

HYDROGEN, COMPRESSED

MSDS Number

BHFBW

National Stock Number

6830-01-011-4102

Product Name

HYDROGEN, COMPRESSED

Manufacturer

AIR PRODUCTS AND CHEMICALS INC

Product Identification

Product ID:HYDROGEN, COMPRESSED

MSDS Date:06/01/1994

FSC:6830

NIIN:01-011-4102

MSDS Number: BHFBW

Responsible Party

AIR PRODUCTS AND CHEMICALS, INC.

7201 HAMILTON BLVD

ALLENTOWN , PA 18195-1501

US

Emergency Phone: 800-523-9374/610-481-7711

Info Phone: 215-481-4911/800-752-1597

Cage: 00742

Contractor

AIR PRODUCTS AND CHEMICALS INC

ALLENTOWN, PA 18195-1501

US

800-345-3148/ 800-752-1597

Cage: 00742

Ingredients

HYDROGEN

CAS: 1333-74-0

RTECS: MW8900000

Fraction By Weight: 100%

Hazards

LD50 LC50 Mixture:HYDROGEN IS A SIMPLE ASPHYXIAN.

Routes of Entry: Inhalation:YES Skin:NO Ingestion:NO

Reports of Carcinogenicity:NTP:NO IARC:NO OSHA:NO

Health Hazards Acute and Chronic:INHAL:ASPHYXIAN.BEFORE SUFFOCATION

COULD OCCUR LOWER FLAMM LIMIT OF PROD IN AIR WOULD BE EXCEEDED

POSSIBLY CAUSING BOTH OXY-DEFICIENT & EXPLO ATM.EXPO TO MODERATE

CONCEN MAY CAUSE DIZZ,HEAD,NAU,UNCON SC.EXPO TO ATM W/8-10% OR LESS

OXY WILLQUICKLY BRING ABOUT UNCONSC W/O WARNING.LACK OF SUFFICIENT

OXY MAY CAUSE (SUPPL)

Explanation of Carcinogenicity:PER MSDS:HYDROGEN IS NOT LISTED BY

NTP/OSHA/IARC.

Effects of Overexposure:EXPOSURE TO AN OXYGEN-DEFICIENT ATM (MAY CAUSE DIZZINESS, DROWSINESS, NAUSEA, VOMITING, EXCESS

SALIVATION, DIMINISHED MENTAL ALERTNESS, LOSS OF CONSCIOUSNESS, AND DEATH.

Medical Cond Aggravated by Exposure:NONE. TARGET ORGANS:NONE.

First Aid

First Aid:INHAL:PERSONS SUFFERING FROM LACK OF OXYGEN SHOULD BE REMOVED TO FRESH AIR. IF VICTIM IS NOT BREATHING, ADMINISTER ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, ADMINISTER OXYGEN. OBTAIN PROMPT MEDICAL ATTN. SKIN/EYE/INGEST:NONE. NOTES TO PHYSICIAN:NONE.

Fire Fighting

Flash Point:FLAMMABLE GAS

Autoignition Temp:Autoignition Temp Text:565.5C

Lower Limits:4

Upper Limits:74

Extinguishing Media:CO2, DRY CHEMICAL, WATER SPRAY OR FOG FOR SURROUNDING AREA. DO NOT EXTINGUISH UNTIL HYDROGEN SOURCE IS SHUT OFF.

Fire Fighting Procedures:EVACUATE PERSONNEL FRM DANGER AREA.IMMED COOL CNTNR W/WATERSPRAY FRM MAX DISTANCE TAKING CARE NOT TO EXT FLAMES.IF ACCIDENTALLY EXT EXPLO RE-IGN MAY OCCUR.(SUP)

Unusual Fire/Explosion Hazard:BURNS W/PALE BLUE,NEARLY INVISIBLE FLAM.EASILY IGN W/LOW-IGN ENERGY(STATIC ELECT).LIGHTER THAN AIR;ACCUMULATE IN UPPER SEC OF ENCLSD SPACES.PRESSURE IN (SUPPLE)

Accidental Release

Spill Release Procedures:EVACUATE IMMED.REMOVE POSSIBLE IGN SOURCES.PROVIDE MAX EXPLO-PROOF VENTI.SHUT OFF SOURCE IF POSSIBLE.IF LEAK FRM CYL/VALVE CALL AIR PRODUCTS.PRESENCE OF H2 FLAME CAN BE DETECTED BY APPROACHING CAUT W/ OUTSTRETCHED STRAW BROOM MAKING FLAME VISIBLE.

Handling

Handling and Storage Precautions:NFPA 50A REQMT.STORE CYL UPRIGHT W/VAL PROT CAP IN PLACE @WELL-PROT WELL-VENTI DRY LOCATION SEPARATED FRM COMBUST MATLS.CYL TEMP SHOULDN'T REACH >125F

Other Precautions:SEPARATE CYL FRM OXY CYL/OXIDIZERS BY 20FT(MIN)DISTANCE OR BARRIER OF NONCOMBUST MATL @LEAST 5FT HI W/@LEAST 1/2 HR FIRE RESISTANCE RATING.PROT FRM PHYS DMG.DON'T DRAG/ROLL/DROP-USE HANDTRUCK.EXPLO PR OOF IN STORAGE/USE AREAS (SUPPLEMENT)

Exposure Controls

Respiratory Protection:GENERAL USE:NONE. EMERG USE:AIR SUPPLIED RESPIRATORS ARE REQUIRED IN OXY-DEFICIENT ATMS.BEFORE ENTERING AREA YOU MUST CHECK FOR FLAMM OR OXY-DEFICIENT ATMS.

Ventilation:PROVIDE NATURAL OR EXPLO-PROOF VENTI ADEQUATE TO ENSURE HYDROGEN DOESN'T REACH ITS LOWER EXPLO LIMIT OF 4%.

Protective Gloves:WORK GLOVES WHEN HANDLING CYLINDER.

Eye Protection:SAFETY GLASSES WHEN HANDLING CYLINDER.

Other Protective Equipment:SAFETY SHOES ARE RECOMMENDED WHEN HANDLING CYLINDERS.

Work Hygienic Practices:NONE SPECIFIED BY MANUFACTURER.

Supplemental Safety and Health

FIREFTG:STOP FLOW OF GAS W/O RISK WHILE CONT COOLING WATERSPRAY.

EXPLO/FIRE HAZ:CNTNR CAN BUILDUP DUE TO HEAT;MAY RUPTURE IF

PRESSURE RELIEF DEVICES FAIL TO WORK. HEALTH HAZ:SERIOUS

INJURY/DEATH.EYE/S KIN/CHRONIC:NONE. OTHER PREC:(NAT ELECTCODE

CLASS I HAZ).USE LEAK DETECTION SOLN.DO NOT USE ADAPTERS.

Chemical Properties

HCC:G2

Boiling Pt:B.P. Text:-423F,-253C

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

Spec Gravity:0.0696@32F/1ATM

Solubility in Water:0.019 VOL/VOL @60F.

Appearance and Odor:FLAMM, OLORLESS, ODORLESS, COMPRESSED GAS PKG IN CYL @HIGH PRESSURE.

Stability

Stability Indicator/Materials to Avoid:YES

OXIDIZING AGENTS. SOME STEELS ARE SUSCEPTIBLE TO HYDROGEN EMBRITTLEMENT @HIGH PRESSURES & TEMPS.

Stability Condition to Avoid:PER MSDS:NONE. HOWEVER REMOVE ALL IGN

SOURCES. HANDLE CYLINDERS CAREFULLY.

Hazardous Decomposition Products:HAZ COMBUSTION PROD:NONE. HAZ DECOMP PROD:NONE.

Disposal

Waste Disposal Methods:DON'T ATTEMPT TO DISPOSE OF RESIDUAL/UNUSED PROD IN CYL.RETURN TO SUPPLIER FOR SAFE DISPOSAL.RESIDUAL PROD W/IN PROCESS SYS MAY BE VENTED @CONTROLLED RATE TO ATM THRU VENT STACK THAT DISCHARGES TO ELE VATED PT.STACK IN ISOLATED AREA AWAY FRM IGN SOURC

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