

**Safety data sheet
according to 1907/2006/EC**

Printing date 28.02.2013

Version Nr: 1

Revision: 12.02.2013

1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
- **Trade name** Methylene chloride
- **Article number:** 5732460040
- **CAS Number:**
75-09-2
- **EC number:**
200-838-9
- **Index number:**
602-004-00-3
- **Relevant identified uses of the substance or mixture and uses advised against** None.
- **Application of the substance / the preparation** Solvents
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
LIEFERANT:
Chemische Produkten Gesellschaft mbH
Ferdinandstraße 41
D-20095 Hamburg
Deutschland
- **Informing department:**
Dept. QSHE, Mr. P. Tentler, Phone: +49 2224981155; e-mail: sdb@biesterfeld.com
- **Emergency telephone number:**
GIZ-Nord, Göttingen, Germany
Member of EPECS Network
EMERGENCY NUMBER: +49 551 19240

2 Hazards identification

- **Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS08 health hazard

Carc. 2 H351 Suspected of causing cancer.
STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2 H319 Causes serious eye irritation.
STOT SE 3 H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



Xn; Harmful

R40: Limited evidence of a carcinogenic effect.



Xi; Irritant

R36/37/38: Irritating to eyes, respiratory system and skin.

R67: Vapours may cause drowsiness and dizziness.
Carc. Cat. 3

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· **Classification system:**

The classification is in line with current EU lists. It is expanded, however, by information from technical literature and by information furnished by supplier companies.

· **Label elements**

· **Labelling according to Regulation (EC) No 1272/2008**

The substance is classified and labelled according to the CLP regulation.

· **Hazard pictograms**



GHS07 GHS08

· **Signal word** Warning

· **Hazard statements**

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H351 Suspected of causing cancer.

H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

H373 May cause damage to organs through prolonged or repeated exposure.

· **Precautionary statements**

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P260 Do not breathe mist/vapours/spray.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P302+P352 IF ON SKIN: Wash with plenty of soap and water.

P308+P313 IF exposed or concerned: Get medical advice/attention.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Additional information:**

Restricted to professional users.

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

3 Composition/information on ingredients

· **Chemical characterization: Substances**

· **CAS No. Designation:**

75-09-2 dichloromethane; methylene chloride

· **Identification number(s):**

· **EC number:** 200-838-9

· **Index number:** 602-004-00-3

· **Impurities and stabilising additives:**

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CAS: 513-35-9

EINECS: 208-156-3

2-methylbut-2-ene (amylene)

Xn R22-40-68-65; Xi R38; F R11; N R51/53

R67

Flam. Liq. 2, H225; Muta. 2, H341; Carc. 2, H351; Asp. Tox. 1, H304;

Aquatic Chronic 2, H411; Acute Tox. 4, H302; Skin Irrit. 2, H315; STOT SE 3, H336

4 First aid measures

- **Description of first aid measures**

- **General information**

Personal protection for the First Aider.

Remove contaminated clothing.

If unconscious, place in recovery position and seek medical advice.

- **After inhalation**

Take affected persons into the open air and position comfortably

Supply fresh air. If required, provide artificial respiration. Keep patient warm.

Seek medical treatment in case of complaints.

- **After skin contact**

Wash off with plenty of water.

Or better;

Wash with water and soap and rinse thoroughly.

If skin irritation continues, consult a doctor.

After wide skin contact seek medical treatment.

- **After eye contact**

Use eye protection.

Rinse opened eye for several minutes under running water. Then consult Oculist.

- **After swallowing**

Rinse out mouth and then drink (two glasses at the most) water.

Do not induce vomiting.

Call for medical help.

Administer medicinal carbon

Turn a vomiting person on the side if lying on the back.

If vomiting occurs, the head should be kept low.

- **Information for doctor**

- **Most important symptoms and effects, both acute and delayed**

Irritations after contact with eyes, skin and mucous membrane.

After inhalation of gas, vapour or aerosol:

Irritating to respiratory tract.

Coughing

Breathing difficulty (dyspnea)

After swallowing:

Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

Gastric or intestinal trouble

Systemic effects:

Headache

Dizziness

Nausea

Vomiting

intoxicational stupor

Drop in blood pressure.

Unconsciousness

Narcosis

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- **Danger**
Irritation on eyes, skin and respiratory tract.
May be fatal if swallowed and enters airways. Danger of pulmonary oedema.
After inhalation:
Danger of impaired breathing.
Breath paralysis
After skin contact:
Degreasing effect on skin.
After resorbtion:
Danger of disturbed CNS.
Danger of system failure.
Danger of disturbed cardiac rhythm.
May cause liver and kidney damage.
- **Indication of any immediate medical attention and special treatment needed**
Elemental assistance.
Decontamination.
Treat symptomatically and supportively.

5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents**
The product is practically non-combustible.
Use fire fighting measures that suit the environment.
- **For safety reasons unsuitable extinguishing agents** Water with a full water jet.
- **Special hazards arising from the substance or mixture**
Formation of toxic and corrosive gases during heating or in case of fire.
Can be released in case of fire:
Carbon monoxide and carbon dioxide.
Hydrogen chloride (HCl)
Phosgene gas
- **Advice for firefighters**
- **Protective equipment:**
Wear self-contained breathing apparatus.
Wear full protective suit.
- **Additional information**
Collect contaminated fire fighting water separately. It must not enter drains.
Cool endangered containers with water spray jet.
Heating causes a rise in pressure, risk of bursting.
Container explosion may occur under fire conditions.
Damp down gases/fumes/haze with water spray jet.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Keep people at a distance and stay on the windward side.
Put on breathing apparatus.
Wear protective equipment. Keep unprotected persons away.
Keep away from sources of ignition.
Ensure adequate ventilation
Bring persons out of danger.
- **Environmental precautions:**
Do not allow to enter sewage systems, water bodies, groundwater or soil.
Inform respective authorities in case large quantities of the product reach water, sewage system or soil.

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- **Methods and material for containment and cleaning up:**
 Ensure adequate ventilation.
 Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders).
 Clean up affected area.
 May be recycled or disposed of in appropriate containers
 Dispose of contaminated material as waste according to item 13.
- **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 information on disposal.

7 Handling and storage

- **Handling**
- **Precautions for safe handling**
 Keep containers tightly closed.
 Prevent formation of aerosols.
 Ensure good ventilation/exhaustion at the workplace.
 Ensure good interior ventilation, especially at floor level. (Fumes are heavier than air).
- **Hygiene measures:**
 Keep away from foodstuffs, beverages and feedingstuff.
 Instantly remove any soiled and impregnated garments.
 Wash hands during breaks and at the end of the work.
 Do not inhale gases / fumes / aerosols.
 Avoid contact with the eyes and skin.
 Do not eat, drink or smoke while working.
- **Information about protection against explosions and fires:** The product is not flammable
- **Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and containers:**
 Store in cool location.
 Store in original container if possible.
 Provide floor trough without outlet.
 Provide solvent resistant, sealed floor.
 Prevent any penetration into the ground.
 Suitable material: Glass.
 Suitable material: High-grade steel.
 Suitable material: PTFE (Teflon).
 Unsuitable material: Aluminium.
 Unsuitable material: Steel.
 Unsuitable material: PVC.
 Unsuitable material: Polystyrene.
- **Information about storage in one common storage facility:**
 Store away from foodstuffs.
 Do not store together with materials/products which can form dangerous chemical reactions.
 See point 10: stability and reactivity.
- **Further information about storage conditions:**
 Store in cool, dry conditions in well closed containers.
 Protect from heat and direct sunlight.
 Store container in a well ventilated position.
 Protect from the effects of light.
 Store in a locked cabinet or with restricted to technical experts or their assistants.
- **Recommended storage temperature:** +5 °C - +25 °C

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- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

- **Components with critical values that require monitoring at the workplace:**

75-09-2 dichloromethane

WEL (Great Britain)	Short-term value: 1060 mg/m ³ , 300 ppm Long-term value: 350 mg/m ³ , 100 ppm BMGV, Sk
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- **DNELs**

75-09-2 dichloromethane

Oral	DNEL/long t.systemic	0,06 mg/kg bw/day (General population) ((ECHA))
Dermal	DNEL/acute-systemic	4750 mg/kg bw/day (Workers) (ECHA)
	DNEL/long t.systemic	2395 mg/kg bw/day (General population) (ECHA)
Inhalative	DNEL/acute-systemic	706 mg/m ³ (Workers) (ECHA)
		353 mg/m ³ (General population) (ECHA)
	DNEL/long t.systemic	353 mg/m ³ (Workers) (ECHA)
		88,3 mg/m ³ (General population) (ECHA)

- **PNECs**

75-09-2 dichloromethane

PNEC - Aquatic	0,194 mg/l (Marine water) (ECHA)
	0,54 mg/l (Freshwater) (ECHA)
	0,27 mg/l (intermittent releases) (ECHA)
PNEC - STP	26 mg/l (Sewage treatment plant) (ECHA)
PNEC - Sediment	1,61 mg/kg (Marine water) (ECHA)
	4,47 mg/kg (Freshwater) (ECHA)
PNEC - Soil	0,583 mg/kg soil dw (Soil) (ECHA)

- **Ingredients with biological limit values:**

75-09-2 dichloromethane

BMGV (Great Britain)	30 ppm Medium: end-tidal breath Sampling time: post shift Parameter: carbon monoxide
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- **Additional information:** The lists that were valid during the compilation were used as basis.

- **Exposure controls**
- **Personal protective equipment**
- **General protective measures:**

The usual precautionary measures should be adhered to in handling the chemicals.

- **Breathing equipment:**

If used in closed systems or well-ventilated area breathing protection is not necessary.
Required when vapours, aerosol or mist are generated.

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In case of brief exposure or low pollution use breathing filter apparatus. In case of intensive or longer exposure use breathing apparatus that is independent of circulating air.

Filter AX.

These filters may come only in the delivered state to the unique use.

• **Protection of hands:**



Chemical-protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Check protective gloves prior to each use for their proper condition.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Preventive skin protection by use of skin-protecting agents is recommended.

• **Material of gloves**

Splash contact:

eg Fluorocarbon rubber (Viton)

Recommended thickness of the material: $\geq 0,7$ mm

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

ASK THE MANUFACTURER FOR SUITABLE MATERIAL.

• **Penetration time of glove material**

Permeation time: >120 Min (2h) - <240 min (4h)

The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

• **Not suitable are gloves made of the following materials:**

Strong gloves

Leather gloves

eg Butyl rubber, BR

eg Chloroprene rubber, CR

eg Natural rubber, NR

eg Nitrile rubber, NBR

PVC gloves

• **Eye protection:**



Safety glasses with side protection.

Or better;

Gauze goggles

• **Body protection:**

Solvent resistant protective clothing.

Apron

Boots

or

Suitable chemical protection suit.

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier.

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9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

· Form:	Fluid
· Colour:	colourless
· Smell:	Sweetish
· Odour threshold:	24,9 - 611,7 ppm

· **pH-value:** Neutral

· Change in condition

· Melting point/Melting range:	~ -95 °C
· Boiling point/Boiling range:	~40 °C

· **Flash point:** Not applicable

· **Ignition temperature:** 605 °C

· **Decomposition temperature:** ~120 °C

· **Danger of explosion:** Product is not explosive. However, formation of explosive air/steam mixtures is possible.

· Critical values for explosion:

· Lower:	13 Vol %
· Upper:	22 Vol %

· **Vapour pressure at 20 °C:** ~475 hPa

· **Vapour pressure at 30 °C:** ~690 hPa

· **Vapour Density (air=1):** 2,93

· **Density at 20 °C** ~1,33 g/cm³

· **Evaporation rate** No data available

· Solubility in / Miscibility with

· **Water at 20 °C:** ~20 g/l

· **Partition coefficient (n-octanol/water):** 1,25 log POW

· Viscosity:

· **dynamic at 20 °C:** ~0,43 mPas

· **kinematic:** No data available

· Other information

No further relevant information available.

10 Stability and reactivity

· Reactivity

· Chemical stability

· Conditions to be avoided:

No decomposition if used and stored according to specifications.

To avoid thermal decomposition do not overheat.

Flames, sparks, electrostatic charges.

Light-sensitive.

· **Decomposition will begin at:** Decomposition at: ~120 °C

· Possibility of hazardous reactions

Explosive reactions with:

Reacts with alkaline metals.

Reacts with aluminium.

Reacts with nitrogen oxides (NO_x)

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Reacts with perchloric acid.

Reacts with nitric acid.

Reacts with aluminium chloride.

Reacts with amines.

Reacts with light light metals.

Exothermic reaction.

Reacts with powdered metals.

Reacts with alkaline earth metals.

- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:**
 - Poisonous gases/vapours
 - Corrosive gases/vapours
 - Inflammable gases/vapours
 - Can be released in case of surrounding fire:
 - Carbon monoxide (CO) and carbon dioxide (CO₂)
 - Hydrogen chloride.
 - Chlorine
 - Phosgen

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

75-09-2 dichloromethane

Oral	LD50	> 2000 mg/kg (rodent - rat) (OECD 401 (ECHA))
Dermal	LD50	> 2000 mg/kg (rodent - rat) (OECD 402 (ECHA))
Inhalative	LC50/7h	49 mg/l (mouse) (ECHA)

- **Primary irritant effect:**
- **on the skin:** Skin irritation test (rabbit): Irritations (OECD 404 (ECHA))
- **on the eye:** Eye irritation test (rabbit): Irritations (ECHA).
- **Sensitization:**
 - Sensitization test (mouse) - "local lymph node assay" (LLNA) : negative OECD 429 (ECHA)
- **Subacute to chronic toxicity:**
 - No impairment of reproductive performance in animal experiments. (OECD 416 (ECHA))
 - No teratogenic effect in animal experiments (OECD 414 (ECHA)).
 - Bacterial mutagenicity - Ames-Test: positive. (in vitro OECD 471 (ECHA))
 - Mutagenicity (mammal cell test): negative (in vitro (ECHA))
 - Mutagenicity (in vivo) : chromosome aberration negative. (OECD 474 (ECHA))
 - There is indication of cancerogene effects. (ECHA)
- **Additional toxicological information:**
 - Suspected of causing cancer.
 - Irritant
 - Further hazardous properties cannot be excluded.
 - The substance / product should be handled with the care usual when dealing with chemicals.
- **Acute effects (acute toxicity, irritation and corrosivity)**
 - May cause respiratory irritation.
 - May cause drowsiness or dizziness.
- **Repeated dose toxicity**
 - May cause damage to organs through prolonged or repeated exposure.

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75-09-2 dichloromethane

Oral	NOAEL chronic	6 mg/kg bw/day (rodent - rat) (OECD 453 (ECHA))
Inhalative	NOAEC chronic	200 ppm (rodent - rat) (OECD 453 (ECHA))

- **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**
Carc. 2

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:**

· **acute:****75-09-2 dichloromethane**

EC50 (static)	40 min. 2590 mg/l (BACTERIAL TOXICITY:(Activated sludge)) (OECD 209 (ECHA))
LC50 / 48h (static)	27 mg/l (DAPHNIA TOXICITY: (daphnia magna)) (EPA publication (660/3-75-009) (ECHA))
LC50 / 96h (dynamic)	193 mg/l (FISH TOXICITY: (pimephales promelas)) (ECHA)

· **chronic:****75-09-2 dichloromethane**

NOEC chronic (dynamic)	28d: 142 mg/l (FISH TOXICITY: (pimephales promelas)) (ASTM E729-80 (ECHA))
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· **Terrestrial toxicity:**· **acute:****75-09-2 dichloromethane**

Dermal	LC50 Terrestrial acute	48h: 0,304 mg/cm ² (Earthworm / Eisenia sp.) (ECHA)
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· **Persistence and degradability**

not readily biodegradable

The product is degradable after prolonged adaptation

· **Method**· **Analysing method** (OECD 301C) MITI-Test· **Degree of elimination:**

28d: 5 - 26%

5-26%/28d

· **Behaviour in environmental systems:**· **Bioaccumulative potential**

Due to the distribution coefficient n-octanol/water a worth-mentioning accumulation in organisms is not expected [log P(o/w) 1-4].

· **Mobility in soil**

log Koc: 1,0

Mobility of the substance in soil is expected.

· **Additional ecological information:**· **General notes:**

Do not allow product to reach ground water, water bodies, sewage system or soil.

Drinking water endangering by the penetration of bigger amounts in subsoil and water bodies possible!

· **Results of PBT and vPvB assessment**· **PBT:** Not applicable.· **vPvB:** Not applicable.· **Other adverse effects** No further relevant information available.

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13 Disposal considerations

- **Waste treatment methods**

- **Recommendation**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Disposal must be made according to official regulations.

- **European waste catalogue**

A waste code in accordance with the European Waste Catalogue (EWC) may not be assigned to this product since it admits of a classification only when the consumer uses it for some purpose. In agreement with the waste code must be determined regional waste disposal authority or company.

- **Uncleaned packagings:**

- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- **UN-Number**

- **ADR, IMDG, IATA**

UN1593

- **UN proper shipping name**

- **ADR**

1593 DICHLOROMETHANE

- **IMDG, IATA**

DICHLOROMETHANE

- **Transport hazard class(es)**

- **ADR**



- **Class**

6.1 (T1) Toxic substances.

- **Label**

6.1

- **IMDG, IATA**



- **Class**

6.1 Toxic substances.

- **Label**

6.1

- **Packing group**

- **ADR, IMDG, IATA**

III

- **Environmental hazards:**

- **Marine pollutant:**

No

- **Special precautions for user**

Warning: Toxic substances.

- **Kemler Number:**

60

- **EMS Number:**

F-A,S-A

- **Segregation groups**

Liquid halogenated hydrocarbons

- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

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· **Transport/Additional information:**

· **ADR**

· Limited quantities (LQ)	5L
· Transport category	2
· Tunnel restriction code	E

· **UN "Model Regulation":** UN1593, DICHLOROMETHANE, 6.1, III

15 Regulatory information

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

These statements solely describe the safety demands of the product and base according to the best of our belief on our today's knowledge. They, however, do not represent any assurance towards properties of the product within the sense of liability, resp. guaranty regulations and thus are given without any obligation.

· **Department issuing data specification sheet:** Dept. QSHE

· **Contact:** Mr. Dr. Hollitzer, Fon: +49 4032008284; mailto: sdb@biesterfeld.com

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

Lit.: Literatur

· **Sources**

Information of distributor.

European chemical Substances Information System

<http://esis.jrc.ec.europa.eu/>

ECHA Information on Registered Substances.

<http://apps.echa.europa.eu/registered/registered-sub.aspxsearch>

ECHA Classification and Labelling

echa.europa.eu/de/view-article/-/journal_content/07005f81-abf1-4081-973b-6c7c526c39df

GESTIS - Substance Database

<http://gestis.itrust.de>

MSDS of different manufacturers.

Chemikalienmanager, KCL-Software für den Handschutz

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