



Material Safety Data Sheet

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Version 1.70

Section 1 - Product and Company Information

Product Name Dimethyl sulfide, anhydrous, ≥99.0%
Product Number 274380
Brand Aldrich 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

Substance Name	CAS #	SARA 313	EC no	Annex I Index Number
DIMETHYL SULFIDE	75-18-3	No	200-846-2	

Formula C2H6S
Synonyms Dimethyl monosulfide, Dimethylsulfid (Czech), Dimethyl sulphide, ExactS, Methane, thiobis (9CI), Methyl monosulfide, Methyl sulphide, Methyl thioether, Sulfure de methyle (French), Thiapropane, Thiobis(melthane)

Section 3 - Hazards Identification

Emergency Overview

Flammable (USA) Highly Flammable (EU).
Harmful if swallowed. Irritating to respiratory system and skin. Risk of serious damage to eyes.
Unpleasant odor.

HMIS Rating
Health: 2 Flammability: 4 Reactivity: 1

NFPA Rating
Health: 2 Flammability: 4 Reactivity: 1

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

Flammable Hazards: Yes

Explosion Hazards

Vapor may travel considerable distance to source of ignition and flash back.
Container explosion may occur under fire conditions.
Forms explosive mixtures in air.

Flash Point: -32.8 °F -36 °C

Explosion Limits: Lower: 2.2 % Upper: 19.7 %

Autoignition Temp: 206 °C **Flammability:** Yes

Extinguishing Media Suitable

For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

Firefighting

Protective Equipment

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

Specific Hazard(s)

Flammable liquid. Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

Procedure to be Followed in Case of Leak or Spill

Evacuate area. Shut off all sources of ignition.

Procedure(s) of Personal Precaution(s)

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

Methods for Cleaning Up

Cover with dry-lime, sand, or soda ash. Place in covered containers using nonsparking tools and transport outdoors. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

Handling

User Exposure

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

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Storage
Suitable

Keep container closed. Keep away from heat, sparks, and open flame. Store at 2-8°C

Special Requirements

Handle and store under inert gas. Refrigerate before opening. May develop pressure. Open carefully. Hygroscopic.

Section 8 - Exposure Controls / PPE**Engineering Controls**

Safety shower and eye bath. Use nonsparking tools. 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 fullface respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a fullface supplied air respirator.

Hand

Compatible chemical-resistant gloves.

Eye

Chemical safety goggles.

General Hygiene Measures

Wash thoroughly after handling. Wash contaminated clothing before reuse.

Section 9 - Physical/Chemical Properties**Appearance**
Physical State
Clear liquid**Color**
Colorless**Molecular Weight** 62.13 AMU

<u>Property</u>	<u>Value</u>	<u>At Temperature or Pressure</u>
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pH N/A

BP/MP Range 38 °C 760 mmHg

MP/MP Range -98 °C

Freezing Point N/A

Vapor Pressure 402.743 mmHg 20 °C

Vapor Density 2.1 g/l

Saturated Vapor Conc. N/A

SG/Density 0.846 g/cm3

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 -32.8 °F

Flash Point °C -36 °C

Method: closed cup

Method: closed cup

Explosion Limits Lower: 2.2 %
Upper: 19.7 %

Flammability N/A

Autoignition Temp 206 °C

Refractive Index 1.4351

Solubility

Solubility in Water: Insoluble.

Other Solvents: ETHANOL, ETHER

N/A = not available

Section 10 - Stability and Reactivity**Stability**

Stable

Stable

Materials to Avoid

Strong oxidizing agents

Hazardous Decomposition Products

Hazardous Decomposition Products

Carbon monoxide, Carbon dioxide, Sulfur oxides, Hydrogen sulfide gas

Hazardous Polymerization

Hazardous Polymerization

Will not occur.

Section 11 - Toxicological Information**Route of Exposure****Skin Contact**

Causes skin irritation.

Skin Absorption

May be harmful if absorbed through the skin.

Eye Contact

Causes severe eye irritation.

Inhalation

Material is irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled.

Ingestion

Harmful if swallowed.

Signs and Symptoms of Exposure

Exposure can cause: Nausea, headache, and vomiting.

RTECS Number: PV5075000

Toxicity Data

Oral - Rat: 535 mg/kg (LD50)

Oral - Rat: 3300 mg/kg (LD50)

Remarks: Behavioral: General anesthetic.

Behavioral: Change in motor activity (specific assay).

Behavioral: Irritability.

Inhalation - Rat: 40,250 ppm (LC50)

Remarks: Lungs, Thorax, or Respiration: Other changes.

Gastrointestinal: Hypermotility, diarrhea.

Kidney, Ureter, Bladder: Urine volume increased.

Oral - Mouse: 3700 mg/kg (LD50)

Remarks: Behavioral: Change in motor activity (specific assay).

Behavioral: Antipsychotic.

Nutritional and Gross Metabolic: Changes in: Other changes.

Inhalation - Mouse: 31.62 mg/m3 (LC50)

Intraperitoneal - Mouse: 8 GM/KG (LD50)

Skin - Rabbit: > 5000 mg/kg (LD50)

Irritation Data

Skin - Rabbit: 500 mg 24H
Remarks: Mild irritation effect
Eyes - Rabbit: 0.25 mg 24H
Remarks: Severe irritation effect

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.
Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable.
Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT

Proper Shipping Name: Dimethyl sulfide
UN#: 1164
Class: 3
Packing Group: Packing Group II
Hazard Label: Flammable liquid
PIH: Not PIH

IATA

Proper Shipping Name: Dimethyl sulphide
IATA UN Number: 1164
Hazard Class: 3
Packing Group: II

Section 15 - Regulatory Information

EU Additional Classification

Symbol of Danger: F

Indication of Danger

Highly Flammable.

Risk Statements R: 11 22 37/38 41

Highly flammable. Harmful if swallowed. Irritating to respiratory system and skin. Risk of serious damage to eyes.

Safety Statements S: 7 9 16 29 33 36/39

Keep container tightly closed. Keep container in a well-ventilated place. Keep away from sources of ignition- no smoking. Do not empty into drains. Take precautionary measures against static discharges. Wear suitable protective clothing and eye/face protection.

US Classification and Label Text

Indication of Danger

Flammable (USA) Highly Flammable (EU)

Risk Statements

Harmful if swallowed. Irritating to respiratory system and skin. Risk of serious damage to eyes.

Safety Statements

Keep container tightly closed. Keep container in a well-ventilated place. Keep away from sources of ignition- no smoking. Do not empty into drains. Take precautionary measures against static discharges. Wear suitable protective clothing and eye/face protection.

US Statements

Unpleasant odor.

United States Regulatory Information

SARA Listed: No

TSCA Inventory Item: 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: Yes

NDSL: No

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 from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2007 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

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