



DIMETHYL SULFIDE

Material Safety Data Sheet

Arkema Inc.

1 PRODUCT AND COMPANY IDENTIFICATION

Thio and Fine Chemicals

Arkema Inc.
2000 Market Street
Philadelphia, PA 19103

EMERGENCY PHONE NUMBERS:

Chemtrec: (800) 424-9300 (24hrs) or (703) 527-3887
Medical: Rocky Mountain Poison Control Center
(866) 767-5089 (24Hrs)

Information Telephone Numbers	Phone Number	Available Hrs
Customer Service	1-800-628-4453	8:30 to 5:30 EST

Product Name DIMETHYL SULFIDE
Product Synonym(s) DMS
Chemical Family Alkyl Sulfide
Chemical Formula C₂H₆S
Chemical Name Methane, thiobis -
EPA Reg Num
Product Use Sulfiding

2 COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient Name	CAS RegistryNumber	Typical Wt. %	OSHA
Dimethyl sulfide	75-18-3	99%	Y
Methyl mercaptan	74-93-1	<0.2%	Y

The substance(s) marked with a "Y" in the OSHA column, are identified as hazardous chemicals according to the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

This material is classified as hazardous under Federal OSHA regulation.

The components of this product are all on the TSCA Inventory list.

3 HAZARDS IDENTIFICATION

Emergency Overview

Clear liquid, unpleasant odor

DANGER!

EXTREMELY FLAMMABLE LIQUID AND VAPOR. VAPOR MAY CAUSE FLASH FIRE.

CAUSES EYE IRRITATION.

MAY CAUSE RESPIRATORY TRACT IRRITATION.

MAY BE HARMFUL IF SWALLOWED.

Potential Health Effects

Inhalation and skin contact are expected to be the primary routes of occupational exposure to this material. Based on single exposure animal tests, it is considered to be slightly toxic if swallowed, practically non-toxic if absorbed through skin or inhaled, severely irritating to eyes and slightly to moderately irritating to skin. This material has a strong garlic-like odor that may cause headache, nausea and irritation to the eyes and respiratory tract. Exposure to very high concentrations in a confined space has caused death, possibly due to lack of oxygen. Workers may become tolerant to the odor in a relatively short period of time. The odor threshold is approximately 1 part per billion (ppb).

4 FIRST AID MEASURES

IF IN EYES, immediately flush with plenty of water for at least 15 minutes. Get medical attention immediately.

IF ON SKIN, immediately flush with plenty of water. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Destroy contaminated shoes.

IF SWALLOWED, do NOT induce vomiting. Give water to drink. Get medical attention immediately. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

IF INHALED, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

5 FIRE FIGHTING MEASURES**Fire and Explosive Properties**

Auto-Ignition Temperature	205 C (401 F)		
Flash Point	<0 F	Flash Point Method	TCC
Flammable Limits- Upper	19.7		
Lower	2.2		

Extinguishing Media

Use water spray, carbon dioxide, foam or dry chemical.

Fire Fighting Instructions

Use water spray to cool containers exposed to fire. Contain run-off from fire. Fire fighters and others who may be exposed to products of combustion should wear full fire fighting turn out gear (full Bunker Gear) and self-contained breathing apparatus (pressure demand NIOSH approved or equivalent). Fire fighting equipment should be thoroughly decontaminated after use

Fire and Explosion Hazards

When burned, the following hazardous products of combustion can occur:

Oxides of carbon
Sulfur oxides
Hydrogen sulfide

6 ACCIDENTAL RELEASE MEASURES**In Case of Spill or Leak**

Ventilate the area. Contain spill by building a dike using absorbent material. Consult with environmental engineer or professional to determine if neutralization is appropriate and for handling procedures for residual materials. Do not use solid bleach for neutralization, as fire or violent reaction can occur. Collect the liquid and solid absorbent into a drum approved for waste disposal. Flush area with water. Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal and other requirements listed in pertinent environmental permits.

7 HANDLING AND STORAGE**Handling**

Keep away from heat, sparks and flame.
Keep container closed.

7 HANDLING AND STORAGE

Use only with adequate ventilation.
Do not get in eyes, on skin or on clothing.
Avoid breathing mist.
Wash thoroughly after handling.
Do not taste or swallow.

CONTAINER HAZARDOUS WHEN EMPTY. Emptied container retains vapor and product residue. Follow labeled warnings even after container is emptied. RESIDUAL VAPORS MAY EXPLODE ON IGNITION. DO NOT CUT, DRILL GRIND OR WELD ON OR NEAR THIS CONTAINER. Improper disposal or reuse of this container may be dangerous and/or illegal.

Storage

Store in well ventilated area away from heat and sources of ignition such as flame, sparks and static electricity. Ensure that all storage and handling equipment is properly rated, grounded and installed to satisfy electrical classification requirements. Static electricity may accumulate and create a fire hazard. All storage containers, including containers such as drums, cylinders and IBC's, must be bonded and grounded during filling and emptying operations. Store away from oxidizers and reactive materials. Keep container tightly closed. Observe all federal, state and local regulations and National Fire Protection Association (NFPA) Codes which pertain to the specific local conditions of storage and use, including OSHA 29 CFR 1910.106 and NFPA 30, 70, 77, and 497.

8 EXPOSURE CONTROLS / PERSONAL PROTECTION**Engineering Controls**

Investigate engineering techniques to reduce exposures below airborne exposure limits. Provide ventilation if necessary to control exposure levels below airborne exposure limits (see below). If practical, use local mechanical exhaust ventilation at sources of air contamination such as open process equipment. Consult ACGIH ventilation manual or NFPA Standard 91 for design of exhaust systems.

Eye / Face Protection

Where there is potential for eye contact, wear chemical goggles and have eye flushing equipment immediately available.

Skin Protection

Wear appropriate chemical resistant protective clothing and chemical resistant gloves to prevent skin contact. Consult glove manufacturer to determine appropriate type glove material for given application. Wear chemical goggles, a face shield, and chemical resistant clothing such as a rubber apron when splashing may occur. Rinse immediately if skin is contaminated. Remove contaminated clothing promptly and wash before reuse. Clean protective equipment before reuse. Provide a safety shower at any location where skin contact can occur. Wash skin thoroughly after handling.

Respiratory Protection

Avoid breathing vapor or mist. When airborne exposure limits are exceeded (see below), use NIOSH approved respiratory protection equipment appropriate to the material and/or its components. Consult respirator manufacturer to determine appropriate type equipment for given application. Observe respirator use limitations specified by NIOSH or the manufacturer. For emergency and other conditions where exposure limit may be significantly exceeded, use an approved full face positive-pressure, self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply. Respiratory protection programs must comply with 29 CFR § 1910.134.

Airborne Exposure Guidelines for Ingredients

Exposure Limit

Value

Methyl mercaptan

ACGIH TWA	-	0.5 ppm 0.98 mg/m ³
OSHA Ceiling PEL	-	10 ppm 20 mg/m ³

Dimethyl sulfide

ACGIH TWA	-	10 ppm
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-Only those components with exposure limits are printed in this section.

-Skin contact limits designated with a "Y" above have skin contact effect. Air sampling alone is insufficient to accurately quantitate exposure. Measures to prevent significant cutaneous absorption may be required.

-ACGIH Sensitizer designator with a value of "Y" above means that exposure to this material may cause allergic reactions.

-WEEL-AIHA Sensitizer designator with a value of "Y" above means that exposure to this material may cause allergic skin reactions.

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance/Odor	Clear liquid, unpleasant odor
pH	NE
Specific Gravity	0.854 @ 15.5 C
Vapor Pressure	7.5 psia
Vapor Density	2.14
Melting Point	NA
Freezing Point	-98 C (-144.4 F)
Boiling Point	36-39.3 C (97-103 F)
Solubility In Water	Slightly soluble
Solubility in Other Materials	Alcohols, ethyl ether
Evaporation Rate	NE
Percent Volatile	100
Viscosity	0.28 cP @ 20 C
Molecular Weight	62.13
n-Octanol/Water Partition Coefficient	log Pow = 0.87
Other Physical Data	Critical pressure: 53.5 bar Critical temperature: 229 C Olfactory threshold: 2.5 ppb Refractive index: 1.435 @ 20 C Henry's constant: 170 Pa m ³ /mole

10 STABILITY AND REACTIVITY**Stability**

This material is chemically stable under normal and anticipated storage and handling conditions.

Incompatibility

Contact with combustible materials may enhance risk of fire. Alkali, Acid, solid bleach (strong oxidizer) may cause violent reaction and fire.

Hazardous Decomposition Products

Thermal decomposition giving toxic and flammable products.

11 TOXICOLOGICAL INFORMATION

11 TOXICOLOGICAL INFORMATION**Toxicological Information**

Data on this material and/or its components are summarized below.

Single exposure (acute) studies indicate:

Oral - Slightly Toxic to Rats and Mice (LD50 535-3,700 mg/kg)

Dermal - Practically Non-toxic to Rabbit (LD50 >5000 mg/kg)

Inhalation - Practically Non-toxic to Rats (4-hr LC50 40,250 ppm)

Eye Irritation - Severely Irritating to Rabbits

Skin Irritation - Slightly to Moderately Irritating to Rabbits (24-hr exposure)

No skin allergy was observed in humans following repeated exposure. Administration in the drinking water of rabbits produced increased lung weights and gross changes suggestive of effects in lungs and kidneys. Repeated oral administration to rats and rabbits resulted in effects on the blood, lungs and kidney and some organ weight changes. No genetic changes were observed in tests using bacteria, animal cells or animals.

12 ECOLOGICAL INFORMATION**Ecotoxicological Information**

Data on this material and/or its components are summarized below.

This material is slightly toxic to *Daphnia magna* (48-hr LC50 29 mg/l). It is practically non-toxic to algae (96-hr EC50 23 mg/l) and rainbow trout (96-hr LC50 213 mg/l).

Chemical Fate Information

No data are available.

13 DISPOSAL CONSIDERATIONS**Waste Disposal**

Incineration is the recommended method for disposal observing all local, state and federal regulations. Note: Chemical additions to, processing of, or otherwise altering this material may make this waste management information incomplete, inaccurate, or otherwise inappropriate. Furthermore, state and local waste disposal requirements may be more restrictive or otherwise different from federal laws and regulations.

14 TRANSPORT INFORMATION

DOT Name	Dimethyl Sulfide
DOT Technical Name	
DOT Hazard Class	3
UN Number	UN1164
DOT Packing Group	PG II
RQ	

15 REGULATORY INFORMATION



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Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370)

Immediate (Acute) Health	Y	Fire	Y
Delayed (Chronic) Health	N	Reactive	N
		Sudden Release of Pressure	N

The components of this product are all on the TSCA Inventory list.

Ingredient Related Regulatory Information:

SARA Reportable Quantities

	CERCLA RQ	SARA TPQ
Methyl mercaptan	100 LBS	500 LBS
Dimethyl sulfide	NE	NE

SARA Title III, Section 302

This product does contain chemical(s), as indicated below, currently on the Extremely Hazardous Substance List, Section 302, SARA Title III. See Section 2 for further details regarding concentrations and registry numbers.

Methyl mercaptan

Massachusetts Right to Know

This product does contain the following chemical(s), as indicated below, currently on the Massachusetts Right to Know Substance List.

Dimethyl sulfide

Methyl mercaptan

New Jersey Right to Know

This product does contain the following chemical(s), as indicated below, currently on the New Jersey Right-to-Know Substances List.

Dimethyl sulfide

Methyl mercaptan

Pennsylvania Environmental Hazard

This product does contain the following chemical(s), as indicated below, currently on the Pennsylvania Environmental Hazard List.

Dimethyl sulfide

Methyl mercaptan

Pennsylvania Right to Know

This product does contain the following chemical(s), as indicated below, currently on the Pennsylvania Hazardous Substance List.

Dimethyl sulfide

Methyl mercaptan

16 OTHER INFORMATION

Revision Information

Revision Date	11 OCT 2004	Revision Number	7
Supersedes Revision Dated	02-MAR-2004		

Revision Summary

A TOFINA Chemicals, Inc. has changed its name to Arkema Inc.

Key

NE= Not Established NA= Not Applicable (R) = Registered Trademark



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Arkema Inc.

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