Fisher Scientific

Material Safety Data Sheet

Dimethyl sulfoxide

MSDS# 07770

Section 1 - Chemical Product and Company Identification

MSDS Name: Dimethyl sulfoxide

Catalog Numbers: AC127790000, AC127790010, AC127790025, AC127790050, AC127790250, AC127790500 AC127790500, AC127791000, AC167850000, AC167850010, AC167850025, AC167851000 AC167851000, AC295520000, AC295520010, AC295520025, AC295522500, AC326880000 AC326880000, AC326880010, AC326881000, AC326882500, AC327180000, AC327182500 AC327182500, AC348440000, AC348440010, AC348440025, AC348441000, AC348445000 AC348445000, AC354840000, AC354840025, AC390750000, AC390750010, AC390750025 AC390750025, AC414880000, AC414880010, AC610420190, AC610420500, AC610422000 AC610422000, 16785-2500, 41488-5000, 61042-0010, 61042-1000, 61097-1000, BP231-1, BP231-100, BP231-4, BP2620-100, D128-1, D128-4, D128-500, D128POP-50, D128POP19, D128POP200, D128POPB-200, D128RB200, D128RS19, D128RS200, D128RS50, D136-1, D137-1, D137POP19, D137RS-19, D137RS-200, D159-4, NC9088872, NC9109929, NC9133613, NC9170160, NC9229495, NC9328601, NC9382212, NC9531964, NC9734649, NC9843789, NC9934033, S67496

Synonyms: Methyl sulfoxide; DMSO; Sulfinylbis(methane); Dimethyl sulfoxide; Sulfinylbismethane.

Company Identification: Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410

For information in the US, call: 201-796-7100

Emergency Number US: 201-796-7100

CHEMTREC Phone Number, US: 800-424-9300

Section 2 - Composition, Information on Ingredients

CAS#: 67-68-5

Chemical Name: Dimethyl sulfoxide

%: >99

EINECS#: 200-664-3

Hazard Symbols: None listed

Risk Phrases: None listed

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Warning! Combustible liquid and vapor. Hygroscopic (absorbs moisture from the air). May cause eye, skin, and respiratory tract irritation. DMSO readily penetrates skin and may carry other dissolved chemicals into the body. Target Organs: Central nervous system, eyes, skin.

Potential Health Effects

Eye: May cause mild eye irritation.

Skin: DMSO readily penetrates skin and may significantly enhance the absorption of numerous chemicals. Increased absorption of these other chemicals could lead to their increased toxicity. Skin sensitization was not observed with DMSO in human volunteers or in guinea pigs. Non-immunological whealing and flaring have been observed in animals and humans following short-term contact. Skin absorption of DMSO may result in a garlic-like breath and body odor, and CNS effects such as headache, nausea and dizziness.

Ingestion: May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May cause central nervous system effects. May cause garlic smell on the breath and body.

Inhalation: Material has a very low vapor pressure at room temperature, so inhalation exposures are not expected unless material is heated or misted.

Chronic: Long-term skin application of 80-90% DMSO has produced CNS effects (such as fatigue, nausea, vomiting, sedation, dizziness and headache), and dermatitis (such as redness, dryness and scaling) in volunteers. A garlic-like breath odor has been noted.

Section 4 - First Aid Measures

Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid.

Skin: In case of contact, flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical aid if irritation develops and persists. Wash clothing before reuse.

Ingestion: If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical aid.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool. Combustible liquid and vapor. Vapors are heavier than air and may travel to a source of ignition and flash back. Vapors can spread along the ground and collect in low or confined areas.

Extinguishing Media: Use water spray, dry chemical, carbon dioxide, or appropriate foam. Alcohol-resistant fire fighting foam is recommended for use on all water-soluble liquids or polar solvent-type liquids.

Autoignition Temperature: 215 deg C (419.00 deg F)

Flash Point: 87.8 deg C (190.04 deg F)

Explosion Limits: Lower: 2.6 vol %

Explosion Limits: Upper: 42 vol %

NFPA Rating: health: 2; flammability: 2; instability: 0;

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Remove all sources of ignition. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation. Use with adequate ventilation. Keep away from heat and flame.

Storage: Keep away from sources of ignition. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Storage under a nitrogen blanket has been recommended. Store protected from moisture.

Section 8 - Exposure Controls, Personal Protection

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Dimethyl sulfoxide	none listed	none listed	none listed

OSHA Vacated PELs: Dimethyl sulfoxide: None listed

Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Exposure Limits

Personal Protective Equipment

Eyes: Wear chemical splash goggles.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Color: clear, colorless

Odor: practically odorless

pH: Not available

Vapor Pressure: 0.46 mm Hg @ 20 deg C

Vapor Density: 2.7 (air=1)

Evaporation Rate: Not available

Viscosity: 1.1 cp @ 27 deg C

Boiling Point: 189 deg C (372.20°F)

Freezing/Melting Point: 18.4 deg C (65.12°F)

Decomposition Temperature:

Solubility in water: Soluble

Specific Gravity/Density: 1.100 g/ml

Molecular Formula: C2H6OS

Molecular Weight: 78.13

Section 10 - Stability and Reactivity

Chemical Stability: Stable at room temperature in closed containers under normal storage and handling conditions. Hygroscopic: absorbs moisture or water from the air.

Conditions to Avoid: Ignition sources, moisture, excess heat.

Incompatibilities with Other Materials: Strong oxidizing agents, strong acids, strong bases, acid chlorides.

Hazardous Decomposition Products: Carbon monoxide, oxides of sulfur, carbon dioxide, formaldehyde, dimethyl sulfide.

Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

RTECS#: CAS# 67-68-5: PV6210000

LD50/LC50:
RTECS:
CAS# 67-68-5: Draize test, rabbit, eye: 100 mg;
Draize test, rabbit, eye: 500 mg/24H Mild;
Draize test, rabbit, skin: 500 mg/24H Mild;
Oral, mouse: LD50 = 7920 mg/kg;
Oral, rat: LD50 = 14500 mg/kg;
Skin, rat: LD50 = 40 gm/kg;

Carcinogenicity: Dimethyl sulfoxide - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

Other: See actual entry in RTECS for complete information.

Section 12 - Ecological Information

Other: No information available.

Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 - Transport Information

US DOT

Shipping Name: Not Regulated
Hazard Class:
UN Number:
Packing Group:

Canada TDG
Shipping Name: Not regulated as a hazardous material
Hazard Class:
UN Number:
Packing Group:

Section 15 - Regulatory Information

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:Not available

Risk Phrases:

Safety Phrases:

S 24/25 Avoid contact with skin and eyes.

WGK (Water Danger/Protection)

CAS# 67-68-5: 1

Canada

CAS# 67-68-5 is listed on Canada's DSL List

Canadian WHMIS Classifications: B3

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

CAS# 67-68-5 is listed on Canada's Ingredient Disclosure List

US Federal

TSCA

CAS# 67-68-5 is listed on the TSCA Inventory.

Section 16 - Other Information

MSDS Creation Date: 12/12/1997

Revision #12 Date 7/20/2009