

PRAXAIR INC -- LIQUID HYDROGEN -- 9135-00-823-8133

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Product Identification  
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Product ID:LIQUID HYDROGEN  
MSDS Date:12/01/1992  
FSC:9135  
NIIN:00-823-8133  
MSDS Number: BWXRL  
=== Responsible Party ===  
Company Name:PRAXAIR INC  
Address:39 OLD RIDGEBURY RD  
City:DANBURY  
State:CT  
ZIP:06810-5113  
Country:US  
Info Phone Num:800-772-9247  
Emergency Phone Num:800-772-9247  
CAGE:0LV01  
=== Contractor Identification ===  
Company Name:PRAXAIR, INC.  
Address:39 OLD RIDGEBURY RD  
Box:City:DANBURY  
State:CT  
ZIP:06810-5113  
Country:US  
Phone:800-772-9247; 800-PRAXAIR  
CAGE:0LV01

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Composition/Information on Ingredients  
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Ingred Name:HYDROGEN  
CAS:1333-74-0  
RTECS #:MW8900000  
Fraction by Wt: 100%  
ACGIH TLV:SIMPLE ASPHYXIAN

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Hazards Identification  
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Routes of Entry: Inhalation:YES Skin:NO Ingestion:YES  
Reports of Carcinogenicity:NTP:NO

IARC:NO OSHA:NO

Health Hazards Acute and Chronic:INGESTION: CONTACT W/LIQUID MAY CAUSE FROSTBITE OF LIPS & MOUTH. EYES/SKIN: LIQUID CONTACT MAY CAUSE FROSTBITE. INHALATION: ASPHYXIANT. CAN CAUSE RAPID SUFFOCATION/DEATH DUE TO OXYGEN DEFICIENCY.

Explanation of Carcinogenicity:NONE

Effects of Overexposure:HEADACHE, DROWSINESS, DIZZINESS, EXCITATION, EXCESS SALIVATION, VOMITING, UNCONSCIOUSNESS.

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===== First Aid Measures =====

First Aid:SKIN: I

IMMEDIATELY WARM FROSTBITE AREA W/WARM WATER. DON'T EXCEED 105F. INHALATION: REMOVE TO FRESH AIR. GIVE CPR/OXYGEN IF NEEDED. EYES: IMMEDIATELY FLUSH W/WATER FOR 15 MINS. OBTAIN MEDICAL ATTENTION IN ALL CASES. NOTE TO PHYSICIAN: NO SPECIFIC ANTIDOTE. PRODUCT IS RELATIVELY INERT. TREATMENT OF OVEREXPOSURE SHOULD BE DIRECTED AT CONTROL OF SYMPTOMS & CLINICAL CONDITION.

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===== Fire Fighting Measures =====

Flash Point:FLAMMABLE GAS

Lower Limits:4

Upper Limits:75

Extinguishing Media:CO2, DRY CHEMICAL, WATER SPRAY/FOG.

Fire Fighting Procedures:EVACUATE AREA. IMMEDIATELY COOL CONTAINERS W/WATER SPRAY FROM MAXIMUM DISTANCE W.OUT EXTINGUISHING FLAMES. REMOVE ALL IGNITION SOURCES SAFELY. (SEE SUPP)

Unusual Fire/Explosion Hazard:MAY FORM EXPLOSIVE MIXTURES W/AIR & OXIDIZING AGENTS. LIQUID WILL SOLIDIFY AIR & CREATE EXPLOSION HAZARD. CONTAINER MAY RUPTURE DUE TO HEAT OF FIRE. (SEE SUPP)

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===== Accidental Release Measures =====

Spill Release Procedures:IMMEDIATELY EVACUATE AREA. WEAR SCBA WHERE NEEDED. REMOVE IGNITION SOURCES. REDUCE VAPORS W/FOG/FINE WATER SPRAY. BEFORE ENTERING AREA, CHECK ATMOSPHERE W/APPROPRIATE DEVICE. VENTILATE AREA/MOVE LEAKING CONTAINER TO WELL VENTILATED AREA SAFELY.

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===== Handling and Storage =====

Handling and Storage Precautions:STORE & USE W/ADEQUATE VENTILATION AT ALL TIMES. USE ONLY IN CLOSED SYSTEM. CL

OSE VALVE WHEN NOT IN

USE/WHEN EMPTY. KEEP AWAY FROM OXIDIZING AGENTS.

Other Precautions: DON'T GET LIQUID IN EYES, ON SKIN/CLOTHING. USE PIPING & EQUIPMENT DESIGNED TO WITHSTAND PRESSURES/TEMPS TO BE ENCOUNTERED. ONLY USE SPARK/EXPLOSION PROOF EQUIPMENT. GROUND ALL EQUIPMENT. NEVER WORK ON A PRESSURIZED SYSTEM.

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===== Exposure Controls/Personal Protection =====

Respiratory Protection: NONE REQUIRED UNDER NORMAL USE. WEAR AIR SUPPLIED RESPIRATOR WHILE WORKING IN CONFINED AREAS W/THIS PRODUCT.

Ventilation: EXPLOSION PROOF LOCAL EXHAUST SYSTEM W/SUFFICIENT AIR FLOW VELOCITY RECOMMENDED. GENERAL EXHAUST MAY BE ACCEPTABLE.

Protective Gloves: LOOSE FITTING CRYOGENIC

Eye Protection: SAFETY GLASSES & FULL FACE SHIELD

Other Protective Equipment: METATARSAL SHOES FOR CYLINDER HANDLING, CUFFLESS TROUSERS OUTSIDE SHOES, HIGHT TOP SHOES ARE PREFERRED.

Work Hygienic Practices: REMOVE/LAUNDER CONTAMINATED CLOTHING BEFORE REUSE.

Supplemental Safety and Health

SPECIAL FIRE CONT'D: WEAR SCBA WHERE NEEDED. SAFELY STOP LEAK WHILE COOLING W/WATER SPRAY. SAFELY REMOVE ALL CONTAINERS FROM AREA. ALLOW FIRE TO BURN OUT. UNUSUAL FIRE CONT'D: FLAME ALMOST INVISIBLE. FIREBALL IS FORMED IF GAS CLOUD IS IGNITED. EXPLOSIVE ATMOSPHERES MAY LINGER. AUTOIGNITION TEMP: 968F.

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===== Physical/Chemical Properties =====

Boiling Pt: B.P. Text: -422.99F

Melt/Freeze Pt: M.P/F.P Text: -434.6F

Vapor Density: 0.0696

Spec Gravity: 0.07

Evaporation Rate & Reference: (BU AC =1): >3

Solubility in Water: NEGLIGIBLE

Appearance and Odor: COLORLESS, ODORLESS CRYOGENIC LIQUID.

Percent Volatiles by Volume: 100

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===== Stability and Reactivity Data =====

Stability Indicator/Materials to Avoid: YES

OXYGEN, OXIDIZING AGENTS, AIR, LITHIUM, HALOGENS.

Stability Condition to Avoid: HEAT, FIRE & OTHER IGNITION SOURCES.

Hazardous Decomposition Products: NONE

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===== Disposal Considerations =====

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Waste Disposal Methods: PREVENT WASTE FROM CONTAMINATING SURROUNDING ENVIRONMENT. DISCARD ANY PRODUCT/RESIDUE/DISPOSABLE CONTAINER/LINER IN AN ENVIRONMENTALLY ACCEPTABLE MANNER IAW/FEDERAL, STATE & LOCAL REGULATIONS. SAFELY SHUT OFF LEAK.

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