

===== Product Identification =====

Product ID:HYDROGEN-REFRIGERATED GAS

MSDS Date:07/01/1986

FSC:6830

NIIN:00-474-5789

MSDS Number: BDZSL

=== Responsible Party ===

Company Name:AIRCO DIV.OF THE BOC GROUP,INC.

Address:575 MOUNTAIN AVE.

City:MURRY HILL

State:NJ

ZIP:07974-2006

Info Phone Num:201-464-8100

Emergency Phone Num:201-464-8100 CHEMTREC 800-424-9300

CAGE:LO430

=== Contractor

Identification ===

Company Name:AIRCO DIV.OF THE BOC GROUP,INC.

Address:575 MOUNTAIN AVE.

Box:City:MURRY HILL

State:NJ

ZIP:07974-2006

Phone:201-464-8100

CAGE:LO430

Company Name:BOC GROUP INC THE, BOC GASES DIV

Address:575 MOUNTAIN AVE

Box:City:NEW PROVIDENCE

State:NJ

ZIP:07974-1209

Country:US

Phone:908-464-8100

CAGE:6J576

===== Composition/Information on Ingredients =====

Ingred Name:HYDROGEN

CAS:1333-74-0

RTECS #:MW8900000

Fraction by Wt: 99.999%

Other REC Limits:SEE SUPP

DATA

===== Hazards Identification =====

Routes of Entry: Inhalation:YES Skin:NO Ingestion:NO
Reports of Carcinogenicity:NTP:NO IARC:NO OSHA:NO
Health Hazards Acute and Chronic:HYDROGEN IS NON-TOXIC AND IS DANGEROUS
PHYSIOLOGICALLY AS AN ASPHYXIANT. THE CRYOGENIC LIQUID WILL FREEZE
TISSUES IF IN CONTACT WITH SKIN OR EYES.
Effects of Overexposure:INHALATION:EFFECTS OF OXYGEN
STARVATION,DROWSINESS,LOSS OF CONSCIOUSNESS. SKIN
CONTACT-FROSTBITE:
CHANGE OF COLOR TO GRAY OR WHITE,POSSIBLY WITH
BLISTERING.
Medical Cond Aggravated by Exposure:NONE

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

First Aid:INHALED:REMOVE TO FRESH AIR.GIVE ARTIFICIAL RESPIRATION OR
OXYGEN AS NEEDED.GET MEDICAL ATTENTION.FROSTBITE:FLUSH AFFECTED
AREA WITH LUKEWARM WATER.DO NOT USE HOT WATER.GET PROMPT MEDICAL
ATTENTION.

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

Flash Point:GAS
Lower Limits:4.0
Upper Limits:74.5
Extinguishing Media:WATER,CARBON DIOXIDE,DRY CHEMICAL
Fire Fighting Procedures:IF POSSIBLE, STOP FLOW OF HYDROGEN. COOL
SURROUNDING CONTAINERS WITH WATER. HYDROGEN BURNS WITH LITTLE
RADIATED HEAT AND AN ALMOST INVISIBLE FLAME.
Unusual Fire/Explosion Hazard:HYDROGEN IS LIGHTER THAN AIR AND WILL
COLLECT NEAR CEILINGS. VENTILATE UPPER AREAS TO PREVENT FLASH BACK.

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

Spill Release Procedures:EVACUATE PER
SONNEL AND ELIMINATE IGNITION
SOURCES. USE APPROPRIATE PROTECTIVE EQUIPMENT.
Neutralizing Agent:NONE

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

Handling and Storage Precautions:DO NOT PERMIT SMOKING OR OPEN FLAMES
IN STORAGE AREA. STORE IN WELL VENTILATED AREA. SEE CGA PAMPHLETS
G-5,P-12 AND OSHA 1910 SUBPART H.
Other Precautions:USE ONLY NON-SPARKING OR EXPLOSION PROOF EQUIPMENT.
GROUND ALL FIXTURES AND EQUIPMENT. FEDERAL LAW PROHIBITS SHIPPING A
VE

SSEL NOT FILLED BY THE OWNER WITHOUT HIS EXPRESS (WRITTEN) CONSENT.

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

Respiratory Protection:FOR EMERGENCY:USE ESCAPE AIR SUPPLY OR SELF CONTAINED BREATHING APPARATUS.

Ventilation:HOOD WITH FORCED VENTILATION,AND OTHER LOCAL/GENERAL EXHAUST TO PREVENT ACCUMULATIONS ABOVE LEL.

Protective Gloves:LOOSE FITTING,INSULATED

Eye Protection:SPLASH GOGGLES/GLASSES PLUS FACE SHIELD

Other Protective Equipment:SAFETY SHOES,SAFETY SHOWER

Work Hygienic Practices:USE NORMAL PERSONAL HYGIENE PRACTICE.

Supplemental Safety and Health

MFR RECOMMENDS OXYGEN LEVEL BE MAINTAINED AT 18% OR MORE WHICH IS EQUAL TO A PARTIAL PRESSURE OF 135MM OF HYDROGEN.

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

HCC:G2

Boiling Pt:B.P. Text:-423F/-252C

Melt/Freeze Pt:M.P/F.P Text:-435F/-259C

Spec Gravity:0.071(AIR=1)

Solubility in Water:VERY SLIGHT

Appearance and Odor:COLORLESS,ODORLESS GAS OR LIQUID **GAS DENSITY =

0.1005209 LB/CUFT

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

Stability Indicator/Materials to Avoid:YES

OXIDIZERS

Stability Condition to Avoid:NONE

Hazardous Decomposition Products:NONE

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

Waste Disposal Methods:DO NOT ATTEMPT TO DISPOSE OF UNUSED HYDROGEN. RETURN TO MFR FOR PROPER DISPOSAL.

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