

SAFETY DATA SHEET

Creation Date 27-Jan-2010

Revision Date 24-Dec-2021

Revision Number 8

1. Identification

| | |
|-----------------------------|---|
| Product Name | Methylene chloride |
| Cat No. : | D142-4; D142RS-19; D142RS-28; D142RS-50; D142RS-115; D142RS-200; D142SS-28; D142SS-50; D142SS-115; D142SS-200 |
| CAS No | 75-09-2 |
| Synonyms | Dichloromethane; DCM |
| Recommended Use | Laboratory chemicals. |
| Uses advised against | . This chemical/product is not and cannot be distributed in commerce (as defined in TSCA section 3(5)) or processed (as defined in TSCA section 3(13)) for consumer paint or coating removal. |

Details of the supplier of the safety data sheet

Company

Fisher Scientific Company
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Emergency Telephone Number CHEMTREC®, Inside the USA: 800-424-9300
CHEMTREC®, Outside the USA: 001-703-527-3887

2. Hazard(s) identification

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

| | |
|--|-------------|
| Skin Corrosion/Irritation | Category 2 |
| Serious Eye Damage/Eye Irritation | Category 2 |
| Carcinogenicity | Category 1B |
| Specific target organ toxicity (single exposure) | Category 3 |
| Target Organs - Central nervous system (CNS). | |
| Specific target organ toxicity - (repeated exposure) | Category 2 |
| Target Organs - Liver, Kidney, Blood. | |

Label Elements

Signal Word

Danger

Hazard Statements

Causes skin irritation

Causes serious eye irritation

May cause drowsiness or dizziness

May cause cancer

May cause damage to organs through prolonged or repeated exposure

**Precautionary Statements****Prevention**

Obtain special instructions before use

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

Use personal protective equipment as required

Wash face, hands and any exposed skin thoroughly after handling

Wear eye/face protection

Do not breathe dust/fume/gas/mist/vapors/spray

Use only outdoors or in a well-ventilated area

Response

IF exposed or concerned: Get medical attention/advice

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

Skin

IF ON SKIN: Wash with plenty of soap and water

If skin irritation occurs: Get medical advice/attention

Take off contaminated clothing and wash before reuse

Eyes

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

Storage

Store locked up

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

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)**Other hazards**

Contains a known or suspected endocrine disruptor.

WARNING. Cancer - <https://www.p65warnings.ca.gov/>.

3. Composition/Information on Ingredients

| Component | CAS No | Weight % |
|--------------------|---------|----------|
| Methylene chloride | 75-09-2 | >99.5 |

4. First-aid measures

General Advice

If symptoms persist, call a physician.

| | |
|--|--|
| Eye Contact | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention. |
| Skin Contact | Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician. |
| Inhalation | Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur. |
| Ingestion | Clean mouth with water and drink afterwards plenty of water. |
| Most important symptoms and effects | . Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting: Causes central nervous system depression: Continued or high exposures by inhalation will cause anaesthetic effects. This may result in a loss of consciousness and could prove fatal: Causes formation of carbon monoxide in the blood. Carbon monoxide may cause adverse effects on the cardiovascular system and the central nervous system |
| Notes to Physician | Treat symptomatically |

5. Fire-fighting measures

| | |
|---|---|
| Suitable Extinguishing Media | Water spray, carbon dioxide (CO ₂), dry chemical, alcohol-resistant foam. |
| Unsuitable Extinguishing Media | No information available |
| Flash Point | No information available |
| Method - | No information available |
| Autoignition Temperature | 556 °C / 1032.8 °F |
| Explosion Limits | |
| Upper | 23 vol % |
| Lower | 13 vol % |
| Sensitivity to Mechanical Impact | No information available |
| Sensitivity to Static Discharge | No information available |

Specific Hazards Arising from the Chemical

Thermal decomposition can lead to release of irritating gases and vapors. Keep product and empty container away from heat and sources of ignition.

Hazardous Combustion Products

Carbon monoxide (CO). Carbon dioxide (CO₂). Phosgene. Hydrogen chloride gas.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA

Health
2

Flammability
1

Instability
0

Physical hazards
N/A

6. Accidental release measures

| | |
|----------------------------------|---|
| Personal Precautions | Use personal protective equipment as required. Ensure adequate ventilation. |
| Environmental Precautions | Should not be released into the environment. |

Methods for Containment and Clean Up Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

7. Handling and storage

Handling Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Vapors are heavier than air and may spread along floors. Handle product only in closed system or provide appropriate exhaust ventilation. Reacts with aluminum and its alloys.

Storage. Keep containers tightly closed in a dry, cool and well-ventilated place. Do not store in aluminum containers. Incompatible Materials. Strong oxidizing agents. Strong acids. Amines.

8. Exposure controls / personal protection

Exposure Guidelines

| Component | ACGIH TLV | OSHA PEL | NIOSH IDLH | Mexico OEL (TWA) |
|--------------------|-------------|---|----------------|------------------|
| Methylene chloride | TWA: 50 ppm | (Vacated) TWA: 500 ppm (Vacated) STEL: 2000 ppm (Vacated) Ceiling: 1000 ppm TWA: 25 ppm STEL: 125 ppm | IDLH: 2300 ppm | TWA: 50 ppm |

Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH IDLH: NIOSH - National Institute for Occupational Safety and Health

Engineering Measures Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protective Equipment

Eye/face Protection 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 and body protection Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

| | |
|----------------------------------|--------------------------|
| Physical State | Liquid |
| Appearance | Colorless |
| Odor | sweet |
| Odor Threshold | No information available |
| pH | No information available |
| Melting Point/Range | -97 °C / -142.6 °F |
| Boiling Point/Range | 39 °C / 102.2 °F |
| Flash Point | No information available |
| Evaporation Rate | No information available |
| Flammability (solid,gas) | Not applicable |
| Flammability or explosive limits | |
| Upper | 23 vol % |
| Lower | 13 vol % |
| Vapor Pressure | 350 mbar @ 20°C |
| Vapor Density | 2.93 (Air = 1.0) |
| Specific Gravity | 1.33 |

| | |
|---|----------------------------------|
| Solubility | No information available |
| Partition coefficient; n-octanol/water | No data available |
| Autoignition Temperature | 556 °C / 1032.8 °F |
| Decomposition Temperature | No information available |
| Viscosity | 0.42 mPas @ 25°C |
| Molecular Formula | C H ₂ Cl ₂ |
| Molecular Weight | 84.93 |

10. Stability and reactivity

| | |
|---|--|
| Reactive Hazard | None known, based on information available |
| Stability | Stable under normal conditions. Decomposes on exposure to light. |
| Conditions to Avoid | Excess heat. Protect from direct sunlight. |
| Incompatible Materials | Strong oxidizing agents, Strong acids, Amines |
| Hazardous Decomposition Products | Carbon monoxide (CO), Carbon dioxide (CO ₂), Phosgene, Hydrogen chloride gas |
| Hazardous Polymerization | Hazardous polymerization does not occur. |
| Hazardous Reactions | Forms a detonable mixture with nitric acid. |

11. Toxicological information

Acute Toxicity

Product Information

Component Information

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|--------------------|----------------------|----------------------|--|
| Methylene chloride | > 2000 mg/kg (Rat) | > 2000 mg/kg (Rat) | 53 mg/L (Rat) 6 h 76000 mg/m ³ (Rat) 4 h |

Toxicologically Synergistic Products No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

| | |
|------------------------|--|
| Irritation | Irritating to eyes and skin |
| Sensitization | No information available |
| Carcinogenicity | The table below indicates whether each agency has listed any ingredient as a carcinogen. |

| Component | CAS No | IARC | NTP | ACGIH | OSHA | Mexico |
|--------------------|---------|----------|------------------------|-------|------|--------|
| Methylene chloride | 75-09-2 | Group 2A | Reasonably Anticipated | A3 | X | A3 |

IARC (International Agency for Research on Cancer)

IARC (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans

Group 2A - Probably Carcinogenic to Humans

Group 2B - Possibly Carcinogenic to Humans

NTP: (National Toxicity Program)

Known - Known Carcinogen

Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen

ACGIH: (American Conference of Governmental Industrial Hygienists)

A1 - Known Human Carcinogen

A2 - Suspected Human Carcinogen

A3 - Animal Carcinogen

ACGIH: (American Conference of Governmental Industrial Hygienists)

Mexico - Occupational Exposure Limits - Carcinogens

Mexico - Occupational Exposure Limits - Carcinogens

A1 - Confirmed Human Carcinogen

A2 - Suspected Human Carcinogen

A3 - Confirmed Animal Carcinogen

A4 - Not Classifiable as a Human Carcinogen

A5 - Not Suspected as a Human Carcinogen

| | |
|---|--|
| Mutagenic Effects | Mutagenic effects have occurred in microorganisms. |
| Reproductive Effects | No information available. |
| Developmental Effects | No information available. |
| Teratogenicity | No information available. |
| STOT - single exposure | Central nervous system (CNS) |
| STOT - repeated exposure | Liver Kidney Blood |
| Aspiration hazard | No information available |
| Symptoms / effects, both acute and delayed | Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting: Causes central nervous system depression: Continued or high exposures by inhalation will cause anaesthetic effects. This may result in a loss of consciousness and could prove fatal: Causes formation of carbon monoxide in the blood. Carbon monoxide may cause adverse effects on the cardiovascular system and the central nervous system |
| Endocrine Disruptor Information | No information available |
| Other Adverse Effects | Tumorigenic effects have been reported in experimental animals. |

12. Ecological information

Ecotoxicity

| Component | Freshwater Algae | Freshwater Fish | Microtox | Water Flea |
|--------------------|--------------------|---|---|--------------------|
| Methylene chloride | EC50:>660 mg/L/96h | Pimephales promelas: LC50:193 mg/L/96h | EC50: 1 mg/L/24 h EC50: 2.88 mg/L/15 min | EC50: 140 mg/L/48h |

Persistence and Degradability Persistence is unlikely based on information available.

Bioaccumulation/ Accumulation No information available.

Mobility Will likely be mobile in the environment due to its volatility.

| Component | log Pow |
|--------------------|---------|
| Methylene chloride | 1.25 |

13. Disposal considerations

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

| Component | RCRA - U Series Wastes | RCRA - P Series Wastes |
|------------------------------|------------------------|------------------------|
| Methylene chloride - 75-09-2 | U080 | - |

14. Transport information

DOT

| | |
|-----------------------------|-----------------|
| UN-No | UN1593 |
| Proper Shipping Name | DICHLOROMETHANE |
| Hazard Class | 6.1 |
| Packing Group | III |

TDG

| | |
|-----------------------------|-----------------|
| UN-No | UN1593 |
| Proper Shipping Name | DICHLOROMETHANE |
| Hazard Class | 6.1 |

| | |
|-----------------------------|-----------------|
| Packing Group | III |
| IATA | |
| UN-No | UN1593 |
| Proper Shipping Name | Dichloromethane |
| Hazard Class | 6.1 |
| Packing Group | III |
| IMDG/IMO | |
| UN-No | UN1593 |
| Proper Shipping Name | Dichloromethane |
| Hazard Class | 6.1 |
| Packing Group | III |

15. Regulatory information

United States of America Inventory

| Component | CAS No | TSCA | TSCA Inventory notification - Active-Inactive | TSCA - EPA Regulatory Flags |
|--------------------|---------|------|---|-----------------------------|
| Methylene chloride | 75-09-2 | X | ACTIVE | R |

Legend:

TSCA US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

'-' - Not Listed

R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.

Section 6(a) of the Toxic Substances Control Act (TSCA)

This chemical/product is not and cannot be distributed in commerce (as defined in TSCA section 3(5)) or processed (as defined in TSCA section 3(13)) for consumer paint or coating removal.

TSCA 12(b) - Notices of Export Not applicable

| Component | CAS No | TSCA 12(b) - Notices of Export |
|--------------------|---------|--------------------------------|
| Methylene chloride | 75-09-2 | Section 6 |

International Inventories

Canada (DSL/NDL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

| Component | CAS No | DSL | NDL | EINECS | PICCS | ENCS | ISHL | AICS | IECSC | KECL |
|--------------------|---------|-----|-----|-----------|-------|------|------|------|-------|----------|
| Methylene chloride | 75-09-2 | X | - | 200-838-9 | X | X | X | X | X | KE-23893 |

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

U.S. Federal Regulations

SARA 313

| Component | CAS No | Weight % | SARA 313 - Threshold Values % |
|--------------------|---------|----------|-------------------------------|
| Methylene chloride | 75-09-2 | >99.5 | 0.1 |

SARA 311/312 Hazard Categories See section 2 for more information

CWA (Clean Water Act)

| Component | CWA - Hazardous Substances | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants |
|--------------------|----------------------------|-----------------------------|------------------------|---------------------------|
| Methylene chloride | - | - | X | X |

Clean Air Act

| Component | HAPS Data | Class 1 Ozone Depletors | Class 2 Ozone Depletors |
|--------------------|-----------|-------------------------|-------------------------|
| Methylene chloride | X | | - |

OSHA - Occupational Safety and Health Administration

| Component | Specifically Regulated Chemicals | Highly Hazardous Chemicals |
|--------------------|---|----------------------------|
| Methylene chloride | 125 ppm STEL 12.5 ppm Action Level 25 ppm TWA | - |

CERCLA This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

| Component | Hazardous Substances RQs | CERCLA EHS RQs |
|--------------------|--------------------------|----------------|
| Methylene chloride | 1000 lb 1 lb | - |

California Proposition 65 This product contains the following Proposition 65 chemicals.

| Component | CAS No | California Prop. 65 | Prop 65 NSRL | Category |
|--------------------|---------|---------------------|-------------------------|------------|
| Methylene chloride | 75-09-2 | Carcinogen | 200 µg/day 50 µg/day | Carcinogen |

U.S. State Right-to-Know Regulations

| Component | Massachusetts | New Jersey | Pennsylvania | Illinois | Rhode Island |
|--------------------|---------------|------------|--------------|----------|--------------|
| Methylene chloride | X | X | X | X | X |

U.S. Department of Transportation

Reportable Quantity (RQ): Y
DOT Marine Pollutant N
DOT Severe Marine Pollutant N

U.S. Department of Homeland Security This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade No information available

Authorisation/Restrictions according to EU REACH

| Component | REACH (1907/2006) - Annex XIV - Substances Subject to Authorization | REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances | REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC) |
|--------------------|---|--|---|
| Methylene chloride | - | Use restricted. See item 59. (see link for restriction details) Use restricted. See item 75. (see link for restriction details) | - |

<https://echa.europa.eu/substances-restricted-under-reach>

Safety, health and environmental regulations/legislation specific for the substance or mixture

| Component | CAS No | OECD HPV | Persistent Organic Pollutant | Ozone Depletion Potential | Restriction of Hazardous Substances (RoHS) |
|--------------------|---------|----------|------------------------------|---------------------------|--|
| Methylene chloride | 75-09-2 | Listed | Not applicable | Not applicable | Not applicable |

| Component | CAS No | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements | Rotterdam Convention (PIC) | Basel Convention (Hazardous Waste) |
|-----------|--------|---|--|----------------------------|------------------------------------|
| | | | | | |

| | | | | | |
|--------------------|---------|----------------|----------------|----------------|---------------|
| Methylene chloride | 75-09-2 | Not applicable | Not applicable | Not applicable | Annex I - Y45 |
|--------------------|---------|----------------|----------------|----------------|---------------|

16. Other information

Prepared By Regulatory Affairs
Thermo Fisher Scientific
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Revision Summary This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of SDS