

SAFETY DATA SHEET

M47008 - ANSI - EN



METHYLENE CHLORIDE

SDS No.: M47008

SDS Revision Date: 30-Mar-2015

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

| | |
|--------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Company Identification: | Occidental Chemical Corporation 5005 LBJ Freeway P.O. Box 809050 Dallas, TX 75380-9050 1-800-752-5151 |
| 24 Hour Emergency Telephone Number: | 1-800-733-3665 or 1-972-404-3228 (USA); CHEMTREC (within USA and Canada): 1-800-424-9300; CHEMTREC (outside USA and Canada): +1 703-527-3887; CHEMTREC Contract No: CCN16186 |
| To Request an SDS: | MSDS@oxy.com or 1-972-404-3245 |
| Customer Service: | 1-800-752-5151 or 1-972-404-3700 |
| Product Identifier: | METHYLENE CHLORIDE |
| Trade Name: | Methylene chloride, technical grade; Methylene chloride, decaffeination grade; Methylene chloride, aerosol grade; Methylene chloride, degreasing grade; Methylene chloride, special grade |
| Synonyms: | Dichloromethane, Methylene Dichloride |
| Product Use: | paint remover formulations, vapor depressant in aerosol applications, general cleaning solvent, foam blowing agent |
| Uses Advised Against: | Bathtub stripping. Not for use in residential home or workshop areas not properly ventilated or not designed to accommodate the safe use of this chemical. |
| Chemical Family: | Saturated aliphatic halogenated solvent |

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Note: The Special, Aerosol, and Degreasing Grades contain small amounts of a propylene oxide stabilizer. The Technical and Decaffeination Grades do not

2. HAZARDS IDENTIFICATION

OSHA REGULATORY STATUS: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

EMERGENCY OVERVIEW:

Color: Colorless
Physical state: Liquid
Appearance: Clear
Odor: Mildly sweet odor, Chloroform-like odor
Signal Word: WARNING

MAJOR HEALTH HAZARDS: MAY CAUSE DROWSINESS OR DIZZINESS. CAUSES SKIN IRRITATION. CAUSES EYE IRRITATION. MAY CAUSE RESPIRATORY IRRITATION. CAUSES DAMAGE TO BLOOD AND LIVER THROUGH PROLONGED OR REPEATED EXPOSURES. SUSPECTED OF CAUSING CANCER.

PRECAUTIONARY STATEMENTS: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use only outdoors or in a well-ventilated area. Do not breathe gas, fumes, vapor, mist, or spray. Wear protective gloves, protective clothing, eye, and face protection. Do not eat, drink or smoke when using this product. Wash thoroughly after handling.

ADDITIONAL HAZARD INFORMATION: Exposure in an enclosed or poorly-ventilated area may be very harmful.

GHS CLASSIFICATION:

| | |
|-------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| GHS: CONTACT HAZARD - SKIN: | Category 2 - Causes skin irritation. |
| GHS: CONTACT HAZARD - EYE: | Category 2B - Causes eye irritation |
| GHS: TARGET ORGAN TOXICITY (SINGLE EXPOSURE): | Category 3 - May cause drowsiness or dizziness Category 3 - May cause respiratory tract irritation |
| GHS: TARGET ORGAN TOXICITY (REPEATED EXPOSURE): | Category 2 - May cause damage to Blood, Liver through prolonged or repeated exposure |
| GHS: CARCINOGENICITY: | Category 2 - Suspected of causing cancer. |

GHS SYMBOL:
 Exclamation mark, Health hazard

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GHS SIGNAL WORD: WARNING

GHS HAZARD STATEMENTS:

GHS - Health Hazard Statement(s)

Causes skin irritation

Causes eye irritation

May cause drowsiness or dizziness

May cause respiratory irritation

May cause damage to Blood, Kidney through prolonged or repeated exposure

Suspected of causing cancer

GHS - Precautionary Statement(s) - Prevention

Obtain special instructions before use

Do not handle until all safety precautions have been read and understood

Do not breathe gas, fumes, vapor, mist, or spray

Use only outdoors or in a well-ventilated area

Wear protective gloves, protective clothing, eye, and face protection

Wash thoroughly after handling

Do not eat, drink or smoke when using this product

GHS - Precautionary Statement(s) - Response

IF INHALED: Remove person to fresh air and keep comfortable for breathing

Call a POISON CENTER or doctor/physician if you feel unwell

IF ON SKIN: Wash with plenty of water

If skin irritation occurs: Get medical advice/attention

Take off contaminated clothing and wash it before reuse

Specific treatment (see First Aid information on product label and/or Section 4 of the SDS)

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing

If eye irritation persists: Get medical advice/attention

IF exposed or concerned: Get medical advice/attention

Get medical advice/attention if you feel unwell

GHS - Precautionary Statement(s) - Storage

Store in a well-ventilated place. Keep container tightly closed

Store locked up

GHS - Precautionary Statement(s) - Disposal

Dispose of contents and container in accordance with applicable local, regional, national, and/or international regulations.

Hazards Not Otherwise Classified (HNOC)

Exposure in an enclosed or poorly-ventilated area may be very harmful

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See Section 11: TOXICOLOGICAL INFORMATION

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms: Dichloromethane, Methylene Dichloride

| Component | Percent [%] | CAS Number |
|--------------------------------------|-------------|------------|
| Methylene chloride (Dichloromethane) | 99.97 - 100 | 75-09-2 |
| Propylene oxide | Proprietary | 75-56-9 |

4. FIRST AID MEASURES

INHALATION: If inhalation of this material occurs and adverse effects result, move person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician. See Notes to Physician below and Section 11 for more information.

SKIN CONTACT: If on skin, wash with plenty of water. If skin irritation occurs, get medical advice/attention. Take off contaminated clothing and wash before reuse. Treat any skin irritation symptomatically. The specific treatment is flushing affected area with plenty of water.

EYE CONTACT: If in eyes, rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical attention.

INGESTION: If swallowed, rinse mouth. Contact a poison center or doctor/physician if you feel unwell.

Most Important Symptoms/Effects (Acute and Delayed) :

Acute Symptoms/Effects: Listed below.

Inhalation (Breathing): Respiratory System Effects: Pulmonary irritation, cough, chest discomfort, shortness of breath, headache, euphoria, nausea and vomiting, respiratory irritation. Changes in heart rate, paresthesias, sleepiness and seizures are described. Heavy exposure can result in muscle weakness or hypotonia, syncope, stupor followed by loss of consciousness. Complications include cardiac abnormalities and elevations of carboxyhemoglobin. Coma with respiratory depression may result in death.

Skin: Skin Irritation. Skin exposure may cause intense burning sensation, mild redness and numbness. Severe burns may develop following prolonged exposures.

Eye: Eye Irritation. Mild eye irritation may occur when exposed to vapor. Splash of liquid in the eye can cause conjunctival irritation and burning pain. Prolonged contact can cause severe corneal burns.

Ingestion (Swallowing): Ingesting this material may cause nausea, vomiting, mucosal irritation with burning sensation. System effects include central nervous system depression, headache, syncope, seizures, and coma. Ingesting concentrated solutions of this material can cause corrosion of the GI tract and perforation.

Interaction with Other Chemicals Which Enhance Toxicity: May potentiate other agents that cause central nervous system (CNS) and respiratory system depression, such as alcohol, opiates.

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Medical Conditions Aggravated by Exposure: May increase potential for cardiac arrhythmia. May increase carboxyhemoglobin levels. May worsen respiratory system disorders such as asthma and other breathing disorders. May worsen central nervous system disorders such as seizure disorders or impair central nervous system functions. May worsen ischemic heart disease.

Protection of First-Aiders: Protect against vapor/gas exposure. Protect against liquid contamination. Most cases of serious toxicity or death have been associated with stripping operations and or use in enclosed spaces.

Notes to Physician: Acute symptoms from low airborne levels are generally mild and self limiting following removal from exposure, and should require no specific treatment. The primary exposure route is inhalation. Symptomatic exposure should be treated with oxygen. The primary toxicity is central nervous system depression. May cause cardiac arrhythmias. Treatment with non-catecholamine agent is theoretically preferred. Treat seizures with benzodiazepines. Methylene chloride is metabolized to carbon monoxide. Carbon monoxide levels may increase after exposure has ceased. Treat following carbon monoxide recommendations. For ingestion, protect the airway and do not administer fluids or attempt to decontaminate due to the risk of vomiting and aspiration. Protect the airway. May dissolve some medical grade plastics. Systemic toxicity from skin absorption is unlikely. There is no antidote.

5. FIRE-FIGHTING MEASURES

Fire Hazard: Slight fire hazard. This material may burn, but does not readily ignite.

Extinguishing Media: Use foam, dry chemical, CO₂, or water spray.

Fire Fighting: Wear NIOSH approved positive-pressure self-contained breathing apparatus operated in pressure demand mode. Concentrated vapors may be ignited by high intensity source. Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Flood with fine water spray. Do not scatter spilled material with high-pressure water streams. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas. Keep water runoff out of water supplies and sewers (see Section 6 of the MSDS).

| Component | Immediately Dangerous to Life/ Health (IDLH) |
|-------------------------------------------------|----------------------------------------------|
| Methylene chloride (Dichloromethane) 75-09-2 | 2300 ppm IDLH |
| Propylene oxide 75-56-9 | 400 ppm IDLH |

Hazardous Combustion Products: Hydrogen chloride, Chlorine, Phosgene, Oxides of carbon

Sensitivity to Mechanical Impact: Not sensitive.

Sensitivity to Static Discharge: Not sensitive.

Lower Flammability Level (air): 12% @ 100°C

Upper Flammability Level (air): 19% @100°C

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Flash point: None

Auto-ignition Temperature: 1033 °F (556.1 °C)

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions:

Most vapors are heavier than air and will spread along ground and collect in low or confined areas (drains, basements, tanks). Do not breathe vapors, mist, or spray. Ventilate closed spaces before entering. Exposure in an enclosed or poorly-ventilated area may be very harmful. Keep unnecessary people away, isolate hazard area and deny entry. Evacuation of surrounding area may be necessary for large spills. Shut off ventilation system if needed. Do not get in eyes, on skin or on clothing. Wear appropriate personal protective equipment recommended in Section 8 of the SDS.

Methods and Materials for Containment and Cleaning Up:

Stop leak if possible without personal risk. Ventilate closed spaces before entering. Completely contain spilled materials with dikes, sandbags, etc. Remove contaminated soil or collect with appropriate absorbent and place into suitable container. Keep container tightly closed and properly labeled. Liquid material may be removed with a properly rated vacuum truck. Properly dispose of in accordance with all applicable regulations. See Section 13, Disposal considerations, for additional information.

Environmental Precautions:

Keep out of water supplies, sewers and soil. Avoid discharge into drains, surface water or groundwater. Releases should be reported, if required, to appropriate regulatory agencies.

7. HANDLING AND STORAGE

Precautions for Safe Handling:

Do not breathe gas, vapors, or spray mist. Most vapors are heavier than air and will spread along ground and collect in low or confined areas (drains, basements, tanks). Avoid contact with skin, eyes and clothing. Wear personal protective equipment as described in Exposure Controls/Personal Protection (Section 8) of the SDS. Wash thoroughly after handling. Do not taste or swallow. When using, do not eat, drink or smoke.

Safe Storage Conditions:

Store and handle in accordance with all current regulations and standards. Keep container tightly closed and properly labeled. Store in a cool, dry area. Store in a well-ventilated area. Prevent water or moist air from entering storage tanks or containers. Do not enter confined spaces unless adequately ventilated. Do not store in aluminum container or use aluminum fittings or transfer lines. To minimize the decomposition of dichloromethane, storage containers should be galvanized or lined with a phenolic coating. Protect from sunlight. Do not reuse drum without recycling or reconditioning in accordance with any applicable federal, state or local laws. Do not use cutting or welding torches, open flames or electric arcs on empty or full containers. Keep separated from incompatible substances (see below or Section 10 of the Safety Data Sheet).

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Incompatibilities/ Materials to Avoid:

Aluminum, magnesium, zinc, and their alloys, Bases, Oxygen, Amines, Reactive metals, Sodium, Potassium, Strong oxidizing agents, Alkali metals

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Regulatory Exposure Limit(s): Listed below for the product components that have regulatory occupational exposure limits (OEL's) established.

| Component | OSHA Final PEL TWA | OSHA Final PEL STEL | OSHA Final PEL Ceiling |
|----------------------------------------------------|----------------------------------|------------------------|------------------------|
| Methylene chloride (Dichloromethane) 75-09-2 | 25 ppm | 125 ppm | ----- |
| Propylene oxide 75-56-9 | 100 ppm 240 mg/m ³ | ----- | ----- |

OEL: Occupational Exposure Limit; OSHA: United States Occupational Safety and Health Administration; PEL: Permissible Exposure Limit; TWA: Time Weighted Average; STEL: Short Term Exposure Limit

NON-REGULATORY EXPOSURE LIMIT(S): Listed below for the product components that have advisory (non-regulatory) occupational exposure limits (OEL's) established.

| Component | CAS Number | ACGIH TWA | ACGIH STEL | ACGIH Ceiling | OSHA TWA (Vacated) | OSHA STEL (Vacated) | OSHA Ceiling (Vacated) |
|-----------------------------------------|---------------|--------------|---------------|------------------|--------------------------------|------------------------|------------------------------|
| Methylene chloride (Dichloromethane) | 75-09-2 | 50 ppm | ----- | ----- | 500 ppm | 2000 ppm | 1000 ppm |
| Propylene oxide | 75-56-9 | 2 ppm | ----- | ----- | 20 ppm 50 mg/m ³ | ----- | ----- |

- **The Non-Regulatory United States Occupational Safety and Health Administration (OSHA) limits, if shown, are the Vacated 1989 PEL's (vacated by 58 FR 35338, June 30, 1993).**

- The American Conference of Governmental Industrial Hygienists (ACGIH) is a voluntary organization of professional industrial hygiene personnel in government or educational institutions in the United States. The ACGIH develops and publishes recommended occupational exposure limits each year called Threshold Limit Values (TLVs) for hundreds of chemicals, physical agents, and biological exposure indices.

ENGINEERING CONTROLS: Provide local exhaust or process enclosure ventilation system. Ensure compliance with applicable exposure limits. Monitoring should be performed regularly in accordance with 29 CFR 1910.1052(d) to determine exposure level(s).

PERSONAL PROTECTIVE EQUIPMENT:

Eye Protection: Wear safety glasses with side-shields. Wear chemical safety goggles and/or a face-shield to protect against skin and eye contact when appropriate. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

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Skin and Body Protection: Wear chemical resistant clothing and footwear to prevent skin contact.

Hand Protection: Wear appropriate chemical resistant gloves. Consult a glove supplier for assistance in selecting an appropriate chemical resistant glove.

Protective Material Types: Trelchem®, Tychem®, Viton®, Polyvinyl alcohol (PVA)

Respiratory Protection: Respiratory protection requirements for methylene chloride are in 29 CFR 1910.1052(f). When concentrations are above the IDLH, or are unknown, or during spills and/or emergencies, use any supplied-air respirator that has a facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode.

| Component | Immediately Dangerous to Life/ Health (IDLH) |
|-------------------------------------------------|----------------------------------------------|
| Methylene chloride (Dichloromethane) 75-09-2 | 2300 ppm IDLH |
| Propylene oxide 75-56-9 | 400 ppm IDLH |

9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|-----------------------------------------------------|-----------------------------------------|
| Physical state | Liquid |
| Appearance: | Clear |
| Color: | Colorless |
| Odor: | Mildly sweet odor, Chloroform-like odor |
| Odor Threshold [ppm]: | 200-300 ppm (causes olfactory fatigue). |
| Molecular Weight: | 84.94 |
| Chemical Family: | Saturated aliphatic halogenated solvent |
| Boiling Point/Range: | 104 °F (40 °C) |
| Freezing Point/Range: | -139 °F (-95 °C). |
| Melting Point/Range: | -95 (°C) |
| Vapor Pressure: | 350 mmHg @ 20°C and 435 mmHG @ 25°C |
| Vapor Density (air=1): | 2.9 |
| Relative Density/Specific Gravity (water=1): | 1.31 - 1.32 @ 25°C |
| Water Solubility: | 1.32% @ 25 C or 13,000 mg/l at 25 °C |
| pH: | Not applicable |
| Volatility: | 100% by volume |
| Evaporation Rate (ether=1): | 0.7 |
| Flash point: | None |
| Lower Flammability Level (air): | 12% @ 100°C |
| Upper Flammability Level (air): | 19% @100°C |
| Auto-ignition Temperature: | 1033 °F (556.1 °C) |
| Viscosity: | - 0.41 (cps) @ 77°F |

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10. STABILITY AND REACTIVITY**Reactivity:** Reacts violently with active metals.**Chemical Stability:** Stable at normal temperatures and pressures.**Possibility of Hazardous Reactions:**

Avoid heat, flames, sparks and other sources of ignition. Containers may rupture or explode if exposed to heat. Reacts violently with active metals. Avoid contact with incompatible substances and conditions due to generation of phosgene and other toxic and irritating substances.

Conditions to Avoid:

(e.g., static discharge, shock, or vibration) -. None known.

Incompatibilities/ Materials to Avoid:

Aluminum, magnesium, zinc, and their alloys. Bases. Oxygen. Amines. Reactive metals. Sodium. Potassium. Strong oxidizing agents. Alkali metals.

Hazardous Decomposition Products: hydrogen chloride, chlorine, phosgene, oxides of carbon**Hazardous Polymerization:** Will not occur.**11. TOXICOLOGICAL INFORMATION**

IRRITATION DATA: Methylene Chloride: 810 mg/24 hour(s) skin-rabbit severe; 100 mg/24 hour(s) skin-rabbit moderate; 162 mg eyes-rabbit moderate; 10 mg eyes-rabbit mild; 500 mg/24 hour(s) eyes-rabbit mild

TOXICITY DATA:**PRODUCT TOXICITY DATA:** Methylene Chloride

| LD50 Oral: | LD50 Dermal: | LC50 Inhalation: |
|-----------------------------|---------------------|------------------------------------|
| 985 mg/kg (rat) mg/kg (Rat) | > 2,000 mg/kg (Rat) | 76000 mg/m ³ (4 hr-Rat) |

COMPONENT TOXICITY DATA:**Note:** The component toxicity data is populated by the LOLI database and may differ from the product toxicity data given.

| Component | LD50 Oral: | LD50 Dermal: | LC50 Inhalation: |
|----------------------------------------------------|-------------------|---------------------|-------------------------|
| Methylene chloride (Dichloromethane) 75-09-2 | 1600 mg/kg (Rat) | ----- | 53 mg/L (6 hr-Rat) |
| Propylene oxide 75-56-9 | 520 mg/kg (Rat) | 1244 mg/kg (Rabbit) | 0.948 mg/L (4 hr-Rat) |

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POTENTIAL HEALTH EFFECTS:

- Eye contact:** Vapors may cause eye irritation. Contact may cause tearing, redness, a stinging or burning feeling, swelling, and blurred vision.
- Skin contact:** May cause effects ranging from mild irritation to severe pain, and possibly burns, depending on the intensity of contact. Skin absorption may occur.
- Inhalation:** May cause upper respiratory tract irritation and central nervous system depression with symptoms such as confusion, lightheadedness, nausea, vomiting, headache, and fatigue. Causes formation of carbon monoxide in blood which may affect the cardiovascular system and central nervous system. Continued exposure may cause unconsciousness and even death.
- Ingestion:** May cause nausea or vomiting. If vomiting results in aspiration, chemical pneumonia could occur. Absorption through the gastrointestinal tract may produce central nervous system depression.
- Chronic Effects:** May cause liver damage. May cause cancer based on animal data.

SIGNS AND SYMPTOMS OF EXPOSURE:

Inhalation (Breathing): Respiratory System Effects: Pulmonary irritation, cough, chest discomfort, shortness of breath, headache, euphoria, nausea and vomiting, respiratory irritation. Changes in heart rate, paresthesias, sleepiness and seizures are described. Heavy exposure can result in muscle weakness or hypotonia, syncope, stupor followed by loss of consciousness. Complications include cardiac abnormalities and elevations of carboxyhemoglobin. Coma with respiratory depression may result in death.

Skin: Skin Irritation. Skin exposure may cause intense burning sensation, mild redness and numbness. Severe burns may develop following prolonged exposures.

Eye: Eye Irritation. Mild eye irritation may occur when exposed to vapor. Splash of liquid in the eye can cause conjunctival irritation and burning pain. Prolonged contact can cause severe corneal burns.

Ingestion (Swallowing): Ingesting this material may cause nausea, vomiting, mucosal irritation with burning sensation. System effects include central nervous system depression, headache, syncope, seizures, and coma. Ingesting concentrated solutions of this material can cause corrosion of the GI tract and perforation.

TOXICITY:

Dermal exposure results in absorption but at a slower rate than via the oral or inhalation routes of exposure.

CHRONIC TOXICITY:

Liver effects have not been reported in humans, but liver changes have been observed in several long-term studies with laboratory animals. Inhalation of 500 to 3,500 ppm methylene chloride for two years produced only minimal, nonproliferative changes in the liver of Sprague Dawley rats (the no-observed-effect level was equal to 200 ppm) and no liver effects in hamsters. Nonproliferative changes were noted in rats in another study after exposure to 1,000 to 4,000 ppm. Liver enlargement has been observed in mice exposed to 2,000 and 4,000 ppm of methylene chloride for 11 days.

Interaction with Other Chemicals Which Enhance Toxicity: May potentiate other agents that cause central nervous system (CNS) and respiratory system depression, such as alcohol, opiates.

GHS HEALTH HAZARDS:

Skin Absorbent / Dermal Route? No.

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GHS: CONTACT HAZARD - SKIN: Category 2 - Causes skin irritation

GHS: CONTACT HAZARD - EYE: Category 2B - Causes eye irritation

GHS: CARCINOGENICITY:
Category 2 - Suspected of causing cancer.

Carcinogenicity comment: Methylene chloride is carcinogenic in experimental animals at a relatively high dose, by route(s) of administration, at site(s), of histologic type(s), or by mechanism(s) that are not considered relevant to worker exposure. Available epidemiological studies do not confirm an increased risk of cancer in humans. Available evidence suggests that this material is not likely to cause cancer in humans except under uncommon or unlikely routes or levels of exposure.

| Component | NTP: | IARC (GROUP 1): | IARC (GROUP 2): | OSHA: |
|-----------------------------------------|-------------------------------------------------------|-----------------|-----------------|--------|
| Methylene chloride (Dichloromethane) | Reasonably Anticipated To Be A Human Carcinogen | Not listed | Group 2 | Listed |
| Propylene oxide | Reasonably Anticipated To Be A Human Carcinogen | Not listed | Group 2 | Listed |

MUTAGENIC DATA:

Positive results have been observed in the Ames test. In mammalian systems, responses have generally been negative.

DEVELOPMENTAL TOXICITY:

May cross the placenta. May be excreted in breast milk. No significant developmental effects were observed in female rats and mice exposed to 1,250 ppm during gestation. A similar result was observed in rats exposed to 4,500 ppm before and during gestation. A two-generation inhalation study showed no adverse reproductive effects in rats exposed to as much as 1,500 ppm for 14 weeks.

IMMUNOTOXICITY:

A study found there was no evidence of harm to the immune system of laboratory animals or reduced ability to combat disease.

12. ECOLOGICAL INFORMATION**ECOTOXICITY DATA:****Freshwater Fish Toxicity:**

LC50 (Static) Fathead minnow = 310 mg/L 96 hour(s)

LC50 (Static) Bluegill sunfish = 220 mg/L 96 hour(s)

Invertebrate Toxicity:

LC50 Mysid Shrimp = 256 mg/L 96 hour(s); 224 mg/L 48 hour(s) LC50 Daphnia Magna

FATE AND TRANSPORT:

BIODEGRADATION: Biodegradation may occur in groundwater, but will be very slow compared with evaporation.

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PERSISTENCE: AIR: This material released to the atmosphere will degrade by reaction with hydroxyl radicals with a half-life of several months. It is not subject to direct photooxidation. SOIL: On land is expected to evaporate rapidly into the atmosphere due to its high vapor pressure. It is poorly adsorbed to soil and can leach into the groundwater. Calculated Adsorption Coefficient (log KOC) is 1. WATER: This material is subject to rapid evaporation, with estimated evaporative half-lives ranging from 3 to 5.6 hours under moderate mixing condition. This material has a negligible rate of hydrolysis.

BIOCONCENTRATION: Bioconcentration potential in aquatic organisms is low with BCF of 2.

13. DISPOSAL CONSIDERATIONS

Waste from material:

Reuse or reprocess, if possible. Keep out of water supplies, sewers and soil. Dispose in accordance with all applicable regulations. May be subject to disposal regulations.

Container Management:

Dispose of container in accordance with applicable local, regional, national, and/or international regulations. Container rinsate must be disposed of in compliance with applicable regulations.

14. TRANSPORT INFORMATION

LAND TRANSPORT

U.S. DOT 49 CFR 172.101:

UN NUMBER: UN1593
PROPER SHIPPING NAME: Dichloromethane
HAZARD CLASS/ DIVISION: 6.1
PACKING GROUP: III
LABELING REQUIREMENTS: 6.1
RQ (lbs): RQ 1,000 Lbs. (Dichloromethane)
RQ 100 Lbs. (Propylene oxide)

CANADIAN TRANSPORTATION OF DANGEROUS GOODS:

UN NUMBER: UN1593
SHIPPING NAME: Dichloromethane
CLASS OR DIVISION: 6.1
PACKING/RISK GROUP: III
LABELING REQUIREMENTS: 6.1

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MARITIME TRANSPORT (IMO / IMDG) Regulated

UN NUMBER: UN1593
PROPER SHIPPING NAME: Dichloromethane
HAZARD CLASS / DIVISION: 6.1
Packing Group: III
LABELING REQUIREMENTS: 6.1

15. REGULATORY INFORMATION**U.S. REGULATIONS****OSHA REGULATORY STATUS:**

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR 302.4):

If a release is reportable under CERCLA section 103, notify the state emergency response commission and local emergency planning committee. In addition, notify the National Response Center at (800) 424-8802 or (202) 426-2675.

| Component | CERCLA Reportable Quantities: |
|--------------------------------------|-------------------------------|
| Methylene chloride (Dichloromethane) | 1000 lb (final RQ) |
| Propylene oxide | 100 lb (final RQ) |

SARA EHS Chemical (40 CFR 355.30)

If a release is reportable under EPCRA, notify the state emergency response commission and local emergency planning committee. If the TPQ is met, facilities are subject to reporting requirements under EPCRA Sections 311 and 312.

| Component | EPCRA RQs | Section 302 Threshold Planning Quantity (TPQs) |
|-----------------|-------------------|------------------------------------------------|
| Propylene oxide | 100 lb (EPCRA RQ) | 10000 lb TPQ |

EPCRA SECTIONS 311/312 HAZARD CATEGORIES (40 CFR 370.10):

Acute Health Hazard, Chronic Health Hazard

EPCRA SECTION 313 (40 CFR 372.65):

The following chemicals are listed in 40 CFR 372.65 and may be subject to Community Right-to Know Reporting requirements.

| Component | Status: |
|--------------------------------------|---------|
| Methylene chloride (Dichloromethane) | 0.1 % |
| Propylene oxide | 0.1 % |

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OSHA SPECIFICALLY REGULATED SUBSTANCES:

OSHA 29 CFR 1910.1052 (Methylene chloride); The U.S. Department of Labor, Occupational Safety and Health Administration specifically regulates manufacturing, handling and processing of methylene chloride. Such regulations have been published at 29 CFR 1910.1052.

OSHA PROCESS SAFETY (PSM) (29 CFR 1910.119):

Not regulated

NATIONAL INVENTORY STATUS

U.S. INVENTORY STATUS: Toxic Substance Control Act (TSCA): All components are listed or exempt.

TSCA 12(b): This product is not subject to export notification.

Canadian Chemical Inventory: All components of this product are listed on either the DSL or the NDSL.

STATE REGULATIONS**California Proposition 65:**

This product contains a chemical known to the State of California to cause cancer, and/or birth defects, and/or other reproductive harm as listed under Proposition 65 State Drinking Water and Toxic Enforcement Act.

| Component | California Proposition 65 Cancer WARNING: | California Proposition 65 CRT List - Male reproductive toxin: | California Proposition 65 CRT List - Female reproductive toxin: | Massachusetts Right to Know Hazardous Substance List | New Jersey Right to Know Hazardous Substance List | New Jersey Special Health Hazards Substance List |
|-------------------------------------------------|-------------------------------------------|---------------------------------------------------------------|-----------------------------------------------------------------|------------------------------------------------------|---------------------------------------------------|--------------------------------------------------------------|
| Methylene chloride (Dichloromethane) 75-09-2 | Listed | Not Listed | Not Listed | Listed | 1255 | Not Listed |
| Propylene oxide 75-56-9 | Listed | Not Listed | Not Listed | Listed | 1615 | flammable - fourth degree; mutagen; reactive - second degree |

| Component | New Jersey - Environmental Hazardous Substance List | Pennsylvania Right to Know Hazardous Substance List | Pennsylvania Right to Know Special Hazardous Substances | Pennsylvania Right to Know Environmental Hazard List | Rhode Island Right to Know Hazardous Substance List |
|-------------------------------------------------|-----------------------------------------------------|-----------------------------------------------------|---------------------------------------------------------|------------------------------------------------------|-----------------------------------------------------|
| Methylene chloride (Dichloromethane) 75-09-2 | Listed | Listed | Present | Present | Listed |
| Propylene oxide 75-56-9 | Listed | Listed | Present | Present | Not Listed |

CANADIAN REGULATIONS

• This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations

WHMIS - Classifications of Substances:

- D1B - Poisonous and Infectious Material; Materials causing immediate and serious toxic effects - Toxic material
- D2A - Poisonous and Infectious Material; Materials causing other toxic effects - Very toxic material
- D2B - Poisonous and Infectious Material; Materials causing other toxic effects - Toxic material

METHYLENE CHLORIDE

SDS No.: M47008

SDS Revision Date: 30-Mar-2015

16. OTHER INFORMATION

Prepared by: OxyChem Corporate HESS - Product Stewardship

Rev. Date: 30-Mar-2015

HMIS: (SCALE 0-4) (Rated using National Paint & Coatings Association HMIS: Rating Instructions, 2nd Edition)

Health Rating: 2*

Flammability Rating: 1

Reactivity Rating: 0

NFPA 704 - Hazard Identification Ratings (SCALE 0-4)

Health Rating: 2

Flammability: 1

Reactivity Rating: 0

Reason for Revision:

- Changed the SDS format to meet the GHS requirements of the revised 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)
- Updated the (M)SDS header
- Updated 24 Hour Emergency Telephone Number: SEE SECTION 1
- Product Identifier has been added or updated: SEE SECTION 1
- Updated Uses Advised Against information: SEE SECTION 1
- Emergency Overview was revised: SEE SECTION 2
- Added GHS Information: SEE SECTION 2
- Added synonym(s): SEE SECTION 3
- Updated First Aid Measures: SEE SECTION 4
- Revised Accidental Release Measures: SEE SECTION 6
- Revised Handling and Storage Recommendations: SEE SECTION 7
- Revised Exposure Controls/Personal Protection information: SEE SECTION 8
- Updated Physical and Chemical Properties. SEE SECTION 9
- Stability and Reactivity recommendations: SEE SECTION 10
- Toxicological Information has been revised: SEE SECTION 11
- Updated Disposal Considerations. SEE SECTION 13
- Updated Transportation Information: SEE SECTION 14
- Regulatory Information Changes: SEE SECTION 15
- Revised Preparer Information: SEE SECTION 16
- Added SDS Revision Date: SEE SECTION 16
- Added Revision log: SEE SECTION 16
- Added "End of Safety Data Sheet" phrase

METHYLENE CHLORIDE

SDS No.: M47008

SDS Revision Date: 30-Mar-2015

IMPORTANT:

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OSHA Standard 29 CFR 1910.1200 requires that information be provided to employees regarding the hazards of chemicals by means of a hazard communication program including labeling, safety data sheets, training and access to written records. We request that you, and it is your legal duty to, make all information in this Safety Data Sheet available to your employees

End of Safety Data Sheet