

# Material Safety Data Sheet



Dimethyl Sulfide

## Section 1. Chemical product and company identification

**Product Name** : Dimethyl Sulfide  
**Supplier** : AIRGAS INC., on behalf of its subsidiaries  
259 North Radnor-Chester Road  
Suite 100  
Radnor, PA 19087-5283  
1-610-687-5253  
**Product use** : Synthetic/Analytical chemistry.  
**MSDS#** : 001104  
**Date of Preparation/Revision** : **6/29/2006.**  
**In case of emergency** : 1-866-734-3438

## Section 2. Hazards identification

**Physical state** : Liquid. (COLORLESS TO LIGHT YELLOW LIQUID WITH AN UNPLEASANT ODOR)  
**Emergency overview** : Danger!  
HIGHLY FLAMMABLE LIQUID AND VAPOR.  
CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION.  
CAUSES DAMAGE TO THE FOLLOWING ORGANS: SKIN, EYE, LENS OR CORNEA, NOSE, SINUSES, THROAT.  
VAPOR MAY CAUSE FLASH FIRE.  
Avoid contact with skin and clothing. Avoid breathing vapor or mist. Keep away from heat, sparks and flame. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling.  
Contact with rapidly expanding gases can cause frostbite.  
**Routes of entry** : Inhalation, Dermal, Eyes  
**Potential acute health effects**  
**Eyes** : Irritating to eyes.  
**Skin** : Irritating to skin.  
**Inhalation** : Irritating to respiratory system.  
**Ingestion** : Ingestion is not a normal route of exposure for gases  
**Potential chronic health effects** : **CARCINOGENIC EFFECTS** Not available.  
**MUTAGENIC EFFECTS** Not available.  
**TERATOGENIC EFFECTS**: Not available.  
**Medical conditions aggravated by overexposure** : Acute or chronic respiratory conditions may be aggravated by overexposure to this gas.  
See toxicological Information (section 11)

## Section 3. Composition, Information on Ingredients

<b>Name</b>	<b>CAS number</b>	<b>% Volume</b>	<b>Exposure limits</b>
Dimethyl Sulfide	75-18-3	100	<b>ACGIH TLV (United States, 1/2004). Notes: ACGIH 2004 Adoption</b> TWA: 10 ppm 8 hour(s). Form: All forms

## Section 4. First aid measures

No action shall be taken involving any personal risk or without suitable training. If fumes are still suspected to be present, the rescuer should wear an appropriate mask or a self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

- Eye contact** : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.
- Skin contact** : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.
- Frostbite** : Try to warm up the frozen tissues and seek medical attention.
- Inhalation** : If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.
- Ingestion** : Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if symptoms appear.

## Section 5. Fire fighting measures

- Flammability of the product** : Flammable.
- Auto-ignition temperature** : 206°C (402.8°F)
- Flash point** : Closed cup: -17.78°C (0°F).
- Flammable limits** : Lower: 2.2% Upper: 20%
- Products of combustion** : These products are carbon oxides (CO, CO<sub>2</sub>), sulfur oxides (SO<sub>2</sub>, SO<sub>3</sub>...).
- Fire fighting media and instructions** : In case of fire, use water spray (fog), foam, dry chemicals, or CO<sub>2</sub>.  
  
Not available.  
Highly flammable liquid and vapor. Vapor may cause flash fire. Vapors may accumulate in low or confined areas, travel considerable distance to source of ignition and flash back. Runoff to sewer may create fire or explosion hazard.
- Special protective equipment for fire-fighters** : Fire fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full facepiece operated in positive pressure mode.

## Section 6. Accidental release measures

- Personal precautions** : Immediately contact emergency personnel. Eliminate all ignition sources. Keep unnecessary personnel away. Use suitable protective equipment (Section 8). Do not touch or walk through spilled material.
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.
- Methods for cleaning up** : If emergency personnel are unavailable, contain spilled material. For small spills add absorbent (soil may be used in the absence of other suitable materials) and use a non-sparking or explosion proof means to transfer material to a sealed, appropriate container for disposal. For large spills dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Place spilled material in an appropriate container for disposal.

## Section 7. Handling and storage

- Handling** : Avoid contact with eyes, skin and clothing. Keep container closed. Use only with adequate ventilation. Avoid breathing vapor or mist. Keep away from heat, sparks and flame. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Wash thoroughly after handling.
- Storage** : Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).

## Section 8. Exposure Controls, Personal Protection

- Engineering controls** : Use only with adequate ventilation. If user operations generate dust, fumes, vapor or mist, use process enclosures, local exhaust ventilation, or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any explosive limits. Use explosion-proof ventilation equipment.
- Personal protection**
- Eyes** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.
- Skin** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.  
The applicable standards are (US) 29 CFR 1910.134 and (Canada) Z94.4-93
- Hands** : Chemical-resistant, impervious gloves or gauntlets complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Consult local authorities for acceptable exposure limits.

## Section 9. Physical and chemical properties

- Molecular weight** : 62.14 g/mole
- Molecular formula** : C<sub>2</sub>H<sub>6</sub>S
- Boiling/condensation point** : 37.5°C (99.5°F)
- Melting/freezing point** : -93.3°C (-135.9°F)
- Critical temperature** : 228.9°C (444°F)
- Vapor pressure** : 45.3 kPa (340 mm Hg) (at 20°C)
- Vapor density** : 2.14 (Air = 1)
- Specific Volume (ft<sup>3</sup>/lb)** : 6.23441
- Gas Density (lb/ft<sup>3</sup>)** : 0.1604

## Section 10. Stability and reactivity

- Stability and reactivity** : The product is stable.
- Incompatibility with various substances** : Highly reactive with oxidizing agents.

## Section 11. Toxicological information

<u>Ingredient name</u>	<u>Test</u>	<u>Result</u>	<u>Route</u>	<u>Species</u>
Dimethyl Sulfide	LD50	3300 mg/kg	Oral	Rat
	LD50	3700 mg/kg	Oral	Mouse
	LC50	40250 ppm (1 hour(s))	Inhalation	Rat

- Chronic effects on humans** : Causes damage to the following organs: skin, eye, lens or cornea, nose/sinuses, throat.
- Other toxic effects on humans** : Not considered to be toxic for humans.
- Specific effects**
- Carcinogenic effects** : No known significant effects or critical hazards.
- Mutagenic effects** : No known significant effects or critical hazards.
- Reproduction toxicity** : No known significant effects or critical hazards.




## Section 12. Ecological information

- Products of degradation** : These products are carbon oxides (CO, CO<sub>2</sub>) and water, sulfur oxides (SO<sub>2</sub>, SO<sub>3</sub>...).
- Toxicity of the products of biodegradation** : The product itself and its products of degradation are not toxic.
- Environmental fate** : Not available.
- Environmental hazards** : No known significant effects or critical hazards.
- Toxicity to the environment** : Not available.

## Section 13. Disposal considerations

Product removed from the cylinder must be disposed of in accordance with appropriate Federal, State, local regulation. Return cylinders with residual product to Airgas, Inc. Do not dispose of locally.

## Section 14. Transport information

Regulatory information	UN number	Proper shipping name	Class	Packing group	Label	Additional information
<b>DOT Classification</b>	UN1164	DIMETHYL SULFIDE	3	Not applicable (gas).		<p><b>Limited quantity</b> Yes.</p> <p><b>Packaging instruction</b> <b>Passenger Aircraft</b> Quantity limitation: 5 L</p> <p><b>Cargo Aircraft</b> Quantity limitation: 60 L</p> <p><b>Special provisions</b> IB1, T7, TP2</p>
<b>TDG Classification</b>	UN1164	DIMETHYL SULFIDE; OR DIMETHYL SULPHIDE	3	Not applicable (gas).		<p><b>Explosive Limit and Limited Quantity Index</b> 1</p> <p><b>Passenger Carrying Ship Index</b> Forbidden</p> <p><b>Passenger Carrying Road or Rail Index</b> 5</p>
<b>Mexico Classification</b>	UN1164	DIMETHYL SULFIDE	3	Not applicable (gas).		-

## Section 15. Regulatory information

### United States

- U.S. Federal regulations** : TSCA 8(b) inventory: dimethyl sulphide  
SARA 302/304/311/312 extremely hazardous substances: No products were found.  
SARA 302/304 emergency planning and notification: No products were found.  
SARA 302/304/311/312 hazardous chemicals: dimethyl sulphide  
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: dimethyl sulphide: Fire hazard, Immediate (Acute) Health Hazard  
Clean Water Act (CWA) 307: No products were found.  
Clean Water Act (CWA) 311: No products were found.  
Clean air act (CAA) 112 accidental release prevention: No products were found.  
Clean air act (CAA) 112 regulated flammable substances: No products were found.  
Clean air act (CAA) 112 regulated toxic substances: No products were found.

- State regulations** : Pennsylvania RTK: dimethyl sulphide: (environmental hazard, generic environmental hazard)  
Massachusetts RTK: dimethyl sulphide  
New Jersey: dimethyl sulphide

### Canada

- WHMIS (Canada)** : Class B-2: Flammable liquid with a flash point lower than 37.8°C (100°F).  
Class D-2B: Material causing other toxic effects (TOXIC).  
CEPA DSL: dimethyl sulphide

## Section 16. Other information

### United States

- Label Requirements** : HIGHLY FLAMMABLE LIQUID AND VAPOR.  
CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION.  
CAUSES DAMAGE TO THE FOLLOWING ORGANS: SKIN, EYE, LENS OR CORNEA, NOSE, SINUSES, THROAT.  
VAPOR MAY CAUSE FLASH FIRE.

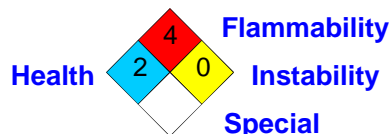
### Canada

- Label Requirements** : Class B-2: Flammable liquid with a flash point lower than 37.8°C (100°F).  
Class D-2B: Material causing other toxic effects (TOXIC).

**Hazardous Material Information System (U.S.A.)** :

Health	*	2
Fire hazard		4
Reactivity		0
Personal protection		C

**National Fire Protection Association (U.S.A.)** :



### Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.