

# SAFETY DATA SHEETS

According to the UN GHS revision 9

Version: 1.0  
Creation Date: July 15, 2019  
Revision Date: July 15, 2019

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## SECTION 1: Identification

### 1.1 GHS Product identifier

**Product name** Methyl chloroacetate

### 1.2 Other means of identification

**Product number** -  
**Other names** Acetic acid, chloro-, methyl ester; methyl 2-chloroacetate

### 1.3 Recommended use of the chemical and restrictions on use

**Identified uses** Industrial and scientific research use.  
**Uses advised against** no data available

### 1.4 Supplier's details

**Company** Shanghai Yansheng Internet Technology Co., Ltd  
**Address** 513, A3 / F, green space future center, Fengxian District, Shanghai, 201400, China  
**Telephone** +86-4000-6969-66

### 1.5 Emergency phone number

**Emergency phone number** +86-4000-6969-66  
**Service hours** Monday to Friday, 9am-5pm (Standard time zone: UTC/GMT +8 hours).

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## SECTION 2: Hazard identification

### 2.1 Classification of the substance or mixture

Flammable liquids, Category 3  
Acute toxicity - Category 3, Oral  
Skin irritation, Category 2  
Serious eye damage, Category 1  
Acute toxicity - Category 3, Inhalation  
Specific target organ toxicity – single exposure, Category 3

### 2.2 GHS label elements, including precautionary statements

**Pictogram(s)**



**Signal word** Danger  
**Hazard statement(s)** H226 Flammable liquid and vapour  
H301 Toxic if swallowed  
H315 Causes skin irritation  
H318 Causes serious eye damage

H331 Toxic if inhaled  
H335 May cause respiratory irritation

**Precautionary statement(s)**

**Prevention**

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P233 Keep container tightly closed.  
P240 Ground and bond container and receiving equipment.  
P241 Use explosion-proof [electrical/ventilating/lighting/...] equipment.  
P242 Use non-sparking tools.  
P243 Take action to prevent static discharges.  
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...  
P264 Wash ... thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P271 Use only outdoors or in a well-ventilated area.

**Response**

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse affected areas with water [or shower].  
P370+P378 In case of fire: Use ... to extinguish.  
P301+P316 IF SWALLOWED: Get emergency medical help immediately.  
P321 Specific treatment (see ... on this label).  
P330 Rinse mouth.  
P302+P352 IF ON SKIN: Wash with plenty of water/...  
P332+P317 If skin irritation occurs: Get medical help.  
P362+P364 Take off contaminated clothing and wash it before reuse.  
P305+P354+P338 IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P317 Get medical help.  
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P316 Get emergency medical help immediately.  
P319 Get medical help if you feel unwell.

**Storage**

P403+P235 Store in a well-ventilated place. Keep cool.  
P405 Store locked up.  
P403+P233 Store in a well-ventilated place. Keep container tightly closed.

**Disposal**

P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

**2.3 Other hazards which do not result in classification**

no data available

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**SECTION 3: Composition/information on ingredients**

**3.1 Substances**

Chemical name	Common names and synonyms	CAS number	EC number	Concentration
Methyl chloroacetate	Methyl chloroacetate	96-34-4	202-501-1	100%

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**SECTION 4: First-aid measures**

**4.1 Description of necessary first-aid measures**

**If inhaled**

Fresh air, rest. Refer for medical attention.

**Following skin contact**

Remove contaminated clothes. Rinse and then wash skin with water and soap. Refer for medical attention .

#### **Following eye contact**

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

#### **Following ingestion**

Rinse mouth. Do NOT induce vomiting. Refer for medical attention .

### **4.2 Most important symptoms/effects, acute and delayed**

Extremely corrosive to the eyes, skin, nose, throat, and upper respiratory tract. Inhalation may be fatal as a result of spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema. Symptoms of exposure include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. (USCG, 1999)

### **4.3 Indication of immediate medical attention and special treatment needed, if necessary**

Basic treatment: Establish a patent airway. Suction if necessary. Watch for signs of respiratory insufficiency and assist ventilations if necessary. Administer oxygen by nonrebreather mask at 10 to 15 L/min. Monitor for pulmonary edema and treat if necessary . Monitor for shock and treat if necessary . For eye contamination, flush eyes immediately with water. Irrigate each eye continuously with normal saline during transport . Do not use emetics. For ingestion, rinse mouth and administer 5 ml/kg up to 200 ml of water for dilution if the patient can swallow, has a strong gag reflex, and does not drool. Administer activated charcoal . Esters and related compounds

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## **SECTION 5: Fire-fighting measures**

### **5.1 Suitable extinguishing media**

Excerpt from ERG Guide 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. CAUTION: For Acetyl chloride (UN1717), use CO2 or dry chemical only. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium-expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2016)

### **5.2 Specific hazards arising from the chemical**

Special Hazards of Combustion Products: Toxic fumes of hydrogen chloride (USCG, 1999)

### **5.3 Special protective actions for fire-fighters**

Use water spray, dry powder, alcohol-resistant foam, carbon dioxide. In case of fire: keep drums, etc., cool by spraying with water.

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## **SECTION 6: Accidental release measures**

### **6.1 Personal precautions, protective equipment and emergency procedures**

Remove all ignition sources. Personal protection: chemical protection suit including self-contained breathing apparatus. Collect leaking and spilled liquid in covered plastic containers as far as possible. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations. Collect leaking liquid in covered plastic containers.

### **6.2 Environmental precautions**

Remove all ignition sources. Personal protection: chemical protection suit including self-contained breathing apparatus. Collect leaking and spilled liquid in covered plastic containers as far as possible. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations. Collect leaking liquid in covered plastic containers.

### **6.3 Methods and materials for containment and cleaning up**

Collect and arrange disposal. Keep the chemical in suitable and closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

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## **SECTION 7: Handling and storage**

### **7.1 Precautions for safe handling**

NO open flames, NO sparks and NO smoking. Above 57°C use a closed system, ventilation and explosion-proof electrical equipment. Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

### **7.2 Conditions for safe storage, including any incompatibilities**

Fireproof. Separated from food and feedstuffs and incompatible materials. See Chemical Dangers.

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## **SECTION 8: Exposure controls/personal protection**

### **8.1 Control parameters**

#### **Occupational Exposure limit values**

MAK: 4.5 mg/m<sup>3</sup>, 1 ppm; peak limitation category: I(1); skin absorption (H); sensitization of skin (SH); pregnancy risk group: C

#### **Biological limit values**

no data available

### **8.2 Appropriate engineering controls**

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

### **8.3 Individual protection measures, such as personal protective equipment (PPE)**

#### **Eye/face protection**

Wear face shield or eye protection in combination with breathing protection.

#### **Skin protection**

Protective gloves. Protective clothing.

#### **Respiratory protection**

Use ventilation, local exhaust or breathing protection.

#### **Thermal hazards**

no data available

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## **SECTION 9: Physical and chemical properties and safety characteristics**

<b>Physical state</b>	Liquid.
<b>Colour</b>	Colourless.
<b>Odour</b>	Sweet pungent odor

<b>Melting point/freezing point</b>	-32.1 °C.
<b>Boiling point or initial boiling point and boiling range</b>	129.5 °C. Atm. press.:101 325 Pa.
<b>Flammability</b>	Flammable. Gives off irritating or toxic fumes (or gases) in a fire.
<b>Lower and upper explosion limit/flammability limit</b>	LOWER FLAMMABLE LIMIT: 7.5% BY VOLUME; UPPER FLAMMABLE LIMIT: 18.5% BY VOLUME
<b>Flash point</b>	53 °C. Atm. press.:101.3 kPa.
<b>Auto-ignition temperature</b>	480 °C. Atm. press.:101 kPa.
<b>Decomposition temperature</b>	no data available
<b>pH</b>	no data available
<b>Kinematic viscosity</b>	dynamic viscosity (in mPa s) = 1.23. Temperature:20°C.
<b>Solubility</b>	Miscible with alcohol and ether
<b>Partition coefficient n-octanol/water</b>	log Pow = 0.63.
<b>Vapour pressure</b>	7.63 mm Hg. Temperature:25 °C.
<b>Density and/or relative density</b>	1.24 g/cm <sup>3</sup> . Temperature:20 °C.
<b>Relative vapour density</b>	3.8 (vs air)
<b>Particle characteristics</b>	no data available

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Decomposes on burning. This produces corrosive fumes including hydrogen chloride. Reacts with reducing agents and oxidants.

### 10.2 Chemical stability

Decomposes when dissolved in water srp: giving monochloroacetic acid and methanol

### 10.3 Possibility of hazardous reactions

Flammable when exposed to heat or flame ...The vapour is heavier than air.METHYL CHLOROACETATE is a halogenated ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.

### 10.4 Conditions to avoid

no data available

### 10.5 Incompatible materials

Can react vigorously with oxidizing materials.

### 10.6 Hazardous decomposition products

When heated to decomposition it emits toxic fumes of /hydrogen chloride/.

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## SECTION 11: Toxicological information

### Acute toxicity

- Oral: LD50 - rat (female) - 107 mg/kg bw.
- Inhalation: LC50 - rat (male/female) - 210 - 315 ppm.
- Dermal: LD50 - rat (female) - 136.6 mg/kg bw.

### Skin corrosion/irritation

no data available

**Serious eye damage/irritation**

no data available

**Respiratory or skin sensitization**

no data available

**Germ cell mutagenicity**

no data available

**Carcinogenicity**

no data available

**Reproductive toxicity**

no data available

**STOT-single exposure**

The substance is corrosive to the skin. The substance is severely irritating to the eyes. The substance is irritating to the respiratory tract.

**STOT-repeated exposure**

no data available

**Aspiration hazard**

A harmful contamination of the air can be reached rather quickly on evaporation of this substance at 20°C.

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## **SECTION 12: Ecological information**

### **12.1 Toxicity**

- Toxicity to fish: LC50 - Danio rerio (previous name: Brachydanio rerio) - 1.13 mg/L - 96 h.
- Toxicity to daphnia and other aquatic invertebrates: EC50 - 1.42 mg/L - 48 h.
- Toxicity to algae: EC50 - 18.33 mg/L - 48 h.
- Toxicity to microorganisms: EC50 - anaerobic bacteria from a domestic water treatment plant - 350 mg/L - 24 h.

### **12.2 Persistence and degradability**

Methyl chloroacetate, present at 30 mg/l, reached 32-75% of its theoretical BOD in 4 weeks using an activated sludge inoculum at www mg/l and the Japanese MITI test(1); it was hydrolyzed to methanol and monochloroacetic acid(1).

### **12.3 Bioaccumulative potential**

An estimated BCF of 3 was calculated for methyl chloroacetate(SRC), using an estimated log Kow of 0.63(1,SRC) and a regression-derived equation(2). According to a classification scheme(3), this BCF suggests the potential for bioconcentration in aquatic organisms is low.

### **12.4 Mobility in soil**

Using a structure estimation method based on molecular connectivity indices(1), the Koc for methyl chloroacetate can be estimated to be 6(SRC). According to a classification scheme(2), this estimated Koc value suggests that methyl chloroacetate is expected to have very high mobility in soil.

### **12.5 Other adverse effects**

no data available

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## **SECTION 13: Disposal considerations**

## 13.1 Disposal methods

### Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

### Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

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## SECTION 14: Transport information

### 14.1 UN Number

ADR/RID: UN2295 (For reference only, please check.)      IMDG: UN2295 (For reference only, please check.)      IATA: UN2295 (For reference only, please check.)

### 14.2 UN Proper Shipping Name

ADR/RID: METHYL CHLOROACETATE (For reference only, please check.)      IMDG: METHYL CHLOROACETATE (For reference only, please check.)      IATA: METHYL CHLOROACETATE (For reference only, please check.)

### 14.3 Transport hazard class(es)

ADR/RID: 6.1 (For reference only, please check.)      IMDG: 6.1 (For reference only, please check.)      IATA: 6.1 (For reference only, please check.)

### 14.4 Packing group, if applicable

ADR/RID: I (For reference only, please check.)      IMDG: I (For reference only, please check.)      IATA: I (For reference only, please check.)

### 14.5 Environmental hazards

ADR/RID: No      IMDG: No      IATA: No

### 14.6 Special precautions for user

no data available

### 14.7 Transport in bulk according to IMO instruments

no data available

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## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations specific for the product in question

Chemical name	Common names and synonyms	CAS number	EC number
Methyl chloroacetate	Methyl chloroacetate	96-34-4	202-501-1
European Inventory of Existing Commercial Chemical Substances (EINECS)			Listed.
EC Inventory			Listed.
United States Toxic Substances Control Act (TSCA) Inventory			Listed.
China Catalog of Hazardous chemicals 2015			Listed.
New Zealand Inventory of Chemicals (NZIoC)			Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)			Listed.
Vietnam National Chemical Inventory			Listed.

Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)	Listed.
Korea Existing Chemicals List (KECL)	Listed.

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## SECTION 16: Other information

### Information on revision

**Creation Date** July 15, 2019

**Revision Date** July 15, 2019

### Abbreviations and acronyms

- CAS: Chemical Abstracts Service
- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- RID: Regulation concerning the International Carriage of Dangerous Goods by Rail
- IMDG: International Maritime Dangerous Goods
- IATA: International Air Transportation Association
- TWA: Time Weighted Average
- STEL: Short term exposure limit
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%
- EC50: Effective Concentration 50%

### References

- IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>
- HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>
- IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>
- eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: [http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)
- CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>
- ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>
- ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>
- Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>
- ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

**Any questions regarding this SDS, Please send your inquiry to [sds@xixisys.com](mailto:sds@xixisys.com)**

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