

Sulfolane Solution

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

| | |
|---------------------------------------|---|
| First-aid measures general | : Never give anything by mouth to an unconscious person. IF exposed or concerned: Get medical advice/attention. |
| First-aid measures after inhalation | : Allow victim to breathe fresh air. Allow the victim to rest. |
| First-aid measures after skin contact | : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. |
| First-aid measures after eye contact | : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists. |
| First-aid measures after ingestion | : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention. |

4.2. Most important symptoms and effects (acute and delayed)

| | |
|---|---|
| Potential Adverse human health effects and symptoms | : Based on available data, the classification criteria are not met. |
|---|---|

4.3. Immediate medical attention and special treatment, if necessary

No additional information available

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

| | |
|--------------------------------|---|
| Suitable extinguishing media | : Use extinguishing media appropriate for surrounding fire. |
| Unsuitable extinguishing media | : Do not use a heavy water stream. |

5.2. Specific hazards arising from the chemical

No additional information available

5.3. Special protective equipment and precautions for fire-fighters

| | |
|--------------------------------|---|
| Firefighting instructions | : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment. |
| Protection during firefighting | : Do not enter fire area without proper protective equipment, including respiratory protection. |

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

| | |
|----------------------|-----------------------------------|
| Emergency procedures | : Evacuate unnecessary personnel. |
|----------------------|-----------------------------------|

6.1.2. For emergency responders

| | |
|----------------------|--|
| Protective equipment | : Equip cleanup crew with proper protection. |
| Emergency procedures | : Ventilate area. |

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

| | |
|-------------------------|--|
| Methods for cleaning up | : Take up in absorbent material. Collect spillage. |
|-------------------------|--|

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

| | |
|-------------------------------|---|
| Precautions for safe handling | : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. |
| Hygiene measures | : Gently wash with plenty of soap and water. Remove/Take off immediately all contaminated clothing. Wash contaminated clothing before reuse. |

7.2. Conditions for safe storage, including any incompatibilities

| | |
|--------------------|--|
| Storage conditions | : Keep container closed when not in use. Keep container tightly closed and in a well-ventilated place. Keep away from any flames or sparking source. |
|--------------------|--|

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Incompatible materials : Direct sunlight.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

| Sulfolane Solution | | |
|--------------------|--------------------------------|-----------------------|
| ACGIH | Local name | Dichloromethane |
| ACGIH | ACGIH TWA (ppm) | 50 ppm |
| ACGIH | Remark (ACGIH) | COHb-emia; CNS impair |
| ACGIH | Regulatory reference | ACGIH 2018 |
| OSHA | Remark (OSHA) | (2) See Table Z-2. |
| OSHA | Regulatory reference (US-OSHA) | OSHA |

| Methylene Chloride (75-09-2) | | |
|------------------------------|--------------------------------|-----------------------|
| ACGIH | Local name | Dichloromethane |
| ACGIH | ACGIH TWA (ppm) | 50 ppm |
| ACGIH | Remark (ACGIH) | COHb-emia; CNS impair |
| ACGIH | Regulatory reference | ACGIH 2018 |
| OSHA | Remark (OSHA) | (2) See Table Z-2. |
| OSHA | Regulatory reference (US-OSHA) | OSHA |

8.2. Appropriate engineering controls

Appropriate engineering controls : Either local exhaust or general room ventilation is usually required.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Avoid all unnecessary exposure. Gloves. Protective clothing. Protective goggles. Safety glasses.

Hand protection:

Wear chemically resistant protective gloves. Wear suitable gloves resistant to chemical penetration

Eye protection:

Chemical goggles or safety glasses. Safety glasses

Skin and body protection:

Wear chemically protective gloves, lab coat or apron to prevent prolonged or repeated skin contact

Respiratory protection:

Wear appropriate mask

Personal protective equipment symbol(s):



Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid
: Colorless
: characteristic

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| | |
|---|---------------------|
| Odor threshold | : No data available |
| pH | : No data available |
| Melting point | : No data available |
| Freezing point | : No data available |
| Boiling point | : No data available |
| Flash point | : No data available |
| Relative evaporation rate (butyl acetate=1) | : No data available |
| Flammability (solid, gas) | : Non flammable. |
| Vapor pressure | : No data available |
| Relative vapor density at 20 °C | : No data available |
| Relative density | : No data available |
| Solubility | : No data available |
| Log Pow | : No data available |
| Auto-ignition temperature | : No data available |
| Decomposition temperature | : No data available |
| Viscosity, kinematic | : No data available |
| Viscosity, dynamic | : No data available |
| Explosion limits | : No data available |
| Explosive properties | : No data available |
| Oxidizing properties | : No data available |

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Not established.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

No additional information available

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

| Methylene Chloride (75-09-2) | |
|------------------------------|--|
| LD50 oral rat | > 2000 mg/kg body weight (OECD 401: Acute Oral Toxicity, Rat, Male / female, Experimental value, Oral) |
| LD50 dermal rat | > 2000 mg/kg body weight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Experimental value, Dermal) |

Skin corrosion/irritation : Not classified

Serious eye damage/irritation : Not classified

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Based on available data, the classification criteria are not met

Carcinogenicity : May cause cancer.

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| Methylene Chloride (75-09-2) | |
|--|---|
| IARC group | 2A - Probably carcinogenic to humans |
| National Toxicology Program (NTP) Status | Reasonably anticipated to be Human Carcinogen |

| | |
|---|--|
| Reproductive toxicity | : Not classified Based on available data, the classification criteria are not met |
| Specific target organ toxicity – single exposure | : Not classified |
| Specific target organ toxicity – repeated exposure | : Not classified |
| Aspiration hazard | : Not classified |
| Potential Adverse human health effects and symptoms | : Based on available data, the classification criteria are not met. |

SECTION 12: Ecological information

12.1. Toxicity

| Methylene Chloride (75-09-2) | |
|-------------------------------------|--|
| LC50 fish 1 | 193 mg/l (96 h, Pimephales promelas, Flow-through system, Fresh water, Experimental value) |
| EC50 Daphnia 1 | 168.2 mg/l (48 h, Daphnia magna) |

12.2. Persistence and degradability

| Sulfolane Solution | |
|-------------------------------|------------------|
| Persistence and degradability | Not established. |

| Methylene Chloride (75-09-2) | |
|-------------------------------------|--|
| Persistence and degradability | Biodegradable in the soil. Not readily biodegradable in water. |

12.3. Bioaccumulative potential

| Sulfolane Solution | |
|---------------------------|------------------|
| Bioaccumulative potential | Not established. |

| Methylene Chloride (75-09-2) | |
|-------------------------------------|---|
| BCF fish 1 | 2 - 40 (OECD 305: Bioconcentration: Flow-Through Fish Test, 6 week(s), Cyprinus carpio, Semi-static system, Fresh water, Experimental value, GLP) |
| Log Pow | 1.25 (Experimental value, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 20 °C) |
| Bioaccumulative potential | Low potential for bioaccumulation (BCF < 500). |

12.4. Mobility in soil

| Methylene Chloride (75-09-2) | |
|-------------------------------------|---|
| Surface tension | 0.028 N/m (20 °C) |
| Ecology - soil | Low potential for adsorption in soil. May be harmful to plant growth, blooming and fruit formation. |

12.5. Other adverse effects

| Sulfolane Solution | |
|---------------------------|--|
| | |

| Methylene Chloride (75-09-2) | |
|-------------------------------------|--|
| | |

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Disposal methods

| | |
|--|---|
| Product/Packaging disposal recommendations | : Dispose in a safe manner in accordance with local/national regulations. |
| Ecology - waste materials | : Avoid release to the environment. |

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SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

| | |
|--------------------------------|--|
| Transport document description | : UN2810 Toxic, liquids, organic, n.o.s. (dichloromethane), 6.1, III |
| UN-No.(DOT) | : UN2810 |
| Proper Shipping Name (DOT) | : Toxic, liquids, organic, n.o.s. dichloromethane |
| Class (DOT) | : 6.1 - Class 6.1 - Poisonous materials 49 CFR 173.132 |
| Packing group (DOT) | : III - Minor Danger |
| Hazard labels (DOT) | : 6.1 - Poison |



| | |
|--|---|
| DOT Packaging Non Bulk (49 CFR 173.xxx) | : 203 |
| DOT Packaging Bulk (49 CFR 173.xxx) | : 241 |
| DOT Symbols | : G - Identifies PSN requiring a technical name |
| DOT Special Provisions (49 CFR 172.102) | : IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672). T7 - 4 178.274(d)(2) Normal..... 178.275(d)(3) TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = $97 / 1 + a (tr - tf)$ Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling. TP28 - A portable tank having a minimum test pressure of 2.65 bar (265 kPa) may be used provided the calculated test pressure is 2.65 bar or less based on the MAWP of the hazardous material, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the MAWP. |
| DOT Packaging Exceptions (49 CFR 173.xxx) | : 153 |
| DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) | : 60 L |
| DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) | : 220 L |
| DOT Vessel Stowage Location | : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel. |
| DOT Vessel Stowage Other | : 40 - Stow "clear of living quarters" |
| Emergency Response Guide (ERG) Number | : 153 |
| Other information | : No supplementary information available. |

Transportation of Dangerous Goods

Not applicable

Transport by sea

| | |
|---------------------------------------|---|
| Transport document description (IMDG) | : UN 2810 TOXIC LIQUID, ORGANIC, N.O.S. (dichloromethane), 6.1, III |
| UN-No. (IMDG) | : 2810 |
| Proper Shipping Name (IMDG) | : TOXIC LIQUID, ORGANIC, N.O.S. |
| Class (IMDG) | : 6.1 - Toxic substances |
| Packing group (IMDG) | : III - substances presenting low danger |

Air transport

| | |
|---------------------------------------|---|
| Transport document description (IATA) | : UN 2810 Toxic liquid, organic, n.o.s. (dichloromethane), 6.1, III |
| UN-No. (IATA) | : 2810 |
| Proper Shipping Name (IATA) | : Toxic liquid, organic, n.o.s. |

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Class (IATA) : 6.1 - Toxic Substances
Packing group (IATA) : III - Minor Danger

SECTION 15: Regulatory information

15.1. US Federal regulations

Methylene Chloride (75-09-2)

Listed on the United States TSCA (Toxic Substances Control Act) inventory
Subject to reporting requirements of United States SARA Section 313

Listed on EPA Hazardous Air Pollutant (HAPS)

| | |
|--------------------------|---|
| EPA TSCA Regulatory Flag | R - R - indicates a substance that is the subject of a TSCA section 6 risk management rule. |
| CERCLA RQ | 1000 lb |

15.2. International regulations

CANADA

Methylene Chloride (75-09-2)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

Methylene Chloride (75-09-2)

Listed on IARC (International Agency for Research on Cancer)
Listed as carcinogen on NTP (National Toxicology Program)
Listed on EPA Hazardous Air Pollutant (HAPS)

15.3. US State regulations

Methylene Chloride (75-09-2)

| U.S. - California - Proposition 65 - Carcinogens List | U.S. - California - Proposition 65 - Developmental Toxicity | U.S. - California - Proposition 65 - Reproductive Toxicity - Female | U.S. - California - Proposition 65 - Reproductive Toxicity - Male | No significant risk level (NSRL) | Maximum allowable dose level (MADL) |
|---|---|---|---|----------------------------------|-------------------------------------|
| Yes | No | No | No | 50 µg/day | |

SECTION 16: Other information

Revision date : 06/25/2019

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labeling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Other information : None.

Full text of H-phrases:

| | |
|------|------------------|
| H350 | May cause cancer |
|------|------------------|

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