



SIGMA-ALDRICH

Material Safety Data Sheet

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Section 1 - Product and Company Information

Product Name (-)-Scopolamine hydrobromide trihydrate, minimum 98% TLC
Product Number S1875
Brand Sigma Chemical

Company Sigma-Aldrich
Street Address 3050 Spruce Street
City, State, Zip, Country SAINT LOUIS, MO 63103 US
Technical Phone: 800-325-5832
Fax: 800-325-5052
Emergency Phone: 314-776-6555

Section 2 - Composition/Information on Ingredient

<u>Substance Name</u>	<u>CAS #</u>	<u>SARA 313</u>	<u>EC no</u>	<u>Annex I Index Number</u>
(-)-SCOPOLAMINE HYDROBROMIDE	114-49-8	No	204-050-6	

Formula C17H21NO4 · HBr · 3H2O
Synonyms Beldavrin, Euscopol, Hyoscine hydrobromide, Hyoscine bromide, (-)-Hyoscine hydrobromide, (+)-Hyoscine hydrobromide, Hyocine F hydrobromide, Hyoscine hydrobromide, Hysco, Isoscopil, Kwells, Scopamin, (-)-Scopolamine bromide (-)-Scopolamine hydrobromide, Scopolaminium bromide, Scopolammonium bromide, Scopos, Sereen, Triptone

Section 3 - Hazards Identification

Emergency Overview

Harmful.
Harmful if swallowed.
Target organ(s): Central nervous system.

HMIS Rating

Health: 1 Flammability: 0 Reactivity: 0

NFPA Rating

Health: 1 Flammability: 0 Reactivity: 0

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

Oral Exposure

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

Inhalation Exposure

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

Dermal Exposure

In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

Eye Exposure

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

Autoignition Temp: N/A

Extinguishing Media

Suitable

Water spray, Carbon dioxide, dry chemical powder, or appropriate foam.

Firefighting

Protective Equipment

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Specific Hazard(s)

Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

Procedure to be Followed in Case of Leak or Spill

Evacuate area.

Procedure(s) of Personal Precaution(s)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

Methods for Cleaning Up

Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

Handling

User Exposure

Do not breathe dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

Storage

Suitable

Keep tightly closed.

Section 8 - Exposure Controls / PPE

Engineering Controls

Safety shower and eye bath. Mechanical exhaust required.

Personal Protective Equipment

Respiratory

Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate use a dust mask type N95 (US) or type P1 (EN 143) respirator.

Hand

Compatible chemical-resistant gloves.

Eye

Chemical safety goggles.

REFERENCE ONLY

NOV 10 2008

Sigma-Aldrich Corporation
www.sigma-aldrich.com

Sigma Chemical - S1875

Page 2

General Hygiene Measures
Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties

Appearance		
Physical State	Color	Form
Solid	Very faintly yellow	Fine crystals
Molecular Weight	438.3 AMU	
pH	N/A	
BP/BP Range	N/A	
MP/MP Range	196 - 197 °C	
Freezing Point	N/A	
Vapor Pressure	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
SG/Density	N/A	
Bulk Density	N/A	
Odor Threshold	N/A	
Volatile%	N/A	
VOC Content	N/A	
Water Content	N/A	
Solvent Content	N/A	
Evaporation Rate	N/A	
Viscosity	N/A	
Partition Coefficient	N/A	
Decomposition Temp.	N/A	
Flash Point °F	N/A	
Flash Point °C	N/A	
Explosion Limits	N/A	
Flammability	N/A	
Autoignition Temp	N/A	
Optical Rotation	Degree of Rotation	Solvent: H2O50 g/l
	-28 - -23 (+/-1)	
Solubility	N/A	

N/A = not available

Section 10 - Stability and Reactivity

Stability
Stable
Stable
Conditions of Instability
Light.
Materials to Avoid
Acids, Bases, Oxidizing agents.

Hazardous Decomposition Products **Hazardous Decomposition Products**

Carbon monoxide, Carbon dioxide, Nitrogen oxides, Hydrogen bromide gas

Hazardous Polymerization
Hazardous Polymerization
Will not occur.

Section 11 - Toxicological Information

Route of Exposure
Skin Contact
May cause skin irritation.
Skin Absorption
May be harmful if absorbed through the skin.
Eye Contact
May cause eye irritation.
Inhalation
May be harmful if inhaled.
Ingestion
Harmful if swallowed.

Target Organ(s) or System(s)
Central nervous system.

Signs and Symptoms of Exposure
Exposure can cause: Change in pupil size, Drowsiness, dry mouth, blurred vision, dizziness, confusion, delirium, hallucinations, coma.

RTECS Number: YM4550000

Toxicity Data

Oral - Rat: 1270 mg/kg (LD50)
Oral - Rat: 1270 mg/kg (LD50)
Subcutaneous - Rat: 3800 MG/KG (LD50)
Subcutaneous - Rat: 296 MG/KG (LD50)
Intraduodenal - Rat: 670 MG/KG (LD50)
Intraduodenal - Rat: 670 MG/KG (LD50)
Oral - Mouse: 1880 mg/kg (LD50)
Oral - Mouse: 1880 mg/kg (LD50)
Intraperitoneal - Mouse: 650 MG/KG (LD50)
Intraperitoneal - Mouse: 650 MG/KG (LD50)
Subcutaneous - Mouse: 1650 MG/KG (LD50)
Subcutaneous - Mouse: 1650 MG/KG (LD50)
Intravenous - Mouse: 203 MG/KG (LD50)
Intravenous - Mouse: 203 MG/KG (LD50)
Subcutaneous - Guinea pig: 850 MG/KG (LD50)
Remarks: Autonomic Nervous System:Parasympatholytic.
Subcutaneous - Guinea pig: 850 MG/KG (LD50)
Remarks: Autonomic Nervous System:Parasympatholytic.

Chronic Exposure - Teratogen

<u>Species</u>	<u>Dose</u>	<u>Route of Application</u>	<u>Exposure Time</u>
Rabbit	2365 MG/KG	Oral	(10-14D PREG)
			Result: Specific Developmental Abnormalities: Central nervous system. Specific Developmental Abnormalities: Eye, ear.
Rabbit	2365 MG/KG	Oral	(10-14D PREG)
			Result: Specific Developmental Abnormalities: Central nervous system. Specific Developmental Abnormalities: Eye, ear.

Chronic Exposure - Mutagen

<u>Species</u>	<u>Dose</u>	<u>Cell Type</u>	<u>Mutation test</u>
Human	1 PPH/5H	HeLa cell	Cytogenetic analysis
Human	1 PPH/5H	HeLa cell	Cytogenetic analysis

Chronic Exposure - Reproductive Hazard

<u>Species</u>	<u>Dose</u>	<u>Route of Application</u>	<u>Exposure Time</u>
Rat	300 UG/KG	Intraperitoneal	(1D MALE)
Result: Effects on Fertility. Mating performance (e.g. # sperm positive females per # females mated. # copulations per # estrus cycles)			
Rat	300 UG/KG	Intraperitoneal	(1D MALE)
Result: Effects on Fertility. Mating performance (e.g. # sperm positive females per # females mated. # copulations per # estrus cycles).			
Rat	500 UG/KG	Subcutaneous	(1D MALE)
Result: Effects on Fertility. Mating performance (e.g. # sperm positive females per # females mated. # copulations per # estrus cycles)			
Rat	500 UG/KG	Subcutaneous	(1D MALE)
Result: Effects on Fertility. Mating performance (e.g. # sperm positive females per # females mated. # copulations per # estrus cycles).			

Section 12 - Ecological Information

No data available

Section 13 - Disposal Considerations**Appropriate Method of Disposal of Substance or Preparation**

Contact a licensed professional waste disposal service to dispose of this material
Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber
Observe all federal, state and local environmental regulations

Section 14 - Transport Information**DOT**

Proper Shipping Name: Alkaloids, solid, n.o.s. [or] Alkaloid salts, solid, n.o.s. [poisonous]
UN#: 1544
Class: 6.1
Packing Group: Packing Group III
Hazard Label: Toxic substances.
PIH: Not PIH

IATA

Proper Shipping Name: Alkaloid salts, solid, n.o.s.
IATA UN Number: 1544
Hazard Class: 6.1
Packing Group: III

Section 15 - Regulatory Information**EU Additional Classification**

Symbol of Danger: Xn
Indication of Danger:
Harmful.
Risk Statements R: 22
Harmful if swallowed
Safety Statements S: 36
Wear suitable protective clothing

US Classification and Label Text

Indication of Danger:
Harmful

Risk Statements

Harmful if swallowed.

Safety Statements

Wear suitable protective clothing.

US Statements

Target organ(s): Central nervous system.

United States Regulatory Information

SARA Listed: No

TSCA Inventory Item: Yes Yes

Canada Regulatory Information**WHMIS Classification**

This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: No

NDSL: Yes

Section 16 - Other Information**Disclaimer**

For R&D use only. Not for drug, household or other uses.

Warranty

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. SigmaAldrich Inc., shall not be held liable for any damage resulting from handling or form contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright2008 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only