



Material Safety Data Sheet
Methyl chloroformate

Section 1 - Chemical Product and Company Identification

MSDS Name: Methyl chloroformate
Catalog Numbers: 12653-0000, 12653-0050, 12653-1000, 12653-5000
Synonyms: Methyl chlorocarbonate
Company Identification: Acros Organics BVBA
Janssen Pharmaceuticaaan 3a
2440 Geel, Belgium
Company Identification: (USA) Acros Organics
One Reagent Lane
Fair Lawn, NJ 07410
For information in the US, call: 800-ACROS-01
For information in Europe, call: +32 14 57 52 11
Emergency Number, Europe: +32 14 57 52 99
Emergency Number US: 201-796-7100
CHEMTREC Phone Number, US: 800-424-9300
CHEMTREC Phone Number, Europe: 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS# Chemical Name: % EINECS#
79-22-1 Methyl chloroformate 99% 201-187-3

Hazard Symbols: T+ F



Risk Phrases: 11 21/22 26 34

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Highly flammable. Harmful in contact with skin and if swallowed. Very toxic by inhalation. Causes burns.

Potential Health Effects

Eye: Causes eye burns. Lachrymator (substance which increases the flow of tears).
Skin: Harmful if absorbed through the skin. Causes skin burns. Causes redness and pain.
Ingestion: Harmful if swallowed. Causes gastrointestinal tract burns. May cause severe digestive tract irritation with abdominal pain, nausea, vomiting and diarrhea.
Inhalation: Causes chemical burns to the respiratory tract. Toxic if inhaled. May cause burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting.

Chronic:

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.
Skin: Get medical aid immediately. Immediately flush skin with plenty of water

- Ingestion:** for at least 15 minutes while removing contaminated clothing and shoes. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.
- Inhalation:** Get medical aid immediately. Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Notes to Physician:

Section 5 - Fire Fighting Measures

- General Information:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Will burn if involved in a fire. Flammable liquid and vapor.
- Extinguishing Media:** Do NOT use water directly on fire. Use foam, dry chemical, or carbon dioxide.

Section 6 - Accidental Release Measures

- General Information:** Use proper personal protective equipment as indicated in Section 8.
- Spills/Leaks:** Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Clean up spills immediately, observing precautions in the Protective Equipment section. Remove all sources of ignition. Use a spark-proof tool.

Section 7 - Handling and Storage

- Handling:** Use spark-proof tools and explosion proof equipment. Do not breathe dust, vapor, mist, or gas. Do not get in eyes, on skin, or on clothing. Use only in a chemical fume hood.
- Storage:** Keep away from sources of ignition. Store in a tightly closed container. Store in a dry area. Refrigerator/flammables.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Exposure Limits

CAS# 79-22-1:

Personal Protective Equipment

- Eyes:** 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:** Wear appropriate protective gloves to prevent skin exposure.
- Clothing:** Wear appropriate protective clothing to prevent skin exposure.
- Respirators:** 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.

Section 9 - Physical and Chemical Properties

- Physical State:** Clear liquid
- Color:** colorless
- Odor:** sharp odor
- pH:** Not available

Vapor Pressure: 137mbar @20 deg C
Viscosity: 0.48 mPa.s @20 deg C
Boiling Point: 70 - 72 deg C @760mmHg
Freezing/Melting Point: -61 deg C (-77.80°F)
Autoignition Temperature: 485 deg C (905.00 deg F)
Flash Point: 5 deg C (41.00 deg F)
Explosion Limits: Lower: 7.8 Vol %
Explosion Limits: Upper: 23.3 Vol %
Decomposition Temperature:
Solubility in water: Hydrolysis.
Specific Gravity/Density: 1.223
Molecular Formula: C2H3ClO2
Molecular Weight: 94.5

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures. Moisture sensitive.
Conditions to Avoid: Incompatible materials, exposure to moist air or water.
Incompatibilities with Other Materials: Metals, strong oxidizing agents, acids, strong bases, alcohols, amines.
Hazardous Decomposition Products: Hydrogen chloride, phosgene, carbon monoxide, carbon dioxide.
Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#: CAS# 79-22-1: FG3675000
LD50/LC50: RTECS:
CAS# 79-22-1: Inhalation, mouse: LC50 = 185 mg/m³/2H;
 Inhalation, rat: LC50 = 88 ppm/1H;
 Oral, mouse: LD50 = 67 mg/kg;
 Oral, rat: LD50 = 60 mg/kg;
 Skin, rabbit: LD50 = 7120 mg/kg;

Carcinogenicity: Methyl chloroformate - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

Other: See actual entry in RTECS for complete information. Mutagenicity: Ames-test: negative.

Section 12 - Ecological Information

Ecotoxicity: Fish: Leuciscus idus: LC50: 4.53 mg/l; 96H; acute

Other: Do not empty into drains. Biodegradable.

Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 - Transport Information

| | IATA | IMO | RID/ADR |
|-----------------------|------------------------------------------------------------------------|----------------------|----------------------|
| Shipping Name: | METHYL CHLOROFORMATE (forbidden to ship via passenger or cargo air) | METHYL CHLOROFORMATE | METHYL CHLOROFORMATE |
| Hazard Class: | 6.1 (3) | 6.1 (3) | 6.1 (3) |
| UN Number: | 1238 | 1238 | 1238 |
| Packing Group: | | I | I |

USA Toxic Inhalation Hazard

USA RQ: CAS# 79-22-1: 1000 lb final RQ; 454 kg final RQ

Section 15 - Regulatory Information

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: T+ F

Risk Phrases:

R 11 Highly flammable.

R 21/22 Harmful in contact with skin and if swallowed.

R 26 Very toxic by inhalation.

R 34 Causes burns.

Safety Phrases:

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 28A After contact with skin, wash immediately with plenty of water.

S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S 46 If swallowed, seek medical advice immediately and show this container or label.

WGK (Water Danger/Protection)

CAS# 79-22-1: 2

Canada

CAS# 79-22-1 is listed on Canada's DSL List

US Federal

TSCA

CAS# 79-22-1 is listed on the TSCA Inventory.

Section 16 - Other Information

MSDS Creation Date: 7/16/1996

Revision #3 Date 5/31/2005

Revisions were made in Sections: General revision.

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