

Chemical Safety Data Sheet MSDS / SDS

Propyl chloroformate

Revision Date:2026-05-31 Revision Number:1

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

Product identifier

Product name : Propyl chloroformate
CBnumber : CB9852781
CAS : 109-61-5
EINECS Number : 203-687-7
Synonyms : propyl carbonochloridate, Propyl chloroformate

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

Relevant identified uses : For R&D use only. Not for medicinal, household or other use.
Uses advised against : none

Company Identification

Company : Chemicalbook
Address : Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing
Telephone : 010-86108875

SECTION 2: Hazards identification

GHS Label elements, including precautionary statements

Symbol(GHS)



Signal word

Danger

Precautionary statements

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

Continuerinsing.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off Immediately all contaminated clothing. Rinse SKIN with water/shower.

P301+P312 IF SWALLOWED: call a POISON CENTER or doctor/physician IF you feel unwell.

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

P210 Keep away from heat/sparks/open flames/hot surfaces. — No smoking.

Hazard statements

H225 Highly Flammable liquid and vapour

H302 Harmful if swallowed

H314 Causes severe skin burns and eye damage

SECTION 3: Composition/information on ingredients

Substance

Product name	: Propyl chloroformate
Synonyms	: propyl carbonochloridate, Propyl chloroformate
CAS	: 109-61-5
EC number	: 203-687-7
MF	: C4H7ClO2
MW	: 122.55

SECTION 4: First aid measures

If inhaled

Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/ physician.

In case of skin contact

Take off all contaminated clothing immediately. If on skin, rinse well with water. Call a POISON CENTER or doctor/ physician.

In case of eye contact

Rinse with plenty of water. If easy to do, remove contact lens, if worn. Immediately call a POISON CENTER or doctor/ physician.

If swallowed

Immediately call a POISON CENTER or doctor/ physician. Rinse mouth. Do NOT induce vomiting.

Most important symptoms and effects, both acute and delayed

None known.

SECTION 5: Firefighting measures

Suitable extinguishing media

Dry powder, Dry sand, Carbon dioxide (CO₂)

Unsuitable extinguishing media

Water

Specific hazards during fire fighting

No information available.

Specific extinguishing methods

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Immediately evacuate personnel to

safe areas. Remove undamaged containers from fire area if it is safe to do so.

Special protective equipment for fire-fighters

Use personal protective equipment.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Wear suitable protective equipment. Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Entry to non-involved personnel should be controlled around the leakage area by roping off, etc.

Environmental precautions

Prevent product from entering drains.

Methods and materials for containment and cleaning up

Collect as much of the spill as possible with a suitable absorbent material.

SECTION 7: Handling and storage

Handling

Technical measures

Prevent generation of vapor or mist. Take precautionary measures against static discharge. Use explosion-proof equipment.

Local/Total ventilation

Ensure adequate ventilation. Handle product only in closed system or provide appropriate exhaust ventilation at machinery. Use a local exhaust ventilation.

Advice on safe handling

Avoid contact with skin, eyes and clothing. Wear personal protective equipment. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not subject to grinding, shock or friction. Wash hands and face thoroughly after handling. Open drum carefully as content may be under pressure.

Avoidance of contact

Oxidizing agents, Acids, Strong bases, water, Amines

Storage

Conditions for safe storage

Keep container tightly closed. Store in a refrigerator. Keep in a well-ventilated place. Use explosion-proof equipment. Protect from moisture. Keep under inert gas. Store locked up.

SECTION 8: Exposure controls/personal protection

Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

Engineering measures

Install a closed system or local exhaust.

Also install safety shower and eye bath.

Personal protective equipment

Respiratory protection

Gas mask

Self-contained breathing apparatus

Eye/face protection

Safety glasses

Safety goggles

Face-shield

Skin and body protection

Impervious protective clothing

Hand protection

Impervious gloves *Use personal protective equipment(PPE) approved under appropriate government standards and follow local and national regulations.

SECTION 9: Physical and chemical properties

Information on basic physicochemical properties

liquid

Color

colorless - yellow

Odor

No data available

Odor Threshold

No data available

pH

No data available

Melting point/freezing point

No data available

Boiling point/boiling range

115 °C

Flash point

28 °C

Evaporation rate

No data available

Flammability

No data available

Upper explosion limit / Upper flammability limit

No data available

Lower explosion limit / Lower flammability limit

No data available

Vapor pressure

2.7 kPa (25 °C)

Relative vapor density

4.2

Relative density

1.09

Solubility(ies)

benzene: miscible(lit.)

Water solubility

insoluble

Solubility in other solvents

completely miscible Solvent: Ether completely miscible Solvent: Benzene completely miscible Solvent: Chloroform

Partition coefficient: n-octanol/water

No data available

Autoignition temperature

No data available

Decomposition temperature

No data available

Viscosity**Viscosity, dynamic**

No data available

Viscosity, kinematic

No data available

Molecular weight

122.55 g/mol

Physical state

Oil

Dielectric constant

11.2 (20°C)

SECTION 10: Stability and reactivity**Reactivity**

No data available

Chemical stability

Stable under normal conditions.

Possibility of hazardous reactions

Decomposes in contact with water and liberates toxic gases.

Conditions to avoid

Heat. Electrical spark Open flame Electrostatic discharge Exposure to moisture.

Incompatible materials

Oxidizing agents, Acids, Strong bases, water, Amines

Hazardous decomposition products

Carbon monoxide, Carbon dioxide (CO₂), Hydrogen chloride gas

SECTION 11: Toxicological information**Acute toxicity****Product****Acute oral toxicity**

Assessment: The component/mixture is moderately toxic after single ingestion.

Acute inhalation toxicity

Assessment: The component/mixture is highly toxic after short term inhalation.

Components**Propyl Chloroformate**

Acute oral toxicity

LD50 (Mouse): 650 mg/kg Assessment: The component/mixture is moderately toxic after single ingestion.

Acute inhalation toxicity

LC50 (Mouse): 319 ppm Exposure time: 1 h Test atmosphere: gas Assessment: The component/mixture is highly toxic after short term inhalation.

Acute dermal toxicity

LD50 (Mouse): > 10 mg/kg Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation

Product

Result

Causes burns.

Components

Propyl Chloroformate

Result

Causes burns.

Serious eye damage/eye irritation

Product

Result

Irreversible effects on the eye

Components

Propyl Chloroformate

Result

Irreversible effects on the eye

Respiratory or skin sensitization

Classified based on available data. For more details, see section 2.

Germ cell mutagenicity

Classified based on available data. For more details, see section 2.

Carcinogenicity

Classified based on available data. For more details, see section 2.

Reproductive toxicity

Classified based on available data. For more details, see section 2.

STOT-single exposure**Product****Target Organs**

Respiratory system

Assessment

May cause damage to organs.

Components**Propyl Chloroformate****Target Organs**

Respiratory system

Assessment

May cause damage to organs.

STOT-repeated exposure

Classified based on available data. For more details, see section 2.

Repeated dose toxicity

Classified based on available data. For more details, see section 2.

Aspiration toxicity

Classified based on available data. For more details, see section 2.

RTECS No.

LQ6830000 (Propyl Chloroformate)

SECTION 12: Ecological information**Ecotoxicity**

No data available

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13: Disposal considerations

Disposal methods

Waste from residues

Disposal in accordance with local and national regulations. Take precautions against ignition or explode. Entrust disposal to a licensed waste disposal company.

Contaminated packaging

Disposal in accordance with local and national regulations. Before disposal of used container, remove contents completely.

SECTION 14: Transport information

International Regulations

IATA-DGR

Not permitted for transport

IMDG-Code

UN number

UN 2740

Proper shipping name

n-PROPYL CHLOROFORMATE

Class

6.1

Subsidiary risk

3, 8

Packing group

I

EmS Code

F-E, S-C

Domestic regulation

GB 6944/12268

UN number

UN 2740

Proper shipping name

N-PROPYL CHLOROFORMATE

Class

6.1

Subsidiary risk

3, 8

Packing group

I

SECTION 15: Regulatory information

Regulations on Safety Management of Hazardous Chemicals

Catalogue of Hazardous Chemicals

Listed

The ingredients of this product are reported in the following inventories

CH BAGREG

On the inventory, or in compliance with the inventory

TSCA

All substances listed as active on the TSCA inventory

AICS

Not in compliance with the inventory

DSL

None of the components of this product are on the Canadian DSL, but all are on the NDSL

Propyl Chloroformate

ENCS

On the inventory, or in compliance with the inventory

ISHL

On the inventory, or in compliance with the inventory

KECI

On the inventory, or in compliance with the inventory

PICCS

On the inventory, or in compliance with the inventory

IECSC

On the inventory, or in compliance with the inventory

NZIoC

Not in compliance with the inventory

SECTION 16: Other information

Abbreviations and acronyms

CAS: Chemical Abstracts Service

TWA: Time-Weighted Average

STEL: Short-Term Exposure Limit

LD50: Lethal Dose 50%

LC50: Lethal Concentration 50%

EC50: Effective Concentration 50%

PEL: Permissible Exposure Limit

TLV: Threshold Limit Value

IMDG: International Maritime Dangerous Goods Code

IATA: International Air Transport Association

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

DOT: US Department of Transportation

NFPA: National Fire Protection Association

NIOSH: National Institute for Occupational Safety and Health

OSHA: Occupational Safety and Health Administration

Disclaimer:

The information in this MSDS is only applicable to the specified product, unless otherwise specified, it is not applicable to the mixture of this product and other substances. This MSDS only provides information on the safety of the product for those who have received the appropriate professional training for the user of the product. Users of this MSDS must make independent judgments on the applicability of this SDS. The authors of this MSDS will not be held responsible for any harm caused by the use of this MSDS.