

Material Safety Data Sheet

| | | | | | | | | |
|--|--|---------------|---|-------------|---|------------|---|--|
| NFPA  | HMIS <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="background-color: #00FFFF;">Health Hazard</td> <td style="text-align: center; font-weight: bold;">2</td> </tr> <tr> <td style="background-color: #FFC0CB;">Fire Hazard</td> <td style="text-align: center; font-weight: bold;">1</td> </tr> <tr> <td style="background-color: #FFFF00;">Reactivity</td> <td style="text-align: center; font-weight: bold;">0</td> </tr> </table> | Health Hazard | 2 | Fire Hazard | 1 | Reactivity | 0 | Personal Protective Equipment  See Section 15. |
| Health Hazard | 2 | | | | | | | |
| Fire Hazard | 1 | | | | | | | |
| Reactivity | 0 | | | | | | | |

| Section 1. Chemical Product and Company Identification | | Page Number: 1 |
|--|---|---|
| Common Name/Trade Name | Methanesulfonic Acid Ethyl Ester | Catalog Number(s). M2497 |
| Manufacturer | SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248 | CAS# 62-50-0 |
| Commercial Name(s) | Not available. | RTECS PB2100000 |
| Synonym | Ethyl Methanesulfonate; Ethyl ester of methanesulfonic acid; Ethyl ester of methanesulphonic acid; Ethyl ester of methylsulfonic acid; Ethyl ester of methylsulphonic acid; Ethyl methanesulphonate; Methylsulfonic acid, ethyl ester | TSCA TSCA 8(b) inventory: Methanesulfonic Acid Ethyl Ester |
| Chemical Name | Methanesulfonic Acid Ethyl Ester | CI# Not available. |
| Chemical Family | Not available. | IN CASE OF EMERGENCY CHEMTREC (24hr) 800-424-9300 CALL (310) 516-8000 |
| Chemical Formula | C3-H8-O3-S | |
| Supplier | SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248 | |
| | | |

| Section 2. Composition and Information on Ingredients | | | | | |
|--|---------|--------------------------|---------------------------|---------------------------|-------------|
| Name | CAS # | Exposure Limits | | | % by Weight |
| | | TWA (mg/m ³) | STEL (mg/m ³) | CEIL (mg/m ³) | |
| 1) Methanesulfonic Acid Ethyl Ester | 62-50-0 | | | | 100 |
| Toxicological Data on Ingredients | | | | | |
| Methanesulfonic Acid Ethyl Ester: ORAL (LD50): Acute: 470 mg/kg [Mouse]. | | | | | |

| Section 3. Hazards Identification | |
|---|---|
| Potential Acute Health Effects | Hazardous in case of ingestion. Slightly hazardous in case of skin contact (irritant, permeator), of eye contact (irritant), of inhalation. |
| Potential Chronic Health Effects | CARCINOGENIC EFFECTS: Classified 2B (Possible for human.) by IARC. MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Classified Reproductive system/toxin/male [POSSIBLE]. The substance may be toxic to the reproductive system. Repeated or prolonged exposure to the substance can produce target organs damage. |

Section 4. First Aid Measures

| | |
|-----------------------------|--|
| Eye Contact | Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation occurs. |
| Skin Contact | Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops. |
| Serious Skin Contact | Not available. |
| Inhalation | If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention. |
| Serious Inhalation | Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention. |
| Ingestion | Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband. |
| Serious Ingestion | Not available. |

Section 5. Fire and Explosion Data

| | |
|--|--|
| Flammability of the Product | May be combustible at high temperature. |
| Auto-Ignition Temperature | Not available. |
| Flash Points | CLOSED CUP: 100°C (212°F). |
| Flammable Limits | Not available. |
| Products of Combustion | These products are carbon oxides (CO, CO ₂). |
| Fire Hazards in Presence of Various Substances | Slightly flammable to flammable in presence of open flames and sparks, of heat. Non-flammable in presence of shocks. |
| Explosion Hazards in Presence of Various Substances | Risks of explosion of the product in presence of static discharge: Not available. Slightly explosive in presence of heat. Non-explosive in presence of shocks. |
| Fire Fighting Media and Instructions | SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet. |
| Special Remarks on Fire Hazards | Not available. |
| Special Remarks on Explosion Hazards | Not available. |

Section 6. Accidental Release Measures

| | |
|--------------------|--|
| Small Spill | Absorb with an inert material and put the spilled material in an appropriate waste disposal. |
| Large Spill | Absorb with an inert material and put the spilled material in an appropriate waste disposal. |

Section 7. Handling and Storage

| | |
|--------------------|--|
| Precautions | Keep locked up.. Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/ vapor/spray. Wear suitable protective clothing. If ingested, seek medical advice immediately and show the container or the label. Keep away from incompatibles such as oxidizing agents, alkalis. |
| Storage | Keep container tightly closed. Keep container in a cool, well-ventilated area. |

Section 8. Exposure Controls/Personal Protection

| | |
|---|--|
| Engineering Controls | Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location. |
| Personal Protection | Safety glasses. Lab coat. |
| Personal Protection in Case of a Large Spill | Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product. |
| Exposure Limits | Not available. |

Section 9. Physical and Chemical Properties

| | | | |
|--------------------------------------|---|--------------|----------------|
| Physical state and appearance | Liquid. | Odor | Not available. |
| Molecular Weight | 124.2 g/mole | Taste | Not available. |
| pH (1% soln/water) | Not available. | Color | Colorless. |
| Boiling Point | 213°C (415.4°F) | | |
| Melting Point | Not available. | | |
| Critical Temperature | Not available. | | |
| Specific Gravity | 1.1452 @ 22 deg. C (Water = 1) | | |
| Vapor Pressure | 0 kPa (@ 25°C) | | |
| Vapor Density | Not available. | | |
| Volatility | Not available. | | |
| Odor Threshold | Not available. | | |
| Water/Oil Dist. Coeff. | The product is equally soluble in oil and water; log(oil/water) = 0.1 | | |
| Ionicity (in Water) | Not available. | | |
| Dispersion Properties | Not available. | | |
| Solubility | Not available. | | |

Section 10. Stability and Reactivity Data

| | |
|--|--|
| Stability | The product is stable. |
| Instability Temperature | Not available. |
| Conditions of Instability | Excess heat, igniton sources, incompatible materials |
| Incompatibility with various substances | Reactive with oxidizing agents, alkalis. |
| Corrosivity | Not available. |

Continued on Next Page

| | |
|---------------------------------------|-----------------|
| Special Remarks on Reactivity | Not available. |
| Special Remarks on Corrosivity | Not available. |
| Polymerization | Will not occur. |

Section 11. Toxicological Information

| | |
|---|--|
| Routes of Entry | Absorbed through skin. Eye contact. |
| Toxicity to Animals | Acute oral toxicity (LD50): 470 mg/kg [Mouse]. |
| Chronic Effects on Humans | CARCINOGENIC EFFECTS: Classified 2B (Possible for human.) by IARC. MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast. DEVELOPMENTAL TOXICITY: Classified Reproductive system/toxin/male [POSSIBLE]. May cause damage to the following organs: the reproductive system. |
| Other Toxic Effects on Humans | Hazardous in case of ingestion. Slightly hazardous in case of skin contact (irritant, permeator), of inhalation. |
| Special Remarks on Toxicity to Animals | Not available. |
| Special Remarks on Chronic Effects on Humans | May cause adverse reproductive effects and birth defects(teratogenic). May affect genetic material (mutagenic). May cause cancer (kidney tumors, lung tumors, brain tumors) |
| Special Remarks on other Toxic Effects on Humans | Acute Potential Health Effects: Skin: May cause skin irritation. Eyes: May causes eye irritation. Inhalation: May cause respiratory tract irritation. Ingestion: Harmful (toxic) if swallowed. May cause digestive tract irritation. |

Section 12. Ecological Information

| | |
|--|---|
| Ecotoxicity | Not available. |
| BOD5 and COD | Not available. |
| Products of Biodegradation | Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise. |
| Toxicity of the Products of Biodegradation | The products of degradation are less toxic than the product itself. |
| Special Remarks on the Products of Biodegradation | Not available. |

Section 13. Disposal Considerations

| | |
|-----------------------|--|
| Waste Disposal | Waste must be disposed of in accordance with federal, state and local environmental control regulations. |
|-----------------------|--|

Section 14. Transport Information

| | |
|---|---|
| DOT Classification | CLASS 6.1: Poisonous material. |
| Identification | : Toxic Liquid, Organic, n.o.s. (Methanesulfonic Acid Ethyl Ester) UNNA: 2810 PG: III |
| Special Provisions for Transport | Not available. |

Continued on Next Page

DOT (Pictograms)



Section 15. Other Regulatory Information and Pictograms

Federal and State Regulations

California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute: Methanesulfonic Acid Ethyl Ester
 California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: Methanesulfonic Acid Ethyl Ester
 Connecticut hazardous material survey.: Methanesulfonic Acid Ethyl Ester
 Illinois toxic substances disclosure to employee act: Methanesulfonic Acid Ethyl Ester
 Illinois chemical safety act: Methanesulfonic Acid Ethyl Ester
 New York release reporting list: Methanesulfonic Acid Ethyl Ester
 Pennsylvania RTK: Methanesulfonic Acid Ethyl Ester
 Minnesota: Methanesulfonic Acid Ethyl Ester
 Massachusetts RTK: Methanesulfonic Acid Ethyl Ester
 Massachusetts spill list: Methanesulfonic Acid Ethyl Ester
 New Jersey: Methanesulfonic Acid Ethyl Ester
 New Jersey spill list: Methanesulfonic Acid Ethyl Ester
 Louisiana spill reporting: Methanesulfonic Acid Ethyl Ester
 California Director's List of Hazardous Substances: Methanesulfonic Acid Ethyl Ester
 TSCA 8(b) inventory: Methanesulfonic Acid Ethyl Ester
 TSCA 5(a)2 final significant rules: Methanesulfonic Acid Ethyl Ester
 TSCA 8(a) IUR: Methanesulfonic Acid Ethyl Ester
 TSCA 12(b) annual export notification: Methanesulfonic Acid Ethyl Ester
 CERCLA: Hazardous substances.: Methanesulfonic Acid Ethyl Ester: 1 lbs. (0.4536 kg)

California Proposition 65 Warnings

California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: Methanesulfonic Acid Ethyl Ester

Other Regulations

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).
 EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications

| | | | | | | | | | |
|---|---|----------------------------|---|------------------------|---|--|--|---|---|
| WHMIS (Canada) | CLASS D-1B: Material causing immediate and serious toxic effects (TOXIC). CLASS D-2B: Material causing other toxic effects (TOXIC). | | | | | | | | |
| DSCL (EEC) | <table border="0"> <tr> <td>R22- Harmful if swallowed.</td> <td>S24/25- Avoid contact with skin and eyes.</td> </tr> <tr> <td>R45- May cause cancer.</td> <td>S36/37/39- Wear suitable protective clothing, gloves and eye/face protection.</td> </tr> <tr> <td>R46- May cause heritable genetic damage.</td> <td>S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).</td> </tr> <tr> <td>R62- Possible risk of impaired fertility.</td> <td>S53- Avoid exposure - obtain special instructions before use.</td> </tr> </table> | R22- Harmful if swallowed. | S24/25- Avoid contact with skin and eyes. | R45- May cause cancer. | S36/37/39- Wear suitable protective clothing, gloves and eye/face protection. | R46- May cause heritable genetic damage. | S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). | R62- Possible risk of impaired fertility. | S53- Avoid exposure - obtain special instructions before use. |
| R22- Harmful if swallowed. | S24/25- Avoid contact with skin and eyes. | | | | | | | | |
| R45- May cause cancer. | S36/37/39- Wear suitable protective clothing, gloves and eye/face protection. | | | | | | | | |
| R46- May cause heritable genetic damage. | S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). | | | | | | | | |
| R62- Possible risk of impaired fertility. | S53- Avoid exposure - obtain special instructions before use. | | | | | | | | |

HMIS (U.S.A.)

| | |
|---------------------|---|
| Health Hazard | 2 |
| Fire Hazard | 1 |
| Reactivity | 0 |
| Personal Protection | a |

National Fire Protection Association (U.S.A.)

Health Flammability
 Reactivity
 Specific hazard

WHMIS (Canada) (Pictograms)



**DSCL (Europe)
(Pictograms)**



**TDG (Canada)
(Pictograms)**



**ADR (Europe)
(Pictograms)**



Protective Equipment



Not applicable.
Lab coat.



Wear appropriate respirator when ventilation is inadequate.
Safety glasses.

Section 16. Other Information

MSDS Code M0114

References Not available.

Other Special Considerations Not available.

Validated by Sonia Owen on 8/11/2006.

Verified by Sonia Owen.

Printed 9/12/2006.

CALL (310) 516-8000

Notice to Reader

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum Quality Products, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.