Material Safety Data Sheet
Dichloromethane

ACC# 14930

Section 1 - Chemical Product and Company Identification

MSDS Name: Dichloromethane

Synonyms: Methylene chloride, methylene dichloride, freon30

Company Identification:
Fisher Scientific
1 Reagent Lane
Fairlawn, NJ 07410

For information, call: 201-796-7100
Emergency Number: 201-796-7100
For CHEMTREC assistance, call: 800-424-9300
For International CHEMTREC assistance, call: 703-527-3887

Section 2 - Composition, Information on Ingredients

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Chemical Name</th>
<th>Percent</th>
<th>EINECS/ELI</th>
</tr>
</thead>
<tbody>
<tr>
<td>75-09-2</td>
<td>Methylene chloride</td>
<td>100</td>
<td>200-838-</td>
</tr>
</tbody>
</table>

Hazard Symbols: XN
Risk Phrases: 40

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: colourless. **Caution!** May cause respiratory tract irritation. May cause digestive tract irritation. May be harmful if swallowed. May cause central nervous system depression. May be absorbed through the skin. May cause fetal effects based upon animal studies. May cause reproductive effects based upon animal studies. Causes severe eye and skin irritation with possible burns. May cause cancer based on animal studies. May be harmful if inhaled.

Target Organs: Blood, central nervous system.

Potential Health Effects

**Eye:** Contact with eyes may cause severe irritation, and possible eye burns.

**Skin:** May be absorbed through the skin. Causes irritation with burning pain, itchiness and redness. Prolonged exposure may result in skin burns.

**Ingestion:** May cause irritation of the digestive tract. May cause central nervous system depression, characterized by excitement, followed by headache, dizziness, drowsiness, and nausea. Advanced stages may cause collapse, unconsciousness, coma, and possible death due to respiratory failure.

**Inhalation:** Inhalation of high concentrations may cause central nervous system effects characterized by headache, dizziness, unconsciousness and coma. Causes respiratory tract irritation. May cause blood changes. Overexposure may cause an increase in carboxyhemoglobin levels in the blood.

**Chronic:** Possible cancer hazard based on tests with laboratory animals. Prolonged repeated skin contact may cause dermatitis. May cause fetal effects.
Section 4 - First Aid Measures

**Eyes:** Immediately flush eyes with plenty of water for at least 15 minutes, occasion lifting the upper and lower lids. Get medical aid immediately.

**Skin:** Get medical aid. Immediately flush skin with plenty of soap and water for at 15 minutes while removing contaminated clothing and shoes.

**Ingestion:** If victim is conscious and alert, give 2-4 cupfuls of milk or water. Neve give anything by mouth to an unconscious person. Get medical aid immediately.

**Inhalation:** Get medical aid immediately. Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, giv oxygen.

**Notes to Physician:** Treat symptomatically and supportively.

Section 5 - Firefighting Measures

**General Information:** As in any fire, wear a self-contained breathing apparatus i pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors mixed with air in proper proportion will propagate a flame. Will form explo mixtures in atmospheres having high oxygen contents.

**Extinguishing Media:** In case of fire, use water, dry chemical, chemical foam, or alcohol-resistant foam. Use water spray to cool fire-exposed containers.

**Autoignition Temperature:** 1033 deg F (556.11 deg C)

**Flash Point:** Not applicable.(estimated) Health: ; Flammability: ; Reactivity: Expl Limits, Lower: 15.1 @ 103xC Upper: 17.3 @ 148xC

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., dry sand or earth), then plac into a chemical waste container.

Section 7 - Handling and Storage

**Handling:** Wash thoroughly after handling. Use with adequate ventilation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestio inhalation.

**Storage:** Store in a tightly closed container. Keep from contact with oxidizing materials. Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:** Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.
Exposure Limits

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>NIOSH</th>
<th>OSHA - Final P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methylene chloride</td>
<td>50 ppm; 174 mg/m³</td>
<td>NIOSH Potential Occupational Carcinogen - see Appendix A Potential NIOSH carcinogen.</td>
<td>25 ppm TWA; ppm STEL (15 TWA); 25 ppm (8 hr.); 125 pp</td>
</tr>
</tbody>
</table>

**OSHA Vacated PELs:** Methylene chloride: 500 ppm TWA

**Personal Protective Equipment**

**Eyes:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin:** Wear appropriate protective gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

**Respirators:** Follow the OSHA respirator regulations found in 29CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

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**Section 9 - Physical and Chemical Properties**

**Physical State:** Liquid

**Appearance:** colourless

**Odor:** ethereal odor

**pH:** Not available.

**Vapor Pressure:** 350 mm Hg @ 20

**Vapor Density:** 2.9 (Air=1)

**Evaporation Rate:**

**Viscosity:** Not available.

**Boiling Point:** 104 deg F

**Freezing/Melting Point:** -142 deg F

**Decomposition Temperature:** Not available.

**Solubility:** Moderately soluble in water

**Specific Gravity/Density:** 1.33 (Water=1)

**Molecular Formula:** CH2Cl2

**Molecular Weight:**

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**Section 10 - Stability and Reactivity**

**Chemical Stability:** Stable.

**Conditions to Avoid:** Incompatible materials, strong oxidants.

**Incompatibilities with Other Materials:** Incompatible with strong oxidizers. Can react dangerously with nitrogen tetroxide, liquid oxygen, potassium, sodium, sodium-potassium alloys, lithium, potassium hydroxide with N-methyl-N-nitroso ur potassium t-butoxide, and finely powdered aluminum and magnesium. Occurred with mixtures of this materials and liquid ammonia or dimethylaminopropylamine. Form explosive mixtures in atmospheres having high oxygen content.

**Hazardous Decomposition Products:** Hydrogen chloride, phosgene, carbon monoxide, carbon dioxide.

**Hazardous Polymerization:** Has not been reported.
Section 11 - Toxicological Information

RTECS#:  
CAS# 75-09-2: PA8050000  
LD50/LC50:  
CAS# 75-09-2:  
Inhalation, mouse: LC50 = 14400 ppm/7H;  
Inhalation, rat: LC50 = 88 gm/m3/30M;  
Oral, rat: LD50 = 1600 mg/kg;  
Carcinogenicity:  
CAS# 75-09-2:  
ACGIH: A3 - Animal Carcinogen  
California: carcinogen - initial date 4/1/88  
NIOSH: occupational carcinogen  
NTP: Suspect carcinogen  
OSHA: Possible Select carcinogen  
IARC: Group 2B carcinogen  
Epidemiology: No data available.  
Teratogenicity: No data available.  
Reproductive Effects: No data available.  
Neurotoxicity: No data available.  
Mutagenicity: No data available.  
Other Studies: No data available.

Section 12 - Ecological Information

Ecotoxicity: This chemical has a moderate potential to affect some aquatic organisms. It is resistant to biodegradation, and has a low potential to persist in the aquatic environment. 96-hr. EC50 (loss of equilibrium); Fathead minnow: 99 mg/L; 96-hr. EC10: 66.3 mg/L. Bluegill sunfish: 96-hr. LC50 = 220 mg/L; Water flea: 24-hr. LC50 = 2770 mg/L; No observed effect level: 1550 mg/L.  
Environmental Fate: This material is not likely to bioconcentrate.  
Physical/Chemical: Not available.  
Other: Not available.

Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.  
RCRA D-Series Maximum Concentration of Contaminants: None listed.  
RCRA D-Series Chronic Toxicity Reference Levels: None listed.  
RCRA F-Series: None listed.  
RCRA P-Series: None listed.  
RCRA U-Series: CAS# 75-09-2: waste number U080.

Section 14 - Transport Information
Section 15 - Regulatory Information

US FEDERAL

TSCA
CAS# 75-09-2 is listed on the TSCA inventory.

Health & Safety Reporting List
CAS# 75-09-2: Effective Date: October 4, 1982; Sunset Date: October 4, 1992

Chemical Test Rules
None of the chemicals in this product are under a Chemical Test Rule.

Section 12b
None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule
None of the chemicals in this material have a SNUR under TSCA.

SARA

Section 302 (RQ)
CAS# 75-09-2: final RQ = 1000 pounds (454 kg)

Section 302 (TPQ)
None of the chemicals in this product have a TPQ.

SARA Codes
CAS # 75-09-2: acute, chronic.

Section 313
This material contains Methylene chloride (CAS# 75-09-2, 100%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

Clean Air Act:
CAS# 75-09-2 is listed as a hazardous air pollutant (HAP). This material does not contain any Class 1 Ozone depletors. This material does not contain any Class 2 Ozone depletors.

Clean Water Act:
None of the chemicals in this product are listed as Hazardous Substances under the CWA. CAS# 75-09-2 is listed as a Priority Pollutant under the Clean Water Act. None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:
None of the chemicals in this product are considered highly hazardous by OSHA.

STATE
CAS# 75-09-2 can be found on the following state right to know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.

The following statement(s) is(are) made in order to comply with the Califo Safe Drinking Water Act: WARNING: This product contains Methylene chloride, chemical known to the state of California to cause cancer. California No Significant
Level: CAS# 75-09-2: no significant risk level = 50 ug/day

European/International Regulations
European Labeling in Accordance with EC Directives
Hazard Symbols:
XN
Risk Phrases:
R 40 Possible risks of irreversible effects.
Safety Phrases:
S 24/25 Avoid contact with skin and eyes. S 36/37 Wear suitable protective clothing and gloves. S 23C Do not breathe vapour.
WGK (Water Danger/Protection)
CAS# 75-09-2: 2
Canada
CAS# 75-09-2 is listed on Canada's DSL/NDSL List. This product has a WHMIS classification of D1B, D2A. CAS# 75-09-2 is not listed on Canada's Ingredient Disclosure List.
Exposure Limits
CAS# 75-09-2: OEL-AUSTRALIA:TWA 100 ppm (350 mg/m3); Carcinogen OEL-AUSTRIA:TWA 100 ppm (360 mg/m3) OEL-BELGIUM:TWA 50 ppm (174 mg/m3); carcinogen OEL-CZECHOSLOVAKIA:TWA 500 mg/m3; STEL 2500 mg/m3 OEL-DENMARK: TWA 50 ppm (175 mg/m3); Skin: Carcinogen OEL-FINLAND: TWA 100 ppm (350 mg/m3); STEL 250 ppm (870 mg/m3) OEL-FRANCE: TWA 100 ppm (360 mg/m3); STEL 500 ppm (1800 mg/m3) OEL-GERMANY: TWA 100 ppm (350 mg/m3); Carcinogen OEL-HUNGARY: STEL 10 mg/m3; Carcinogen OEL-JAPAN: TWA 100 ppm (350 mg/m3) OEL-THE NETHERLANDS: TWA 100 ppm (350 mg/m3); STEL 500 ppm OEL-THAILAND: TWA 500 ppm (1740 mg/m3) OEL-POLAND: TWA 50 mg/m3 OEL-ROSSIA: TWA 100 ppm; STEL 50 mg/m3 OEL-SWEDEN: TWA 35 ppm (120 mg/m3); STEL 70 ppm (25 mg/m3); Skin OEL-SWITZERLAND: TWA 100 ppm (360 mg/m3); STEL 500 ppm OEL-TURKEY: TWA 500 mg/m3; STEL 1000 mg/m3 OEL-TURKEY: TWA 50 ppm (1740 mg/m3) OEL-UNITED KINGDOM: TWA 100 ppm (350 mg/m3); STEL 20 ppm OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA check ACGIH TLV OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI TLV

Section 16 - Additional Information

MSDS Creation Date: 1/11/1995
Revision #51 Date: 6/30/1998
The information above is believed to be accurate and represents the best information currently available. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way is Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, however arising, even if Fisher has been advised of the possibility of such damages.

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