

MATERIAL SAFETY DATA SHEET

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Version 1.3

Section 1 - Product and Company Information

Product Name TETRAMETHYLENE SULFONE, 99%
Product Number T22209
Brand ALDRICH

Company Sigma-Aldrich
Address 3050 Spruce Street
SAINT LOUIS MO 63103 US

Technical Phone: 800-325-5832
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Emergency Phone: 314-776-6555

Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313
SULFOLANE	126-33-0	No

Formula C4H8O2S
Synonyms Bondelane A * Bondolane A * Cyclic tetramethylene sulfone * Cyclotetramethylene sulfone * Dihydrobutadiene sulphone * 1,1-Dioxidetetrahydrothiofuran * 1,1-Dioxidetetrahydrothiophene * 1,1-Dioxothiolan * Dioxothiolan * Sulfalone * Sulfolan * Sulfolane * Sulpholane * Sulphoxaline * Tetrahydrothiofen-1,1-dioxid (Czech) * Tetrahydrothiophene dioxide * Tetrahydrothiophene 1,1-dioxide * 2,3,4,5-Tetrahydrothiophene-1,1-dioxide * Tetramethylene sulfone * Thiacyclopentane dioxide * Thiocyclopentane-1,1-dioxide * Thiolane-1,1-dioxide * Thiophane dioxide * Thiophan sulfone

RTECS Number: XN0700000

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Harmful.

Harmful if swallowed. Irritating to eyes, respiratory system and skin.

Target organ(s): Blood.

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

Section 4 - First Aid Measures

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 contact, immediately wash skin with soap and copious amounts of water.

EYE EXPOSURE

In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes.

Section 5 - Fire Fighting Measures

FLASH POINT

350.6 °F 177 °C Method: closed cup

AUTOIGNITION TEMP

N/A

FLAMMABILITY

N/A

EXTINGUISHING MEDIA

Suitable: 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(S) OF PERSONAL PRECAUTION(S)

Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP

Absorb on sand or vermiculite and place in closed containers for disposal.

Section 7 - Handling and Storage

HANDLING

User Exposure: Do not breathe vapor. Avoid contact with eyes, skin, and clothing.

STORAGE

Suitable: Keep tightly closed. Store in a cool dry place.

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS

Safety shower and eye bath.

PERSONAL PROTECTIVE EQUIPMENT

Other: Wear appropriate government approved respirator, chemical-resistant gloves, safety goggles, other protective clothing.

GENERAL HYGIENE MEASURES

Wash contaminated clothing before reuse.

Section 9 - Physical/Chemical Properties

Appearance Color: Colorless
Form: Crystals

Property	Value	At Temperature or Pressure
Molecular Weight	120.17 AMU	
pH	N/A	
BP/BP Range	104 °C	0.2 mmHg
MP/MP Range	25 °C	
Freezing Point	N/A	
Vapor Pressure	N/A	
Vapor Density	4.2 g/l	
Saturated Vapor Conc.	N/A	
SG/Density	1.27 g/cm3	
Bulk Density	N/A	
Odor Threshold	N/A	
Volatile%	N/A	
VOC Content	N/A	
Water Content	< 2 %	
Solvent Content	N/A	
Evaporation Rate	N/A	
Viscosity	N/A	
Surface Tension	N/A	
Partition Coefficient	N/A	
Decomposition Temp.	N/A	
Flash Point	350.6 °F 177 °C	Method: closed cup
Explosion Limits	N/A	
Flammability	N/A	
Autoignition Temp	N/A	
Refractive Index	1.485	
Optical Rotation	N/A	
Miscellaneous Data	N/A	
Solubility	N/A	

N/A = not available

Section 10 - Stability and Reactivity

STABILITY

Materials to Avoid: Strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide.

Section 11 - Toxicological Information

ROUTE OF EXPOSURE

Skin Contact: Causes skin irritation.

Skin Absorption: May be harmful if absorbed through the skin.

Inhalation: May be harmful if inhaled.

Ingestion: Harmful if swallowed.

Multiple Routes: Vapor or mist is irritating to the eyes, mucous membranes, and upper respiratory tract.

TARGET ORGAN(S) OR SYSTEM(S)

Blood.

SIGNS AND SYMPTOMS OF EXPOSURE

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

TOXICITY DATA

Oral
Rat
1540 UL/KG
LD50

Skin
Rat
> 3800 mg/kg
LD50

Intraperitoneal
Rat
1600 MG/KG
LD50

Subcutaneous
Rat
1620 UL/KG
LD50

Oral
Mouse
1900 mg/kg
LD50

Intraperitoneal
Mouse
1250 MG/KG
LD50
Remarks: Biochemical:Metabolism (intermediary): Effect on inflammation or mediation of inflammation.

Intravenous
Mouse
1080 MG/KG
LD50
Remarks: Behavioral:Convulsions or effect on seizure threshold.
Behavioral:Excitement.

Skin
Rabbit
3180 UL/KG
LD50
Remarks: Liver:Other changes. Kidney, Ureter, Bladder:Other changes. Skin and Appendages:Skin: After systemic exposure: Dermatitis, other

IRRITATION DATA

Eyes
Rabbit
253 mg
Remarks: Mild irritation effect

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT

Proper Shipping Name: None
Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.

IATA

Non-Hazardous for Air Transport: Non-hazardous for air transport.

Section 15 - Regulatory Information

EU DIRECTIVES CLASSIFICATION

Symbol of Danger: Xn
Indication of Danger: Harmful.
R: 22
Risk Statements: Harmful if swallowed.
S: 25-23
Safety Statements: Avoid contact with eyes. Do not breathe fumes.

US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Harmful.
Risk Statements: Harmful if swallowed. Irritating to eyes, respiratory system and skin.
Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.
US Statements: Target organ(s): Blood.

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. Sigma-Aldrich 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 2006 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.