoid breathing vapors. Do not store near food stuffs, water or feed. Protect eyes, skin and clothing from contact with this product.
ENGINEERING CONTROLS	Use local ventilation to remove vapors at the source. Facilities using this product must be equipped with an eyewash station.

PERSONAL PROTECTIVE EQUIPMENT

X	RESPIRATOR	Not normally necessary; use NIOSH approved respirator for concentrated vapors
X	GOGGLES / FACE SHIELD	Required; goggles should be chemical splash type. Face shield also helpful.
X	APRON	Recommended to avoid skin contact and protect clothing from damage
X	GLOVES	Required; use impervious PVC or Neoprene with long gauntlet
X	BOOTS	Recommended to protect shoes and feet when using product for floor cleaning

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	Clear pale yellow liquid	BOILING POINT	212 deg F
ODOR	Chlorine	FREEZING POINT	28 deg F
pH	12.0 - 12.8	VAPOR PRESSURE	17.5 mm Hg @ 20 C
SPECIFIC GRAVITY	1.080	VAPOR DENSITY	Not applicable
SOLUBILITY IN WATER	Complete	EVAPORATION RATE	Not applicable

SECTION 10 - STABILITY AND REACTIVITY

CHEMICAL STABILITY		STABLE	X		UNSTABLE	
CONDITIONS TO AVOID	Heat or direct sunlight; temperatures above 85 F. Do not mix with solutions containing ammonia.					
INCOMPATIBILITY	Acids, ammonia, ether, urea, oxidizable materials, soaps, oils, greases, phenolic disinfectants and metals (including nickel, copper, tin, aluminum and iron).					
HAZARDOUS PRODUCTS OF DECOMPOSITION	Chlorine gas - from contact with highly acidic materials. Chloramines - from contact with ammonia. Polychlorinated phenols - from contact with phenolic disinfectants.					
POLYMERIZATION		WILL NOT OCCUR	X		MAY OCCUR	
CONDITIONS TO AVOID	Not applicable					

SECTION 11 - TOXICOLOGICAL INFORMATION**CARCINOGENICITY**

	THIS PRODUCT CONTAINS A KNOWN OR SUSPECTED CARCINOGEN
X	THIS PRODUCT DOES NOT CONTAIN ANY KNOWN OR ANTICIPATED CARCINOGENS ACCORDING TO THE CRITERIA OF THE NTP ANNUAL REPORT ON CARCINOGENS AND OSHA 29 CFR 1910, Z

OTHER EFFECTS

ACUTE	Toxicity arises from corrosive activity; stems from oxidizing potency, a function of concentration
CHRONIC	Not determined

SECTION 12 -- ECOLOGICAL INFORMATION

BIODEGRADABILITY		CONSIDERED BIODEGRADABLE	<input checked="" type="checkbox"/>		NOT BIODEGRADABLE	<input type="checkbox"/>
BOD / COD VALUE	Not established					
ECOTOXICITY	No data available					

SECTION 13 -- DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD	If in accordance with an NPDES permit or approved by local sewage treatment plant authority, small amounts may be flushed to a sanitary sewer with plenty of water. Large amounts of unused product must be disposed of as hazardous waste at an approved hazardous waste management facility.						
RCRA CLASSIFICATION	Hazardous, corrosive D002 (if pH is equal to or greater than 12.5)						
RECYCLE CONTAINER	<input type="checkbox"/>	YES	<input checked="" type="checkbox"/>	CODE	2 - HDPE	<input type="checkbox"/>	NO

SECTION 14 -- TRANSPORT INFORMATION

DOT CLASSIFICATION		HAZARDOUS	<input checked="" type="checkbox"/>		NOT HAZARDOUS	<input type="checkbox"/>
DESCRIPTION	Consumer Commodity, ORM-D. Exempted by DOT for containers of 1 gallon or less					
SYSCO HM CODE	None					

SECTION 15 -- REGULATORY INFORMATION

REGULATORY STATUS

<input checked="" type="checkbox"/>	EPA REGISTERED (UNDER FIFRA)	1672-20004-29055; 9009-15-29055; 51790-20004-29055
<input type="checkbox"/>	FDA REGULATED	
<input type="checkbox"/>	KOSHER	
<input checked="" type="checkbox"/>	SARA TITLE III MATERIAL	Sodium hydroxide & Sodium hypochlorite (Section 304)
<input type="checkbox"/>	USDA AUTHORIZED	

SECTION 16 -- OTHER INFORMATION

NFPA CLASSIFICATION

2	BLUE	HEALTH HAZARD
0	RED	FLAMMABILITY
1	YELLOW	REACTIVITY
OX	WHITE	SPECIAL HAZARD

Information contained in this MSDS refers only to the specific material designated and does not relate to any process or use involving other materials. This information is based on data believed to be reliable, and the Product is intended to be used in a manner that is customary and reasonably foreseeable. Since actual use and handling are beyond our control, no warranty, express or implied, is made and no liability is assumed by Syco in connection with the use of this information.

M.S.D.S. #6

MATERIAL SAFETY DATA SHEET
RENALIN® COLD STERILANT/20% H2O2

Renal Systems
Division of Minntech Corporation
14605 28th Avenue North
Minneapolis, MN 55447

Preparation Date: October 4, 1994
Revision: A
Information Phone Number:
(612) 553-3300 (800) 328-3340
Chemtrec Emergency Phone Numbers:
(202) 483-7616 (800) 424-9300

Prepared For:

REN Corporation
6820 Charlotte Pike
Nashville, TN 37209

FAX #615-352-1903

NFPA Hazard Ratings

Health: (Blue) 2
Reactivity: (Yellow) 1

Flammability: (Red) 0
Special Hazards: Corrosive

GENERAL INFORMATION:

Catalog Number: 78253/78335
EPA Reg. Number: 52252-5/52252-6
Trade Name: Renalin® Cold Sterilant for Dialysis Use

HAZARDOUS INGREDIENT/IDENTITY INFORMATION:

Ingredient	CAS No.	Percent	TLV	PEL
Hydrogen Peroxide	7722-84-1	20.0%	1 ppm	1 ppm
Peracetic Acid	79-21-0	4.0%	N/E	N/E
Acetic Acid	64-19-7	---	10 ppm	10 ppm
Water	7732-18-5	---	N/E	N/E

PHYSICAL DATA:

Boiling Point (°C @ 60 mmHg):	N/A
Melting Point (°C):	N/A
Vapor Pressure (mmHg):	N/A
Vapor Density (AIR=1):	N/A
Specific Gravity (H ₂ O=1):	1.093 - 1.138
Evaporation Rate:	N/A
Solubility In Water:	Complete
pH as Concentrate:	0.5 - 1.1
Appearance and Odor:	Clear, Colorless Liquid, Pungent Odor

FIRE AND EXPLOSION HAZARD DATA:

Flash Point:	N/A
Flammable Limits:	N/A
Extinguishing Media:	Water, Foam, CO ₂ , Dry Chemicals
Fire Fighting Procedures:	Wear self-contained breathing apparatus and full protective equipment.
Unusual Fire and Explosion Hazards:	N/D

HEALTH HAZARD INFORMATION

Symptoms of Exposure: Can cause burns, as evidenced by a temporary whitening of the skin, irritation to eyes, skin, and mucous membranes.

Carcinogenicity: Not listed as a cancer causing agent.

EMERGENCY FIRST AID:

EYES AND SKIN - Flush with excess water at least 15 minutes. If burn or irritation has occurred, see physician immediately. If clothing is contaminated, remove clothing, wash skin and wash clothing before reusing.

INGESTION - If swallowed, drink large amounts of water. Do not attempt to induce vomiting.

REACTIVITY INFORMATION:

Stability:	Product is stable
Conditions to Avoid:	Hot storage.
Hazardous Polymerization:	Will not occur.
Materials to Avoid:	Heavy metals including iron, copper, copper alloys, brass and aluminum, salts, flammable organics, alkalis, caustics, chlorine and formaldehyde.
Hazardous Decomposition:	Oxygen and heat. Do not mix with chlorinated products as this could liberate toxic corrosive chlorine gas.

SAFE HANDLING AND USE:

Spill Response:	Wash down area thoroughly with water, mop thoroughly. Do not use absorbent to soak up spill.
Waste Disposal:	To be performed in compliance with all current local, state and federal regulations. Do not contaminate water, food, or feed. Waste resulting from the use of this product may be disposed of on site by diluting in a sanitary sewer or at an approved waste disposal facility.
Handling and Storing:	Keep container closed, but vented, when not in use. Store in a cool, dry area (below 75°F). Do not transfer product from original container and once product has been removed, do not return to original container.

CONTROL MEASURES

Respiratory Protection:	Use local exhaust. If air contamination is above permitted levels, use suitable respiratory protection.
Protective Covering:	Eyes - Glasses, goggles or face shield should be worn. Skin - Rubber or plastic gloves should be worn when handling concentrate. Protective aprons should be worn when splashes or spills are likely. Rubber boots should be worn for spills.

GAMBRO Healthcare
Renal Care Products

M.S.D.S. # 7

1185 Oak Street
Lakewood, CO 80215.4498
303.232.6800

Following is a copy of our MSDS (Material Safety Data Sheet) for Concentrate Powder for Bicarbonate Dialysate, Part # BP-001, BP-002, BP-003. This computer generated MSDS fulfills the federal OSHA Hazard Communication Standard (29 CFR 1910.1200) requirements adopted November 25, 1983. In addition, it fulfills Section 302 (Extremely Hazardous Chemicals), Sections 311 and 312 (Hazardous Chemicals), and Section 313 (Toxic Chemicals) of Title III of the Superfund Amendments & Reauthorization Act (SARA).

If you have any comments regarding one of our products, please call our toll free number (1-800-525-2623).

MATERIAL SAFETY DATA SHEET

Date Prepared: April 21, 1992

GENERAL INFORMATION

MANUFACTURER: Dial Medical of Florida, Inc.
1990 Industrial Drive
DeLand, Florida 32724
Telephone No.: 800/327-2615

PRODUCTION IDENTIFICATION**PRODUCT NAME:** Concentrate Powder for Bicarbonate Dialysate**SECTION I - HAZARDOUS INGREDIENTS**

<u>Component</u>	<u>%</u>	<u>CAS No.</u>	<u>OSHA PEL</u>
None	N/A	N/A	N/A

SECTION II - PHYSICAL/CHEMICAL DATA

BOILING POINT: N/A
VAPOR PRESSURE (mm Hg): N/A
VAPOR DENSITY (Air = 1): N/A
SOLUBILITY IN WATER: Moderate
APPEARANCE AND ODOR: White crystalline powder; No odor.
EVAPORATION RATE: N/A

SECTION III - FIRE & EXPLOSION HAZARD DATA

FLASH POINT: Non combustible
FLAMMABLE LIMITS: LEL: N/A UEL: N/A
EXTINGUISHING MEDIA: Water, Dry Chemical
SPECIAL FIRE FIGHTING PROCEDURES: If extremely large quantities are involved, significant levels of CO₂ may be generated making necessary the use of a self-contained breathing apparatus (CO₂ is an asphyxiant at levels over 5%. Soda ash, another thermal decomposition product generated at temperatures above 200° F is a respiratory and skin irritant.

UNUSUAL FIRE AND EXPLOSION HAZARDS: None

PRODUCT NAME: Concentrate Powder for Bicarbonate Dialysate

SECTION IV - REACTIVITY DATA

STABILITY: Stable

CONDITIONS TO AVOID: Temperatures above 228° F
INCOMPATIBILITY (Materials to Avoid): (BC-001 only) Lithium, bromine
trifluoride

HAZARDOUS POLYMERIZATION: Will not occur

HAZARDOUS DECOMPOSITION: Yields about 1% per hour Sodium Carbonate
when temperature is raised to 190° F. Dust may then be irritating to
eyes, skin and respiratory tract. Heating above 228° F may cause
dangerous levels of CO₂ gas to be present in the atmosphere.
(BP-001 only) When heated to decomposition may emit toxic fumes of Cl₂
and Na₂O.

SECTION V - HEALTH HAZARD DATA

ROUTES OF ENTRY: Inhalation: Yes Skin: No Ingestion: Yes

CARCINOGENCITY: NTP: No IARC: No OSHA: No

EFFECTS OF OVEREXPOSURE:

Inhalation: Slight irritation of nose

Skin Contact: Mild irritation

Eye Contact: Mild irritation; watering of eyes

Ingestion: Nausea and vomiting. Large doses have
produced systemic alkalosis.

EMERGENCY FIRST AID PROCEDURES:

Inhalation: Make the victim blow his nose to remove the
dust but discourage him from sniffing.

Skin Contact: Wash with water. Seek medical attention if
irritation persists.

Eye Contact: Flush with water for at least 15 minutes.
Seek medical attention if irritation persists.

Ingestion: Seek medical attention.

PRODUCT NAME: Concentrate Powder for Bicarbonate Dialysate

SECTION VI - SPILL OR LEAK PROCEDURES

IF MATERIAL IS RELEASED OR SPILLED: Scoop into dry clean containers.

WASTE DISPOSAL: Dispose in accordance with Federal, State,
and local regulations.

SECTION VII - SPECIAL PROTECTION INFORMATION

* Not for normal use by consumer. - Gloves and goggles are
recommended for exposure to dust lasting more than an hour.

RESPIRATORY PROTECTION: None required *

VENTILATION - LOCAL EXHAUST: None required *

PROTECTIVE GLOVES: No special requirements. *

EYE PROTECTION: No special requirements. *

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: No special requirements. *

SEP 26 '95 11:18AM CGH MEDICAL RC MKTG DNVR

P.2

COBE Renal Care, Inc.
Making the Difference in Dialysis

M.S.D.S. # 8

Following is a copy of our MSDS (Material Safety Data Sheet) for Acid Concentrate for Bicarbonate Dialysate, Part # AC-1000 Series, AC-2400 Series, AC-3000 Series. This computer generated MSDS fulfills the federal OSHA Hazard Communication Standard (29 CFR 1910.1200) requirements adopted November 25, 1983. In addition, it fulfills Section 302 (Extremely Hazardous Chemicals), Sections 311 and 312 (Hazardous Chemicals), and Section 313 (Toxic Chemicals) of Title III of the Superfund Amendments & Reauthorization Act (SARA).

If you have any comments regarding one of our products, please call our toll free number (1-800-525-2623).

1185 Oak Street
Lakewood, Colorado USA 80215-4498
800.525.2623
303.332.6800

Doc # 400109
3 pages

1/3

MATERIAL SAFETY DATA SHEET

Date Prepared: April 21, 1992

GENERAL INFORMATION

MANUFACTURER: Dial Medical of Florida, Inc.
1990 Industrial Drive
DeLand, Florida 32724
Telephone No.: 800/327-2615

PRODUCTION IDENTIFICATION

PRODUCT NAME: Acid Concentrate for Bicarbonate Dialysate

SECTION I - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

<u>COMPONENT</u>	<u>%</u>	<u>CAS NO.</u>	<u>OSHA PEL</u>
Acetic Acid	Less than 1.0	64-19-7	10 ppm

SECTION II - PHYSICAL/CHEMICAL CHARACTERISTICS

APPEARANCE: Clear, slightly viscous liquid
ODOR: Slight vinegar odor
SOLUBILITY IN WATER: 100%
SPECIFIC GRAVITY: Heavier than water
pH: Between 1.5 and 2.5

SECTION III - FIRE & EXPLOSION HAZARD DATA

FLASH POINT: None
FIRE AND EXPLOSION HAZARDS: None

SECTION IV - REACTIVITY DATA

STABILITY: Stable
HAZARDOUS POLYMERIZATION: Will not occur
INCOMPATIBILITY: Strong bases, lithium, bromine trifluoride
HAZARDOUS DECOMPOSITION OR BYPRODUCTS: At high temperatures,
irritating vapors may be emitted.

SECTION V - HEALTH HAZARDS

CARCINOGENICITY: NTP: No IARC: No OSHA: No

EFFECTS OF OVEREXPOSURE:

Contact: May cause corneal damage to eye, may cause irritation or drying of skin.

Inhalation: Not likely route of entry.

Ingestion: May cause vomiting, or irritation of mouth, throat and stomach.

EMERGENCY FIRST AID PROCEDURES:

Contact: Wash skin with water, flush eyes with water for 15 minutes. Seek medical attention for eye contact.

Ingestion: Consult medical advisor.

SECTION VI - SPILL OR LEAK PROCEDURES

IF MATERIAL IS RELEASED OR SPILLED: Neutralize with sodium bicarbonate to pH of 7, rinse area with water.

WASTE DISPOSAL: Observe all federal, state and local laws.

SECTION VII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: If PEL is exceeded, use respirator suitable for acid vapors.

VENTILATION: General

GLOVES: Use rubber or other impervious type for prolonged contact.

EYE PROTECTION: Safety glasses or goggles required.

OTHER: Eyewash and washing facilities should be available.