

# HYDROGEN SELENIDE

0284

September 1993

CAS No: 7783-07-5  
 RTECS No: MX1050000  
 UN No: 2202  
 EC No: 034-002-00-8

Selenium hydride  
 (cylinder)  
 $H_2Se$   
 Molecular mass: 81.0

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/SYMPTOMS	PREVENTION	FIRST AID/FIRE FIGHTING
<b>FIRE</b>	Extremely flammable.	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; in other cases extinguish with powder, carbon dioxide.
<b>EXPLOSION</b>	Gas/air mixtures are explosive.	Closed system, ventilation, explosion-proof electrical equipment and lighting.	In case of fire: keep cylinder cool by spraying with water. Combat fire from a sheltered position.
<b>EXPOSURE</b>		<b>STRICT HYGIENE!</b>	
<b>Inhalation</b>	Burning sensation. Cough. Laboured breathing. Nausea. Sore throat. Weakness.	Closed system and ventilation.	Fresh air, rest. Half-upright position. Artificial respiration may be needed. Refer for medical attention.
<b>Skin</b>	ON CONTACT WITH LIQUID: FROSTBITE.	Cold-insulating gloves.	ON FROSTBITE: rinse with plenty of water, do NOT remove clothes.
<b>Eyes</b>	Redness. Pain.	Safety goggles or face shield.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
<b>Ingestion</b>			
<b>SPILLAGE DISPOSAL</b>		<b>PACKAGING &amp; LABELLING</b>	
Evacuate danger area! Consult an expert! Ventilation. NEVER direct water jet on liquid. Personal protection: complete protective clothing including self-contained breathing apparatus.		T Symbol N Symbol R: 23/25-33-50/53 S: (1/2-)20/21-28-45-60-61 Note: A UN Hazard Class: 2.3 UN Subsidiary Risks: 2.1	
<b>EMERGENCY RESPONSE</b>		<b>SAFE STORAGE</b>	
Transport Emergency Card: TEC (R)-20G2TF		Fireproof. Separated from strong oxidants. Cool.	

## IMPORTANT DATA

**Physical State; Appearance**

COLOURLESS COMPRESSED LIQUEFIED GAS, WITH CHARACTERISTIC ODOUR.

**Physical dangers**

The gas is heavier than air and may travel along the ground; distant ignition possible.

**Chemical dangers**

The substance decomposes on heating above 100/C producing toxic and flammable products including Selenium (ICSC 0072) and Hydrogen (ICSC 0001). The substance is a strong reducing agent and reacts violently with oxidants causing fire and explosion hazard. On contact with air it emits toxic and corrosive fumes of selenium dioxide (ICSC 0946).

**Occupational exposure limits**

TLV: 0.05 ppm as TWA; (ACGIH 2004).  
MAK: 0.015 ppm, 0.05 mg/m<sup>3</sup>; Peak limitation category: I(2);  
Carcinogen category: 3B; Pregnancy risk group: C; (DFG 2004).

**Routes of exposure**

The substance can be absorbed into the body by inhalation.

**Inhalation risk**

A harmful contamination of the air can be reached very quickly on evaporation of this substance at 20/C.

**Effects of short-term exposure**

The substance is irritating to the eyes and the respiratory tract. Inhalation of the gas may cause pneumonitis. Exposure at high levels may result in death.

**Effects of long-term or repeated exposure**

The substance may have effects on the liver.

## PHYSICAL PROPERTIES

Boiling point: -41/C  
Melting point: -66/C  
Relative density (water = 1): 2.1 (as liquid)  
Solubility in water, ml/100 ml at 22.5/C: 270

Vapour pressure, kPa at 21/C: 878  
Relative vapour density (air = 1): 2.8  
Flash point: Flammable Gas

## ENVIRONMENTAL DATA

## NOTES

The odour warning when the exposure limit value is exceeded is insufficient.  
Turn leaking cylinder with the leak up to prevent escape of gas in liquid state.  
Card has been partly updated in October 2005. See sections Occupational Exposure Limits, EU classification, Emergency Response.

## ADDITIONAL INFORMATION

## LEGAL NOTICE

Neither the EC nor the IPCS nor any person acting on behalf of the EC or the IPCS is responsible for the use which might be made of this information