

**1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : Dimethyl disulfide

Product Number : D8501

Brand : Sigma

Company : Sigma-Aldrich Canada, Ltd  
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OAKVILLE ON L6H 6J8  
CANADA

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**2. COMPOSITION/INFORMATION ON INGREDIENTS**

Synonyms : DMDS  
Methyl disulfide

Formula : C<sub>2</sub>H<sub>6</sub>S<sub>2</sub>

Molecular Weight : 94.2 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
<b>Dimethyl disulphide</b>			
624-92-0	210-871-0	-	-

**3. HAZARDS IDENTIFICATION****Emergency Overview****Target Organs**

Blood, Liver

**Other hazards which do not result in classification**

Stench.

**WHMIS Classification**

B2 Flammable Liquid  
D1A Flammable Liquid  
D1B Highly toxic by inhalation  
D2B Toxic by ingestion  
Moderate eye irritant

**HMIS Classification**

**Health Hazard:** 3  
**Chronic Health Hazard:** \*  
**Flammability:** 3  
**Physical hazards:** 0

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**Potential Health Effects**

**Inhalation** Toxic if inhaled. Causes respiratory tract irritation.  
**Skin** May be harmful if absorbed through skin. Causes skin irritation.  
**Eyes** Causes eye irritation.  
**Ingestion** Toxic if swallowed.

**4. FIRST AID MEASURES****General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

**If inhaled**

If breathed in, move person into fresh air. If not breathing give artificial respiration. Consult a physician.

**In case of skin contact**

Wash off with soap and plenty of water. Consult a physician.

**In case of eye contact**

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**If swallowed**

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

**5. FIRE-FIGHTING MEASURES****Flammable properties**

Flash point 15 °C (59 °F) - closed cup  
Ignition temperature > 300 °C (> 572 °F)

**Suitable extinguishing media**

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.

**Special protective equipment for fire-fighters**

Wear self contained breathing apparatus for fire fighting if necessary.

**Further information**

Use water spray to cool unopened containers.

**6. ACCIDENTAL RELEASE MEASURES****Personal precautions**

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

**Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

**Methods for cleaning up**

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

**7. HANDLING AND STORAGE****Handling**

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

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**Storage**

Store container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Store in cool place.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Components with workplace control parameters**

Components	CAS-No.	Value	Control parameters	Update	Basis
Dimethyl disulphide	624-92-0	TWA	0.5 ppm	2007-05-25	Canada, British Columbia OEL
Remarks	Contributes significantly to the overall exposure by the skin route.				

**Personal protective equipment****Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Hand protection**

Handle with gloves.

**Eye protection**

Face shield and safety glasses

**Skin and body protection**

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

**Hygiene measures**

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

**9. PHYSICAL AND CHEMICAL PROPERTIES****Appearance**

Form clear, liquid  
Colour light yellow  
Odour Stench.

**Safety data**

pH no data available  
Melting point -85 °C (-121 °F) - lit.  
Boiling point 109 °C (228 °F) - lit.  
Flash point 15 °C (59 °F) - closed cup  
Ignition temperature > 300 °C (> 572 °F)  
Lower explosion limit 1.1 %(V)  
Upper explosion limit 16 %(V)  
Vapour pressure 153 hPa (115 mmHg) at 55 °C (131 °F)

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38.1 hPa (28.6 mmHg) at 25 °C (77 °F)

Density 1.046 g/mL at 25 °C (77 °F)

Water solubility no data available

Partition coefficient: log Pow: 1.77  
n-octanol/waterRelative vapour density 3.25  
- (Air = 1.0)**10. STABILITY AND REACTIVITY****Storage stability**

Stable under recommended storage conditions.

**Conditions to avoid**

Heat, flames and sparks.

**Materials to avoid**

Strong bases, Strong oxidizing agents, Strong reducing agents

**Hazardous decomposition products**

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Sulphur oxides

**Hazardous reactions**

Vapours may form explosive mixture with air.

**11. TOXICOLOGICAL INFORMATION****Acute toxicity**

LD50 Oral - rat - 290 - 500 mg/kg

LC50 Inhalation - rat - 4 h - 3,100 mg/m<sup>3</sup>

LD50 Dermal - rabbit - &gt; 2,000 mg/kg

**Irritation and corrosion**

Skin - rabbit - Mild skin irritation

Eyes - rabbit - Moderate eye irritation

**Sensitisation**

no data available

**Chronic exposure**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**Signs and Symptoms of Exposure**

Nausea, Headache, Vomiting, anemia

**Potential Health Effects**

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**Additional Information**

RTECS: JO1927500

**12. ECOLOGICAL INFORMATION****Elimination information (persistence and degradability)**

Biodegradability

**Ecotoxicity effects**

Toxicity to fish LC50 - Salmo salar (Atlantic salmon) - 1.75 mg/l

Toxicity to daphnia EC50 - Daphnia magna (Water flea) - 7 mg/l - 48 h  
and other aquatic invertebrates.**Further information on ecology**

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**13. DISPOSAL CONSIDERATIONS****Product**

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. Contact a licensed professional waste disposal service to dispose of this material.

**Contaminated packaging**

Dispose of as unused product.

**14. TRANSPORT INFORMATION****DOT (US)**

UN-Number: 2381 Class: 3 Packing group: II

Proper shipping name: Dimethyl disulfide

Marine pollutant: No

Poison Inhalation Hazard: No

**IMDG**

UN-Number: 2381 Class: 3 Packing group: II EMS-No: F-E, S-D

Proper shipping name: DIMETHYL DISULPHIDE

Marine pollutant: No

**IATA**

UN-Number: 2381 Class: 3 Packing group: II

Proper shipping name: Dimethyl disulphide

**15. REGULATORY INFORMATION****DSL Status**

All components of this product are on the Canadian DSL list.

**WHMIS Classification**

B2 Flammable Liquid  
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D1B Highly toxic by inhalation  
D2B Toxic by ingestion  
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**16. OTHER INFORMATION****Further information**

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