

Safety data sheet

Methyl chloroformate

Revision date : 2009/01/06
Version: 2.0

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(30037055/MDS_GEN_CA/EN)

1. Substance/preparation and company identification

Company

BASF CANADA
100 Milverton Drive
Mississauga, ON L5R 4H1, CANADA

24 Hour Emergency Response Information

CANUTEC (reverse charges): (613) 996-6666
BASF HOTLINE: (800) 454-COPE (2673)

Molecular formula:

C2 H3 O2 Cl

Chemical family:

chloroformates

Synonyms:

Carbonochloridic Acid, Methyl Ester

2. Hazardous ingredients

CAS Number

79-22-1

Content (W/W)

60.0 - 100.0 %

Hazardous ingredients

methyl chloroformate

3. Hazard identification

Emergency overview

FLAMMABLE. CORROSIVE. TOXIC. Corrosive to the skin, eyes and respiratory system.
Toxic by inhalation, in contact with skin and if swallowed.

Potential health effects

Acute toxicity:

Of high toxicity after single ingestion.

Irritation:

Corrosive! Damages skin and eyes. May cause severe damage to the eyes. May be irritating to the airways.

Potential environmental effects

Aquatic toxicity:

Acutely toxic for aquatic organisms.

The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

Terrestrial toxicity:

No data available concerning terrestrial toxicity.

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4. First-aid measures

General advice:

Immediately remove contaminated clothing. If danger of loss of consciousness, place patient in recovery position and transport accordingly. Apply artificial respiration if necessary. First aid personnel should pay attention to their own safety.

If inhaled:

Keep patient calm, remove to fresh air. Assist in breathing if necessary. Consult a physician. Immediately inhale corticosteroid dose aerosol.

If on skin:

Wash affected areas thoroughly with soap and water. Remove contaminated clothing. If irritation develops, seek medical attention.

If in eyes:

In case of contact with the eyes, rinse immediately for at least 15 minutes with plenty of water. Immediate medical attention required.

If swallowed:

Rinse mouth and then drink plenty of water. Do not induce vomiting. Immediate medical attention required.

Note to physician

Symptoms:	Overexposure may cause:., dyspnea, coughing
Hazards:	Risk of pulmonary edema. Risk of respiratory arrest. Symptoms can appear later. These risks can occur also at lower concentrations.
Treatment:	Treat according to symptoms (decontamination, vital functions), no known specific antidote, administer corticosteroid dose aerosol to prevent pulmonary odema. Administer corticosteroids (e.g. Prednisolon) in case of toxic lung oedema. Assist breathing with a ventilator bag or ventilator. If necessary, give oxygen. Medical monitoring for at least 24-48 hours.

5. Fire-fighting measures

Flash point:	4.5 °C	(DIN 51755)
Autoignition:	485 °C	(DIN 51794)
Lower explosion limit:	7.8 %(V)	
Upper explosion limit:	23.3 %(V)	
Flammability:	Highly flammable.	
Self-ignition temperature:	504 °C	

not self-igniting

Suitable extinguishing media:

dry extinguishing media, alcohol-resistant foam, water spray

Additional information:

The product is sparingly soluble in water and is only covered.

Hazards during fire-fighting:

Hydrogen chloride, carbonyl chloride,
The substances/groups of substances mentioned can be released in case of fire.

Protective equipment for fire-fighting:

Wear self-contained breathing apparatus and chemical-protective clothing.

Further information:

Fire debris must be disposed of in accordance with official regulations.

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6. Accidental release measures

Personal precautions:

Breathing protection required. Avoid contact with the skin, eyes and clothing. Keep people away and stay on the upwind side.

Environmental precautions:

Discharge into the environment must be avoided.

Cleanup:

For small amounts: Pick up with suitable appliance and dispose of.

For large amounts: Pick up with suitable appliance and dispose of.

Further information:

The product is irritating to eyes even at low concentrations in the air.

7. Handling and storage

Handling**General advice:**

Ensure thorough ventilation of stores and work areas. Breathing must be protected when large quantities are decanted without local exhaust ventilation. Protect against moisture. Use only in enclosed systems.

Protection against fire and explosion:

Keep away from sources of ignition - No smoking.

Storage**General advice:**

Keep container dry. Protect against heat. Protect against moisture. Storage at a proportionate temperature is required, to avoid 'breathing' of containers.

Storage incompatibility:

General: Segregate from alkalies and alkalizing substances.

Storage stability:

Storage duration: 6 Months

8. Exposure controls and personal protection

Components with workplace control parameters

carbonyl chloride	OSHA	PEL 0.1 ppm 0.4 mg/m ³ ;
	ACGIH	TWA value 0.1 ppm ;

Personal protective equipment**Respiratory protection:**

Wear a NIOSH-certified (or equivalent) supplied-air respirator.

Hand protection:

Chemical resistant protective gloves

Eye protection:

Tightly fitting safety goggles (splash goggles) (e.g. EN 166)

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Body protection:

Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).

General safety and hygiene measures:

Avoid inhalation of vapours/mists. Wash soiled clothing immediately.

9. Physical and chemical properties

Form:	liquid	
Odour:	pungent odour	
Odour threshold:	No data available.	
Colour:	colourless to yellowish	
pH value:		not soluble
Melting point:	-61 °C	
Boiling point:	71 - 72 °C	
Vapour pressure:	138 hPa	(20 °C)
	486 hPa	(50 °C)
Density:	1.237 g/cm ³	(15 °C)
Relative density:	1.223	(20 °C) Literature data.
Viscosity, dynamic:	0.48 mPa.s	(20 °C)
Solubility in water:		of low solubility

10. Stability and reactivity

Hazardous reactions:

On contact with water, gaseous decomposition products are formed, which cause build-up of pressure in tightly closed containers.

Exothermic reaction. Reacts with water. Reacts with alkalis. Reacts with amines. Reacts with amine-containing products.

Decomposition products:

Hazardous decomposition products: Hydrogen chloride

11. Toxicological information

Acute toxicity

Oral:

LD50/rat: 25 - 200 mg/kg (OECD Guideline 423)

Inhalation:

LC50/rat: 0.19 - 0.21 mg/l / 4 h(OECD Guideline 403)

rat: / 3 min(BASF-Test)

Mortality within the stated exposition time as shown in animal studies.

Dermal:

LD50/rat: 894 mg/kg (BASF-Test)

Skin irritation:

rabbit: Corrosive. (OECD Guideline 404)

eye irritation :

rabbit: Risk of serious damage to eyes. (BASF-Test)

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Chronic toxicity

Genetic toxicity:

The substance was not mutagenic in bacteria.

Other information:

development of pulmonary edema

12. Ecological information

Environmental fate and transport

Stability in water:

Test method: OECD Guideline 111 (Hydrolysis in water)
pH7
Half-life: 8.6 min (25 °C)
In contact with water the substance will hydrolyse rapidly.

Biodegradation:

Test method: , municipal sewage treatment plant effl.
Method of analysis: BOD of the ThOD
Degree of elimination: 76 % (5 d)
Evaluation: Readily biodegradable (according to OECD criteria).
The product has not been tested. The statement has been derived from the properties of the hydrolysis products.
Literature data.

Bioaccumulation:

Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is not to be expected.
The product has not been tested. The statement has been derived from the properties of the hydrolysis products.

Environmental toxicity

Acute and prolonged toxicity to fish:

DIN 38412 Part 15 golden orfe/LC50 (96 h): 4.53 mg/l
The product may hydrolyse. The test result maybe partially due to degradation products. The product has low solubility in the test medium. An aqueous dispersion has been tested. The details of the toxic effect relate to the nominal concentration.

Acute toxicity to aquatic invertebrates:

DIN 38412 Part 11 static
Daphnia magna/EC50 (48 h): > 10,000 mg/l
Literature data. Nominal concentration. The product has not been tested. The statement has been derived from the properties of the hydrolysis products.

Toxicity to aquatic plants:

Growth Inhibition Test green algae/Toxic limit concentration (192 h): 8,000 mg/l
Literature data. Nominal concentration. The product has not been tested. The statement has been derived from the properties of the hydrolysis products.
Growth Inhibition Test green algae/EC50 (10 d): 28,440 mg/l
The product has not been tested. The statement has been derived from the properties of the hydrolysis products. Literature data.

Toxicity to microorganisms:

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OECD Guideline 209 activated sludge, domestic/EC20 (0.5 h): > 1,000 mg/l
Nominal concentration. The product may hydrolyse. The test result maybe partially due to degradation products.

13. Disposal considerations

Waste disposal of substance:

Incinerate in suitable incineration plant, observing local authority regulations.

Container disposal:

Contaminated packaging should be emptied as far as possible; then it can be passed on for recycling after being thoroughly cleaned.

14. Transport information

Land transport

TDG

Hazard class: 6.1
Packing group: I
ID number: UN 1238
Hazard label: 6.1, 3, 8
Proper shipping name: METHYL CHLOROFORMATE

Sea transport

IMDG

Hazard class: 6.1
Packing group: I
ID number: UN 1238
Hazard label: 6.1, 3, 8
Marine pollutant: NO
Proper shipping name: METHYL CHLOROFORMATE

Air transport

IATA/ICAO

Hazard class: 6.1
Packing group: I
ID number: UN 1238
Hazard label: 6.1, 3, 8
Proper shipping name: METHYL CHLOROFORMATE

15. Regulatory information

Federal Regulations

Registration status:

DSL, CA released / listed

WHMIS classification: D1A: Materials Causing Immediate and Serious Toxic Effects - Very toxic material



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B2: Flammable Liquid



E: Corrosive material



THIS PRODUCT HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CPR AND THE MSDS CONTAINS ALL THE INFORMATION REQUIRED BY THE CPR.

16. Other information

Local contact information
BASF Canada Product Safety
prod_reg@basf.com

END OF DATA SHEET