

RightFAX NT

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RightFAX

MSDS 1662

Manufactured for

INDUSTRIAL SCIENTIFIC CORPORATION

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MATERIAL SAFETY DATA SHEET

(These data are prepared for product supplied in DOT 59 nonreusable cylinders.)

PRODUCT NAME: Less than ³⁵ 250 PPM Hydrogen Sulfide; less than ¹⁰⁰ 500 PPM Carbon Monoxide;
less than .75% Pentane and 18-21% Oxygen in Nitrogen

18102189
1810-2187
18102183 - 1020

0.35
19
TELEPHONE (412) 877-0880
EMERGENCY RESPONSE INFORMATION ON PAGE 2

AIR LIQUIDE AMERICA CORPORATION California Plaza, Suite 300 2121 N. California Blvd. Walnut Creek, California 94596	TRADE NAME AND SYNONYMS See Page 4	CAS NUMBER See Page 4
	CHEMICAL NAME AND SYNONYMS See Page 4	NFPA 704 NUMBER (H-FR) 0 0 0
ISSUE DATE August 10, 1994 AND REVISIONS CORPORATE SAFETY DEPT.	FORMULA See Page 4	MOLECULAR WEIGHT 28.72 - 28.18
		CHEMICAL FAMILY Gas Mixture

HEALTH HAZARD DATA

TIME WEIGHTED AVERAGE EXPOSURE LIMIT (ACGIH 1993-1994)

Hydrogen Sulfide TWA = 10 molar ppm; STEL = 15 molar ppm.

(Continued on Page 4)

SYMPTOMS OF EXPOSURE

The odor of hydrogen sulfide in these mixtures should preclude them from being breathed. If they are released and mixed with atmospheric air they should not present any major symptoms other than headache, possible nausea and dizziness.

TOXICOLOGICAL PROPERTIES

See Symptoms of Exposure, above.

Persons in ill health where such illness would be aggravated by exposure to these mixtures should not be allowed to work with or handle these products.

DO NOT USE THIS PRODUCT AS COMPRESSED AIR, BREATHING QUALITY.

Listed as Carcinogen
or Potential Carcinogen

National Toxicology
Program Yes
No

I.A.R.C.
Monographs Yes
No

OSHA Yes
No

RECOMMENDED FIRST AID TREATMENT

If large quantities of this mixture have been breathed, move the person who has breathed them to an area where they can inhale "fresh" air. The administration of oxygen should also be helpful. Further treatment should be symptomatic and supportive.



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It's purpose is not to assume manufacturer's responsibility. Therefore, although maximum care has been taken in the preparation of this information, making no representation, and assumes no responsibility as to the accuracy or suitability of such information for its use. Since Air Liquide America Corporation has no control over the use of this product, it assumes no liability for damage or loss of the product. Data sheets may be changed from time to time. Be sure to consult the latest edition.

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HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES

None

PHYSICAL DATA

BOILING POINT See Page 4	LIQUID DENSITY AT BOILING POINT See Page 4
VAPOR PRESSURE See Page 4	GAS DENSITY AT 70°F (1 atm) .074 - .078 lb/ft ³ (1.19 - 1.25 kg/m ³)
SOLUBILITY IN WATER H ₂ S = soluble; other components negligible	FREEZING POINT Varies; Air Bubble Point @ 1 atm = -317.5°F (-194.35°C)
APPEARANCE AND ODOR Colorless gas with slight sulfur (rotten egg) odor. Specific gravity (Air=1) @ 70°F (21.1°C) = 0.99 - 1.04	

FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (METHOD USED) N/A (Gas)	AUTO IGNITION TEMPERATURE N/A	FLAMMABLE LIMITS % BY VOLUME N/A
EXTINGUISHING MEDIA Nonflammable gas mixture	ELECTRICAL CLASSIFICATION Nonhazardous	
SPECIAL FIRE FIGHTING PROCEDURES If cylinders are involved in a fire, safely relocate or keep cool with water spray.		
UNUSUAL FIRE AND EXPLOSION HAZARDS These mixtures at high pressure will accelerate the burning of materials to a greater rate than they burn at atmospheric pressure.		

REACTIVITY DATA

STABILITY		CONDITIONS TO AVOID
Stable	X	None
INCOMPATIBILITY (Material to avoid) None		
HAZARDOUS DECOMPOSITION PRODUCTS None		
HAZARDOUS POLYMERIZATION		CONDITIONS TO AVOID
May Occur		
Will Not Occur	X	None

SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Evacuate all personnel from affected area. Use appropriate protective equipment. If leak is in container or container valve, contact the closest Air Liquide America Corporation location.

WASTE DISPOSAL METHOD

Do not attempt to dispose of waste or unused quantities. Return in the shipping container properly labeled, with any valve outlet plugs or caps secured and valve protection cap in place to Air Liquide America For emergency disposal, contact the closest Air Liquide America Corporation location. For emergency disposal, contact the closest Air Liquide America Corporation location.

EMERGENCY RESPONSE INFORMATION

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SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type) Positive pressure air line with mask or self-contained breathing apparatus should be available for emergency use.		
VENTILATION Hood with forced ventilation	LOCAL EXHAUST To prevent accumulation above the TWA for hydrogen sulfide	SPECIAL N/A
	MECHANICAL (Gen) N/A	OTHER N/A
PROTECTIVE GLOVES Any material		
EYE PROTECTION Safety goggles or glasses		
OTHER PROTECTIVE EQUIPMENT Safety shoes		

SPECIAL PRECAUTIONS*

SPECIAL LABELING INFORMATION DOT Shipping Name: Compressed Gas, n.o.s. DOT Shipping Label: Nonflammable Gas	DOT Hazard Class: Division 2.2 I.D. No.: UN 1858
SPECIAL HANDLING RECOMMENDATIONS Use a pressure reducing regulator when connecting cylinder to lower pressure (<500 psig) piping or systems. Do not heat cylinder by any means to increase the discharge rate of product from the cylinder. Use a check valve or trap in the discharge line to prevent hazardous back flow into the cylinder. Close valve after each use and when empty. For additional handling recommendations consult L'Air Liquide's Encyclopedie de Gaz or Compressed Gas Association Pamphlet P-1.	
SPECIAL STORAGE RECOMMENDATIONS Protect cylinders from physical damage. Store in cool, dry, well-ventilated area away from heavily trafficked areas and emergency exits. Do not allow the temperature where cylinders are stored to exceed 125°F (52°C). Full and empty cylinders should be segregated. Use a "first in - first out" inventory system to prevent full cylinders being stored for excessive periods of time. For additional handling recommendations consult L'Air Liquide's Encyclopedie de Gaz or Compressed Gas Association Pamphlet P-1.	
SPECIAL PACKAGING RECOMMENDATIONS These mixtures are noncorrosive and may be used with all materials of construction. Moisture causes metal oxides which are formed with air to be hydrated so that they increase in volume and lose their protective role (rust formation). Concentrations of SO ₂ , Cl ₂ , salt, etc. in the moisture enhances the rusting of metals in air.	
OTHER RECOMMENDATIONS OR PRECAUTIONS DOT 39 cylinders may not be reused or refilled (49CFR). NEVER transport these cylinders in trunks of vehicles, enclosed vans, truck cabs or in passenger compartments. Transport them "contained" in open flatbed or open pick-up type vehicles. Reporting under SARA, Title III, Section 313 not required.	

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Less than 250 PPM Hydrogen Sulfide; less than 500 PPM Carbon Monoxide;
less than .75% Pentane and 18-21% Oxygen in Nitrogen

ADDITIONAL DATA**TRADE NAME AND SYNONYMS:**

Less than 250 PPM Hydrogen Sulfide; Less than 500 PPM Carbon Monoxide;
Less than .75% Pentane and 18-21% Oxygen in Nitrogen.

CHEMICAL NAME AND SYNONYMS:

Less than 250 Molar PPM Hydrogen Sulfide; Less than 500 Molar PPM Carbon
Monoxide; Less than .75 Molar % Pentane and 18-21 Molar % Oxygen in Nitrogen.

FORMULA: < 250 Molar PPM H₂S; < 500 Molar PPM CO; < .75 Molar % C₅H₁₂, and 18-21 Molar % O₂ in N₂

CAS NUMBERS:

H₂S = 7783-06-4
CO = 630-08-0
C₅H₁₂ = 109-66-0
O₂ = 7782-44-7
N₂ = 7727-37-9

HEALTH HAZARD DATA**TIME WEIGHTED AVERAGE EXPOSURE LIMIT: (Continued)**

Carbon Monoxide TWA = 25 Molar PPM
Pentane TWA = 600 Molar PPM; STEL = 750 PPM

Oxygen = No Listing
Nitrogen = Simple asphyxiant

OSHA Data (1991):

Hydrogen Sulfide TWA = 10 Molar PPM; STEL = 15 Molar PPM
Carbon Monoxide TWA = 35 Molar PPM; Ceiling = 200 Molar PPM
Pentane TWA = 600 Molar PPM; STEL = 750 Molar PPM
Oxygen = No Listing
Nitrogen = No Listing

PHYSICAL DATA**BOILING POINT:**

H₂S = -76° F (-80° C)
CO = -312.75° F (-191.53° C)
C₅H₁₂ = 97° F (36° C)
O₂ = -297.3° F (-182.9° C)
N₂ = -320.5° F (-195.8° C)

LIQUID DENSITY AT BOILING POINT: Varies; should be close to air
[54.6 lb/ft³ (874 kg/m³)]

VAPOR PRESSURE: @ 70° F (21.1° C)

H₂S = 287 psia (1940 kPa)

C₅H₁₂ = @ 100° F (37.8° C) 15 psia (103 kPa)

Other Components = above their critical temperatures.