HYDROGEN

HYDROGEN	ICSC: 0001
	April 1993

(cylinder)

CAS #	1333-74-0	H_2
RTECS #	MW8900000	Molecular mass: 2.0
UN #	1049	
EC #	001-001-00-9	

TYPES OF HAZARD / EXPOSURE	ACUTE HAZARDS / SYMPTOMS	PREVENTION	FIRST AID / FIRE FIGHTING
FIRE	Extremely flammable. Many reactions may cause fire or explosion.	NO open flames, NO sparks, and NO smoking.	Shut off supply; if not possible and no risk to surroundings, let the fire burn itself out; (see notes) water spray, powder, carbon dioxide.
EXPLOSION	Gas/air mixtures are explosive.	Closed system, ventilation, explosion-proof electrical equipment and lighting. Use non-sparking handtools. Do not handle cylinders with oily hands.	In case of fire: keep cylinder cool by spraying with water. Combat fire from a sheltered position.
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EXPOSURE			
Inhalation	Dizziness. Asphyxia. Laboured breathing. Unconsciousness.	Closed system and ventilation.	Fresh air, rest. Refer for medical attention.
Skin	ON CONTACT WITH LIQUID: FROSTBITE.	Cold-insulating gloves. Protective clothing.	ON FROSTBITE: rinse with plenty of water, do NOT remove clothes. Refer for medical attention.
Eyes		Safety goggles, or face shield.	
Ingestion			

SPILLAGE DISPOSAL

Evacuate danger area! Consult an expert!
Ventilation. Remove vapour with fine water spray.

PACKAGING & LABELLING

F+ Symbol
R: 12
S: 9-16-33
UN Hazard Class: 2.1

EMERGENCY RESPONSE

Transport Emergency Card: TEC (R)-20 NFPA Code: H0; F4; R0;

STORAGE

Fireproof. Cool.

IMPORTANT DATA

PHYSICAL STATE; APPEARANCE:
ODOURLESS , COLOURLESS COMPRESSED LIQUEFIED GAS

PHYSICAL DANGERS:
The gas mixes well with air, explosive mixtures are easily formed. The gas is lighter than air.

CHEMICAL DANGERS:
Heating may cause violent combustion or explosion. Reacts violently with air, oxygen, chlorine, fluorine, strong oxidants causing fire and explosion hazard. Metal catalysts, such as platinum and nickel, greatly enhance these reactions.

OCCUPATIONAL EXPOSURE LIMITS:
TLV not established

ROUTES OF EXPOSURE:
The substance can be absorbed into the body by inhalation.

INHALATION RISK:
On loss of containment this liquid evaporates very quickly causing supersaturation of the air with serious risk of suffocation when in confined areas.

EFFECTS OF SHORT-TERM EXPOSURE:
The liquid may cause frostbite. Exposure could cause dizzines, high voice. Exposure may result in suffocation.

PHYSICAL PROPERTIES

Boiling point: - 253°C
Relative vapour density (air = 1): 0.07

Flash point: flammable gas
Auto-ignition temperature: 500-571°C
Explosive limits, vol% in air: 4-76

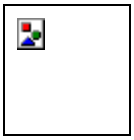
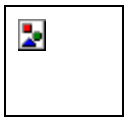
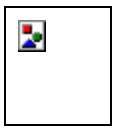
ENVIRONMENTAL DATA

NOTES

Addition of small amounts of a flammable substance or an increase in the oxygen content of the air strongly enhances combustibility. High concentrations in the air cause a deficiency of oxygen

with the risk of unconsciousness or death. Check oxygen content before entering area. No odour warning if toxic concentrations are present. Measure hydrogen concentrations with suitable gas detector (a normal flammable gas detector is not suited for the purpose). After use for welding, turn valve off; regularly check tubing, etc., and test for leaks with soap and water. The measures mentioned in section PREVENTION are applicable to production, filling of cylinders, and storage of the gas.

IPCS
International Programme on Chemical Safety


Prepared in the context of cooperation between the International Programme on Chemical Safety and the European Commission