Methylene Chloride

SAFETY DATA SHEET

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier:

Trade name: Methylene Chloride
Substance name: dichloromethane
CAS No: 75-09-2
EC No: 200-838-9
REACH Registration No: -
Index No: 602-004-00-3

1.2 Relevant identified uses of the substance or mixture and uses advised against:

Relevant identified uses: Aerosol, Metal Cleaning Solvent, Urethane Foaming Solvent, Reaction solvent of polycarbonate.
Uses advised against: No data available.

1.3 Details of the supplier of the safety data sheet:

MANUFACTURER:

LOTTE FINE CHEMICALS CO., LTD.
Yeochen-ro NO. 217-GIL
Nam-Gu, Ulsan, Korea, Korea 44778
Tel: + 82 52 270 6633
Fax: + 82 52 270 6659

1.4 Emergency telephone number: +82 2 2255 0802

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture:

2.1.1 Classification according to Regulation (EC) No 1272/2008:

Carcinogenicity: Carc. 2, H351

2.1.1 Classification according to Directive 67/548/EEC:

Carcinogenic: Carc. Cat. 3; R40

2.1.3 Additional information: For full text of R-phrases and Hazard- and EU Hazard-statements: see SECTION 16.

2.2 Label elements:

Labelling according to Regulation (EC) No 1272/2008:

Hazard pictograms:

GHS08

Signal word: Warning.

Hazard statements:

H351 Suspected of causing cancer.

Precautionary statements:

P202 Do not handle until all safety precautions have been read and understood.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P308 + P313 IF exposed or concerned: Get medical advice/attention.
P405 Store locked up.

2.3 Other hazards: There is no additional information.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances: dichloromethane

Product identifier type in accordance with Article 18(2) of Regulation (EC) No 1272/2008	Identifier number	Identification name	Weight % content (or range)	EC Number
CAS number	75-09-2	dichloromethane	> 99.5	200-838-9

Impurities:

Substance name	EC/CAS No.	Registr. No.	Classification			Conc. (%)	Note
			67/548/EEC	CLP			
				Hazard Class and Category Code(s)	Hazard statement	Pictogram/ Signal word	
[1]trichloromethane chloroform	200-663-8/ 67- 66-3	-	Carcinogenic Carc. Cat. 3; R40 Toxic for reproduction Repr. Cat. 3; R63 Harmful Xn; R20/22-48/20 Irritant Xi; R36/38	Carcinogenicity Carc. 2 Reproductive toxicity Repr. 2 Acute toxicity Acute Tox. 3 Acute Tox. 4 Specific target organ toxicity - repeated exposure STOT RE. 1 Serious eye irritation Eye Irrit. 2 Skin irritation Skin Irrit. 2	H351 H361d H331 H302 H372 H319 H315	GHS06 GHS08 Dgr	< 1%	-
chloromethane; methyl chloride	200-817-4/ 74-87-3	-	Extremely flammable F+; R12 carcinogenic Carc. Cat. 3; R40 Harmful Xn; R48/20	Flammable gas Flam. Gas 1 Gases under pressure Press. Gas Carcinogenicity Carc. 2 Specific target organ toxicity - repeated exposure STOT Rep. 2	H220 H351 H373	GHS02 GHS04 GHS08 Dgr	< 1%	U

[1]Substance with workplace exposure limits.

Note U: When put on the market gases have to be classified as 'Gases under pressure', in one of the groups compressed gas, liquefied gas, refrigerated liquefied gas or dissolved gas. The group depends on the physical state in which the gas is packaged and therefore has to be assigned case by case.

For full text of H-statements and R-phrases: see SECTION 16.

3.2 Mixtures: Not relevant.

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures:

General notes

Get medical attention immediately!

Following inhalation

Move the exposed person to fresh air at once. If breathing stops, provide artificial respiration. Get medical attention immediately!

Following skin contact

Remove contaminated clothes and rinse skin thoroughly with water. Get medical attention if any discomfort continues.

Following eye contact

Make sure to remove any contact lenses from the eyes before rinsing. Continue to rinse for at least 15 minutes and get medical attention. Get medical attention immediately. Continue to rinse.

Following ingestion

Avoid vomiting and normal rinse of stomach because of risk of aspiration. Get medical attention immediately! Drink plenty of water. Give activated charcoal in slurry

4.2 Most important symptoms and effects, both acute and delayed: No data available.

4.3 Indication of any immediate medical attention and special treatment needed: No data available.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media:

Suitable extinguishing media: Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog.

Unsuitable extinguishing media: No data available.

5.2 Special hazards arising from the substance or mixture: Vapours are heavier than air and may spread near ground to sources of ignition. The product is non-combustible. If heated, corrosive and toxic vapours/gases may be formed.

5.3 Advice for firefighters: Avoid breathing fire vapours. NOTE! Use air-supplied respirators to protect against gases\fumes. Dike and collect extinguishing water. Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:

For non-emergency personnel: Wear protective clothing as described in Section 8 of this safety data sheet. Follow precautions for safe handling described in this safety data sheet.

For emergency responders: No data available

6.2 Environmental precautions: Do not discharge into drains, water courses or onto the ground.

6.3 Methods and material for containment and cleaning up: Collect with absorbent, non-combustible material into suitable containers. Containers with collected spillage must be properly labelled with correct contents and hazard symbol.

6.4 Reference to other sections: See Section 7 for information on safe handling. See Section 8 for information on personal protection equipment. See Section 13 for disposal information.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling: Avoid spilling, skin and eye contact. Keep away from heat, sparks and open flame. Risk of vapour concentration on the floor and in low-lying areas.

7.2 Conditions for safe storage, including any incompatibilities: Keep away from heat, sparks and open flame. Protect from light, including direct sunrays. Store in a cool place.

7.3 Specific end use(s): No data available.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters: Community workplace exposure limits were established for trichloromethane

Occupational exposure limit values listed in Commission Directive 2000/39/EC:

Einecs	CAS	Name of agent	Limit values				Notation[1)]
			8-hours (time-weighted average)		Short-term (15-minute period)		
			mg/m^3	ppm	mg/m^3	ppm	
200–663–8	67–66–3	trichloromethane	10	2	-	-	skin

1) A skin notation assigned to the occupational exposure limit value indicates the possibility of significant uptake through the skin.

Workplace exposure limit values (WEL):

CAS	Name of agent	Limit values			
		8-hours (time-weighted average)		Short-term (15-minute period)	
		mg/m^3	ppm	mg/m^3	ppm
67–66–3	trichloromethane	9.9	2	-	-
74-87-3	chloromethane;	105	50	210	100
75-09-2	dichloromethane	350	100	1060	300

8.2 Exposure controls

8.2.1 Appropriate engineering controls: Provide adequate ventilation. Observe Occupational Exposure Limits and minimise the risk of inhalation of vapours. Provide eyewash station and safety shower.

8.2.2 Individual protection measures, such as personal protective equipment: Wash contaminated clothing before reuse. Wash promptly if skin becomes contaminated. Promptly remove any clothing that becomes contaminated.

8.2.2.1 Eye/face protection: Wear approved safety goggles.

8.2.2.2 Skin protection

Hand protection: Protective gloves should be used if there is a risk of direct contact or splash. Viton rubber (fluor rubber).

Other: No data available.

8.2.2.3 Respiratory protection: Use respiratory equipment with gas filter, type AX.

8.2.2.4 Thermal hazards: No data available.

8.2.3 Environmental exposure controls: No data available.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

Appearance:	colourless liquid

Odour:	sweetish
Odour threshold:	not available
pH:	not available
Melting point/freezing point:	-95℃
Initial boiling point and boiling range:	40 ℃ at 760 mm Hg
Flash point:	not available
Evaporation rate:	1.9 (EtOH=1)
Flammability (solid, gas):	not available
Upper/lower flammability or explosive limits:	FLAMMABILITY LIMIT - LOWER(%) 13 FLAMMABILITY LIMIT - UPPER(%) 22
Vapour pressure :	47.5 kPa at 20℃
Vapour density:	2.93
Relative density:	1.33 at 20℃
Solubility(ies):	2 g/100g H_2O at 20℃
Partition coefficient: n-octanol/water:	1.25
Auto-ignition temperature:	190℃
Decomposition temperature:	not available
Viscosity:	not available
Explosive properties:	not available
Oxidising properties:	not available

9.2 Other information: No data available.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity: No data available.

10.2 Chemical stability: Stable under normal temperatures conditions and recommended use.

10.3 Possibility of hazardous reactions: Will not polymerise.

10.4 Conditions to avoid: Avoid exposure to high temperatures or direct sunlight.

10.5 Incompatible materials: Alkali metals. Strong acids. Organic - aromatic. Alkali earth metals. Powdered metal. Amides. Organic peroxides/hydroperoxides.

10.6 Hazardous decomposition products: Hydrogen chloride (HCl). Phosgene ($COCl_2$).

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects:

Substances:

Acute toxicity:

Oral: LD_{50} 1600 mg/kg (rat)

Inhal.: - LC_{50} 88 ppm/30 min (rat)

Skin corrosion/irritation: No data available.

Serious eye damage/irritation: No data available.

Respiratory or skin sensitisation: No data available.

Germ cell mutagenicity: No data available.

Carcinogenicity: Known or suspected carcinogen for humans.

Reproductive toxicity: No data available.

STOT-single exposure: No data available.

STOT-repeated exposure: No data available.

Aspiration hazard: No data available.

Information on likely routes of exposure: Inhalation. Skin and/or eye contact. Ingestion.

Symptoms related to the physical, chemical and toxicological characteristics:

INHALATION: Irritating to respiratory system.
INGESTION: Harmful if swallowed. May cause liver and/or renal damage.
SKIN CONTACT: Irritating to skin.
EYE CONTACT: Irritating to eyes.
OTHER HEALTH EFFECTS: Cancer Hazard.
TARGET ORGANS: Liver Kidneys
MEDICAL SYMPTOMS: Skin irritation. Upper respiratory irritation. Drowsiness, dizziness, disorientation, vertigo. Nausea, vomiting. Unconsciousness. Central nervous system depression.
MEDICAL CONSIDERATIONS: Convulsive disorders, CNS problems.
SPECIFIC EFFECTS: May cause damage to the liver and kidneys.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity: Avoid releasing to the environment.

FISH: LC_{50}, 96 Hrs = 193 mg/L

DAPHNIA: EC_{50}, 48 Hrs = 1682 mg/L

ALGAE: IC_{50}, 72 Hrs = 660 mg/L

12.2 Persistence and degradability: The product is easily biodegradable.

12.3 Bioaccumulative potential: The product does not contain any substances expected to be bioaccumulating.

12.4 Mobility in soil: No data available.

12.5 Results of PBT and vPvB assessment: No data available.

12.6 Other adverse effects: No data available.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods:

Waste to be treated as controlled waste. Disposal to licensed waste disposal site in accordance with local Waste Disposal Authority.

DISPOSAL METHODS: Incinerate in suitable combustion chamber.

SECTION 14: TRANSPORT INFORMATION

14.1 UN number: 1593

14.2 UN proper shipping name: DICHLOROMETHANE

14.3 Transport hazard class(es): 6.1

14.4 Packing group: III

14.5 Environmental hazards: No data.

14.6 Special precautions for user: EMS: F-A, S-A

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: Not applicable.

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture: The substance is not a subject of the authorisation under Title VII. The substance is subject of restrictions under Title VIII of Regulation (EC) No. 1907/2006: dichloromethane (CAS number: 75-09-2) is listed as Nr. 59 in Annex XVII to REACH Regulation.
The impurity trichloromethane (CAS number: 67- 66-3) is listed as Nr. 32 in Annex XVII to REACH Regulation.

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/;

Regulation (EC) No 1272/2008 of the European parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006;

COMMISSION REGULATION (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH);

COUNCIL DIRECTIVE of 27 June 1967 on the approximation of laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances (67/548/EEC).

15.2 Chemical safety assessment: Chemical safety assessment is not available.

SECTION 16: OTHER INFORMATION

List of relevant hazard statements:

H220 Extremely flammable gas.
H302 Harmful if swallowed.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H331 Toxic if inhaled.
H351 Suspected of causing cancer.
H361d Suspected of damaging the unborn child.
H372 Causes damage to organs through prolonged or repeated exposure.
H373 May cause damage to organs through prolonged or repeated exposure.

R12 Extremely flammable.
R20/22 Harmful by inhalation and if swallowed.
R36/38 Irritating to eyes and skin.
R40 Limited evidence of a carcinogenic effect.
R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.
R63 Possible risk of harm to the unborn child.

Instructions for the training: Product handling instruction shall be included into the educational system about the safety work (initial training, training at the workplace, repeated training) according to specific conditions at the workplace.

Recommended restrictions on use (i.e. non-statutory recommendations by supplier): Substance should not be used for any other purpose than for which is appointed (point 1.2). Because of the fact that specific conditions of use of substance are out of supplier's control, it is responsibility of the user to adjust the prescribed warnings to local laws and regulations. Safety information describes the product in terms of safety and it cannot be considered as technical information about product.

Sources of key data used to compile the Safety Data Sheet: SDS was elaborated according to requirements set in Annex II of Regulation (EC) No 1907/2006 of the European Parliament and of the Council. SDS was prepared using data from the producer.

Purpose of SDS: Purpose of this SDS is to provide relevant information for users of product to ensure proper handling and control of risks/hazards.