



MATERIAL SAFETY DATA SHEETS

309

Hydrogen selenide

1. CHEMICAL IDENTITY

Chemical Name : Hydrogen selenide

Chemical Classification: Toxic

Trade Name :

Synonyms: Hydroselenic acid, Selenium hydride, Dihydrogen selenide

Formula : H₂Se

CAS No: 7783-07-5

UN No: 2202

Regulated Identification

Shipping Name : Hydrogen selenide

Hazchem Code : 2WE

Codes / Label : Class 2.3, Toxic

Hazardous Waste ID No :

HAZARDOUS INGREDIENTS	C.A.S. No.	HAZARDOUS INGREDIENTS	C.A.S. No.
1 Hydrogen selenide	7783-07-5	3	
2		4	

2. PHYSICAL / CHEMICAL DATA

Boiling Pt. °C: 41.3

Physical State: Gas

Appearance: Colorless gas.

Melting Pt °C: -65.73

Vapour Pressure @ 35°C mmHg: 6536 at 18 deg C;
9120 at 30.8 deg C

Odour: Offensive odour.

Vapour Density(Air =1): 2.12

Solubility in water at 30°C g/100ml: 270 ml in 100 ml at 22.5 deg C

Others: Soluble in carbonyl chloride and carbon disulphide.

Specific Gravity (Water =1): 2.12 @ -42 deg C/4 deg C

pH :

3. FIRE / EXPLOSION HAZARD DATA

Flammability :

LEL:

Flash Point °C in OC:

TDG Flammability:

UEL:

Flash Point °C in CC:

Autoignition Temperature °C :

Explosion sensitivity to impact:

Explosion sensitivity to static Electricity:

Hazardous Combustion Products : Fire will produce irritating, corrosive and/or toxic gases.

Hazardous Polymerization :

Combustible Liquid:

Explosive Material:

Corrosive Material

Flammable Material:

Oxidiser :

Others:

Pyrophoric Material:

Organic Peroxide :

4. REACTIVITY DATA

Chemical Stability : Decomposes rapidly in air to form elemental selenium and water.

Incompatibility with other material : It forms explosive mixtures with air React vigorously with strong oxidizing reagents, e.g., hydrogen peroxide, nitric acid.

Reactivity :

Hazardous Reaction Products : Decomposes on heating above 100 C producing toxic and flammable products including selenium and hydrogen.

5. HEALTH HAZARD DATA

Routes of entry: Inhalation, Ingestion, Skin and Eyes

Effects of Exposure / Symptoms:

Inhalation : Initial odor may be irritating or foul and may deaden your sense of smell. May be fatal. **Ingestion :** Hydrogen selenide can cause nausea and vomiting. **Skin :** Hydrogen selenide is irritating to skin. **Eye :** May cause burns.

Emergency Treatment :

Inhalation: Move patient to fresh air. Monitor for respiratory distress. Administer oxygen and assist ventilation as required. Treat bronchospasm with beta2 agonist and corticosteroid aerosols.

Skin: Remove contaminated clothing and wash exposed area thoroughly with soap and water. A physician should examine the area if irritation or pain persists.

Eyes: Immediately flush with running water for at least 20 minutes.

Ingestion: Activated charcoal: administer charcoal as a slurry (240 ml water/30 g charcoal). Usual dose: 25 to 100 g in adults/adolescents.

LD50 (oral-rat) mg/kg:	STEL:
LC50 (rat) mg/kg:	Odour Threshold: 0.3 ppm
Permissible Exposure Limit:	TLV (ACGIH) : 0.05 ppm (0.2 mg/m3)

NFPA Hazard Signals	Health	Flammability	Reactivity	Special
	3	3		

6. PREVENTIVE MEASURES

Personal Protective Equipment : Wear appropriate protective gloves, clothing and goggles. Always wear thermal protective clothing when handling refrigerated/cryogenic liquids.

Handling : All chemicals should be considered hazardous. Avoid direct physical contact. Use appropriate, approved safety equipment. Untrained individuals should not handle this chemical or its container. Handling should occur in a chemical fume hood.

Storage : Keep in a cool, dry, dark location in a tightly sealed container or cylinder. Keep away from incompatible materials, ignition sources and untrained individuals. Secure and label area. Protect containers/cylinders from physical damage.

Precautions :

7. EMERGENCY / FIRST AID MEASURES

FIRE:

Fire Extinguishing Media :

Special Procedure : Isolate for 1/2 mile in all directions if tank car or truck is involved in fire. Stay upwind; keep out of low areas. Cool containers that are exposed to flames with water until well after the fire is out

Unusual Hazards : It is extremely flammable; may be ignited by heat, sparks, or flames. Vapors may travel to a source of ignition and flash back. Container may explode in heat of fire.

EXPOSURE: First Aid Measures:

Inhalation: Move patient to fresh air. Monitor for respiratory distress. Administer oxygen and assist ventilation as required. Treat bronchospasm with beta2 agonist and corticosteroid aerosols.

Skin: Remove contaminated clothing and wash exposed area thoroughly with soap and water. A physician should examine the area if irritation or pain persists.

Eyes: Immediately flush with running water for at least 20 minutes.

Ingestion: Activated charcoal: administer charcoal as a slurry (240 ml water/30 g charcoal).
Usual dose: 25 to 100 g in adults/adolescents.

Antidotes / Dosages:

SPILLS :

Steps To Be Taken : Keep sparks, flames, and other sources of ignition away. Keep material out of water sources and sewers. Attempt to stop leak if without undue personnel hazard. Use water spray to knock-down vapors.

Waste Disposal Method:

8. ADDITIONAL INFORMATION / REFERENCES

9. MANUFACTURERS / SUPPLIERS DATA

NAME OF FIRM :	Contact person
MAILING ADDRESS :	in Emergency :
TELEPHONE / TELEX NOS :	Local Bodies involved :
TELEGRAPHIC ADDRESS :	Standard Packing :
OTHERS :	Trem Card Details / Ref :

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