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DICHLOROMETHANE- MATERIAL SAFETY DATA SHEET

TABLE OF CONTENTS:

1. [Chemical Product and Company Identification](#)
2. [Composition, Information on Ingredients](#)
3. [Hazards Identification](#)
4. [First Aid Measures](#)
5. [Fire Fighting Measures](#)
6. [Accidental Release Measures](#)
7. [Handling and Storage](#)
8. [Exposure Controls, Personal Protection](#)
9. [Physical and Chemical Properties](#)
10. [Stability and Reactivity](#)
11. [Toxicological Information](#)
12. [Ecological Information](#)
13. [Disposal Considerations](#)
14. [Transport Information](#)
15. [Regulatory Information](#)
16. [Other Information](#)

24 Hour EMERGENCY CONTACT

U.S- CHEMTREC 1-800-424-9300

CANADA- CANUTEC 613-996-6666

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

[Up to Table of Contents](#)

Matheson Tri-Gas, Inc.

The telephone numbers listed below are emergency numbers, please contact your local branch for routine inquiries.

USA

959 Route 46 East
Parsippany, New Jersey
07054-0624 USA
Phone: 973-257-1100

CANADA

530 Watson Street
Whitby, Ontario
L1N 5R9 Canada
Phone: 905-668-3570

SUBSTANCE: DICHLOROMETHANE

SYMBOL: CH₂Cl₂

TRADE NAMES/SYNONYMS:

METHANE, DICHLORO-; METHYLENE CHLORIDE; METHYLENE DICHLORIDE; METHANE DICHLORIDE; METHYLENE BICHLORIDE; DMC; MC; AEROTHE NE MM; NARKOTIL; SOLAESTHIN; SOLMETHINE; RCRA U080; STCC 4941132; UN 1593; CH₂CL₂; MAT14930; RTECS PA8050000

CHEMICAL FAMILY: halogenated, aliphatic

CREATION DATE: Jan 24 1989

REVISION DATE: Mar 16 1999

2. COMPOSITION, INFORMATION ON INGREDIENTS

[Up to Table of Contents](#)

[Contents](#)

COMPONENT: DICHLOROMETHANE

CAS NUMBER: 75-09-2

EC NUMBER (EINECS): 200-838-9

EC INDEX NUMBER: 602-004-00-3

PERCENTAGE: 100.0

3. HAZARDS IDENTIFICATION

[Up to Table of Contents](#)

NFPA RATINGS (SCALE 0-4): HEALTH=2 FIRE=1 REACTIVITY=0

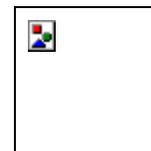
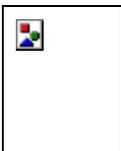
WHMIS CLASSIFICATION: D2

EC CLASSIFICATION (ASSIGNED):

Carcinogen Category 3

R 40

EC Classification may be inconsistent with independently-researched data.



EMERGENCY OVERVIEW:

Color: colorless

Physical Form: liquid

Odor: sweet odor

Major Health Hazards: respiratory tract irritation, skin irritation, eye irritation, blood damage, central nervous system depression, cancer hazard (in humans)

POTENTIAL HEALTH EFFECTS:

INHALATION:

Short Term Exposure: irritation, nausea, irregular heartbeat, headache, symptoms of drunkenness, suffocation, lung congestion, blood disorders

Long Term Exposure: chest pain, reproductive effects, effects on the brain, cancer

SKIN CONTACT:

Short Term Exposure: same as effects reported in other routes of exposure, irritation, tingling sensation

Long Term Exposure: same as effects reported in short term exposure

EYE CONTACT:

Short Term Exposure: irritation

Long Term Exposure: same as effects reported in short term exposure

INGESTION:

Short Term Exposure: symptoms of drunkenness, tingling sensation, suffocation, blood disorders, kidney damage, liver damage, convulsions

Long Term Exposure: no information on significant adverse effects

CARCINOGEN STATUS:

OSHA: Y

NTP: Y

IARC: Y

4. FIRST AID MEASURES

[Up to Table of Contents](#)

INHALATION:

Remove from exposure immediately. Use a bag valve mask or similar device to perform artificial respiration (rescue breathing) if needed. Get medical attention.

SKIN CONTACT:

Remove contaminated clothing, jewelry, and shoes immediately. Wash with soap or mild detergent and large amounts of water until no evidence of chemical remains (at least 15-20 minutes). Get medical attention, if needed.

EYE CONTACT:

Wash eyes immediately with large amounts of water or normal saline, occasionally lifting upper and lower lids, until no evidence of chemical remains. Get medical attention immediately.

INGESTION:

If vomiting occurs, keep head lower than hips to help prevent aspiration. Get medical attention, if needed.

NOTE TO PHYSICIAN:

For inhalation, consider oxygen. For ingestion, consider gastric lavage. Consider oxygen.

5. FIRE FIGHTING MEASURES

[Up to Table of Contents](#)

FIRE AND EXPLOSION HAZARDS:

Slight fire hazard.

EXTINGUISHING MEDIA:

carbon dioxide, regular dry chemical

Large fires: Use regular foam or flood with fine water spray.

FIRE FIGHTING:

Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. For tank, rail car or tank truck, evacuation radius: 800 meters (1/2 mile).

FLASH POINT:

No data available.

LOWER FLAMMABLE LIMIT:

13%

UPPER FLAMMABLE LIMIT:

23%

AUTOIGNITION:

1033 F (556 C)

HAZARDOUS COMBUSTION PRODUCTS:

Thermal decomposition products or combustion: halogenated compounds, oxides of carbon, phosgene

6. ACCIDENTAL RELEASE MEASURES

[Up to Table of Contents](#)

AIR RELEASE:

Reduce vapors with water spray.

SOIL RELEASE:

Dig holding area such as lagoon, pond or pit for containment. Dike for later disposal. Absorb with sand or other non-combustible material.

WATER RELEASE:

Trap spilled material at bottom in deep water pockets, excavated holding areas or within sand bag barriers. Remove trapped material with suction hoses. Subject to California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65). Keep out of water supplies and sewers.

OCCUPATIONAL RELEASE:

Avoid heat, flames, sparks and other sources of ignition. Stop leak if possible without personal risk. Small liquid spills: Absorb with sand or other non-combustible material. Large spills: Dike for later disposal. Remove sources of ignition. Keep unnecessary people away, isolate hazard area and deny entry. Reportable Quantity (RQ): Notify Local Emergency Planning Committee and State Emergency Response Commission for release greater than or equal to RQ (U.S. SARA Section 304). If release occurs in the U.S. and is reportable under CERCLA Section 103, notify the National Response Center at (800)424-8802 (USA) or (202)426-2675 (USA).

7. HANDLING AND STORAGE

[Up to Table of Contents](#)

Store and handle in accordance with all current regulations and standards. Protect from physical damage. Store in a cool, dry place. Store in a well-ventilated area. Avoid heat, flames, sparks and other sources of ignition. Store in a tightly closed container. Store under an inert atmosphere. Keep separated from incompatible substances.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

[Up to Table of Contents](#)

EXPOSURE LIMITS:

DICHLOROMETHANE:

DICHLOROMETHANE (METHYLENE CHLORIDE):

25 ppm OSHA TWA

125 ppm OSHA TWA 15 minute(s)

12.5 ppm OSHA action level

50 ppm (174 mg/m³) ACGIH TWA

VENTILATION: Provide local exhaust or process enclosure ventilation system. Ensure compliance with applicable exposure limits.

EYE PROTECTION: Wear splash resistant safety goggles with a faceshield. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

CLOTHING: Wear appropriate chemical resistant clothing.

GLOVES: Wear appropriate chemical resistant gloves. OSHA REGULATED SUBSTANCES:
U.S. OSHA 29 CFR 1910.1052.

RESPIRATOR: The following respirators and maximum use concentrations are drawn from NIOSH and/or OSHA.

625 ppm

Any supplied-air respirator operated in a continuous-flow mode.

1250 ppm

Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode.

Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.

5000 ppm

Any supplied-air respirator operated in a continuous-flow mode.

Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode.

Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.

For Unknown Concentrations or Immediately Dangerous to Life or Health -

Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.

Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply.

Escape -

Any appropriate escape-type, self-contained breathing apparatus with full facepiece operated in pressure-demand or other positive pressure mode.

Any air-purifying respirator with a full facepiece and an organic vapor canister.

For Unknown Concentrations or Immediately Dangerous to Life or Health -

Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply.

Any self-contained breathing apparatus with a full facepiece.

9. PHYSICAL AND CHEMICAL PROPERTIES

[Up to Table of Contents](#)

PHYSICAL STATE: liquid

APPEARANCE: clear

COLOR: colorless

ODOR: sweet odor

MOLECULAR WEIGHT: 84.93

MOLECULAR FORMULA: C-H₂-CL₂

BOILING POINT: 104 F (40 C)

FREEZING POINT: -139 F (-95 C)

VAPOR PRESSURE: 350 mmHg @ 20 C

VAPOR DENSITY (air=1): 2.9

SPECIFIC GRAVITY (water=1): 1.3266

WATER SOLUBILITY: 1.32% @ 20 C

PH: Not available

VOLATILITY: 100%

ODOR THRESHOLD: 25-50 ppm

EVAPORATION RATE: 27.5 (butyl acetate=1)

VISCOSITY: 0.441 cP @ 20 C

COEFFICIENT OF WATER/OIL DISTRIBUTION: Not available

SOLVENT SOLUBILITY:

Soluble: alcohol, ether, dimethylformamide, phenols, aldehydes, ketones, acetic acid, triethyl phosphate, acetoacetic acid, cyclohexylamine, chlorinated solvents

10. STABILITY AND REACTIVITY

[Up to Table of Contents](#)

REACTIVITY:

Stable at normal temperatures and pressure.

CONDITIONS TO AVOID:

Avoid heat, flames, sparks and other sources of ignition. Containers may rupture or explode if exposed to heat.

INCOMPATIBILITIES:

metals, bases, oxidizing materials, combustible materials

HAZARDOUS DECOMPOSITION:

Thermal decomposition products or combustion: halogenated compounds, oxides of carbon, phosgene

POLYMERIZATION:

Will not polymerize.

11. TOXICOLOGICAL INFORMATION

[Up to Table of Contents](#)

DICHLOROMETHANE:

IRRITATION DATA:

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:

52 gm/m3 inhalation-rat LC50; 1600 mg/kg oral-rat LD50

CARCINOGEN STATUS:

OSHA: Carcinogen; NTP: Anticipated Human Carcinogen; IARC: Human Inadequate Evidence, Animal Sufficient Evidence, Group 2B; ACGIH: A3 -Animal Carcinogen

LOCAL EFFECTS:

Irritant: inhalation, skin, eye

ACUTE TOXICITY LEVEL:

Moderately Toxic: inhalation, ingestion

TARGET ORGANS:

blood, central nervous system

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

blood system disorders, heart or cardiovascular disorders, kidney disorders, liver disorders, skin disorders and allergies

TUMORIGENIC DATA:

Available.

MUTAGENIC DATA:

Available.

REPRODUCTIVE EFFECTS DATA:

Available.

ADDITIONAL DATA:

Alcohol may enhance the toxic effects.

12. ECOLOGICAL INFORMATION

[Up to Table of Contents](#)

ECOTOXICITY DATA:

FISH TOXICITY:

193000 ug/L 96 hour(s) LC50 (Mortality) Fathead minnow (*Pimephales promelas*)

INVERTEBRATE TOXICITY:

1682000 ug/L 48 hour(s) EC50 (Immobilization) Water flea (*Daphnia magna*)

ALGAL TOXICITY:

>662000 ug/L 96 hour(s) EC50 (Photosynthesis) Diatom (*Skeletonema costatum*)

OTHER TOXICITY:

17780 ug/L 8 hour(s) EC50 (Teratogenesis) Bullfrog (*Rana catesbeiana*)

FATE AND TRANSPORT:

BIOCONCENTRATION:

112 ug/L 2.1 hour(s) BCF (Residue) Duckweed (*Lemna minor*) 60 ug/L

ENVIRONMENTAL SUMMARY:

Harmful to aquatic life.

13. DISPOSAL CONSIDERATIONS

[Up to Table of Contents](#)

Dispose in accordance with all applicable regulations. Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): U080.

14. TRANSPORT INFORMATION

[Up to Table of Contents](#)

U.S. DOT 49 CFR 172.101. SHIPPING NAME-UN NUMBER; HAZARD CLASS; PACKING GROUP; LABEL:

Dichloromethane-UN1593; 6.1; III; Keep away from food

15. REGULATORY INFORMATION

[Up to Table of Contents](#)

U.S. REGULATIONS:

TSCA INVENTORY STATUS: Y

TSCA 12(b) EXPORT NOTIFICATION: Not listed.

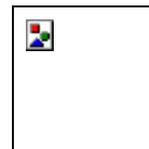
CERCLA SECTION 103 (40CFR302.4): Y

 Dichloromethane (Methylene chloride): 1000 LBS RQ

SARA SECTION 302 (40CFR355.30): N

SARA SECTION 304 (40CFR355.40): N

SARA SECTION 313 (40CFR372.65): Y



Dichloromethane (Methylene chloride)

SARA HAZARD CATEGORIES, SARA SECTIONS 311/312 (40CFR370.21):

ACUTE: Y

CHRONIC: Y

FIRE: N

REACTIVE: N

SUDDEN RELEASE: N

OSHA PROCESS SAFETY (29CFR1910.119): N

STATE REGULATIONS:

California Proposition 65: Y

Known to the state of California to cause the following:

Dichloromethane (Methylene chloride)

Cancer (Apr 01, 1988)

EUROPEAN REGULATIONS:

EC NUMBER (EINECS): 200-838-9

EC RISK AND SAFETY PHRASES:

R 40	Possible risks of irreversible effects.
S 2	Keep out of reach of children.
S 23	Do not breathe gas, fumes, vapour, or spray.
S 24/25	Avoid contact with skin and eyes.
S 36/37	Wear suitable protective clothing and gloves.

16. OTHER INFORMATION

[Up to Table of Contents](#)

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