VALSYNTHESE

Material Safety Data Sheet
according to Regulation (EC) No. 1907/2006

ISOPROPYL CHLOROFORMATE

Revision date	26.05.2025
Version	1
Replaces version from	-

1. Identification of the substance/Mixture and of the company/undertaking

1.1 Product identifier

Product name	Isopropyl Chloroformate
CAS-No.	108-23-6
EC-No.	203-563-2

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

Identified uses	Organic synthesis intermediate for industrial use.

1.3 Details of the supplier of the safety data sheet

Name	Valsynthese SA
Factory address	Valsynthese SA Fabrikstrasse 48 PO Box 636 3900 Brig / Switzerland
Office address	Valsynthese SA Societe Suisse des Explosifs Group PO Box 636 3900 Brig / Switzerland
Information Departement	This number is available only during office hours. Phone +41 27 922 71 11 E-Mail (Responsible person): msds@sse-group.com
1.4 Emergency Phone Number	+41 27 922 71 11 (only during office hours) or Toxicological Information Centre in Switzerland: Tel. 145 or +41 (0) 44 251 51 51

2. Hazards Identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Flammable liquids, (Category 2), H225
Acute toxicity, oral (Category 4(, H302
Skin corrosion/irritation (Category 1B), H314
Acute toxicity, inhalation (Category 2), H330

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Hazard pictogram(s)

Signal word	Warning
Hazard statement(s)	
H225	Highly flammable liquid and vapour.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H330	Fatal if inhaled.
Precautionary statement(s)	
P202	Do not handle until all safety precautions have been read and understood.
P220	Keep away from clothing and other combustible materials.
P280	IF exposed or concerned: Get medical advice/attention.
P308+P313	Wear protective gloves/protective clothing/eye protection/face protection.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313	If eye irritation persists: Get medical advice/attention.
Supplemental Hazard Statements	none

2.3 Other hazards

The substance has no other known specific hazards for human or environment.
The substance does not meet the PBT or vPvB criteria according to Annex XIII of Regulation 1907/2006/EC.
Endocrine disrupting property: Not an endocrine disruptor.

3. Composition / Information on ingredients

3.1 Substance

Product name	Isopropyl Chloroformate
Molecular formula	$C_4H_7ClO_2$
Molecular weight	122.5 g/mol
CAS-No.	108-23-6
EC-No.	203-563-2

Hazardous ingredients according to Regulation (EC) No 1272/2008

Component	Classification	Concentration
Isopropyl Chloroformate		
CAS-No. 108-23-6 EC-No. 203-563-2	Flam. Liq. 2, Acute Tox. 4, Skin. Corr. 1B, Acute Tox. 2, H225, H302, H314, H330	<=100%

For the full text of the H-Statements and R-Phrases mentioned in this Section, see Section 16.

4. First-aid measures

4.1 Description of first aid measures

General advice	Consult a physician. Show this safety data sheet to the doctor in attendance.
If swallowed	Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
If inhaled	If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
In case of skin contact	Wash off with soap and plenty of water. Consult a physician.
In case of eye contact	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.

4.3 Indication of any immediate medical attention and special treatment needed

General information to the physician: Life threating poisoning can happen; pulmonary oedema may occur.
Treatment: General, symptomatic treatment required.

5. Fire fighting measures

5.1 Extinguishing media

Suitable extinguishing media	Carbon dioxide, dry powder, foam, in case of smaller fires sand and earth can be used.
Unsuitable extinguishing media	Do not use water jet.

5.2 Special hazards arising from the substance or mixture

Carbon dioxide
Hydrogen chloride

5.3 Advice for fire fighters

In the event of fire, wear self-contained breathing apparatus.

5.4 Additional information

Prevent fire extinguishing water from contaminating surface water or the ground water system.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and material for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

6.4 Reference to other sections

For further and detailed information see section 8 and 13.

7. Handling and storage

7.1 Precautions for safe handling

Observe conventional hygiene precautions.
Avoid contact with skin, eyes and clothing.
Do not eat, drink and smoke in the workplace.
The contaminated clothes should be removed immediately and should be cleaned before re-use.
After the handling of the product and before breaks or before eating wash your hands, after the work hours thorough washing (showering) is required.

Technical measures
Ensure adequate ventilation (general ventilation and local suction).

Precautions against fire and explosion
The use/handling of the product must be far from heat and ignition sources, avoid the sparkling and use of open flame.
Use spark and explosion proof equipment/tools during the handling.

7.2 Conditions for safe storage, including any incompatibilities

Storage condition
Keep in original, closed and appropriately labelled container.
Store in dry place.
Protect from moisture and heat.

Storage temperature: ≤ 0 °C.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

8. Exposure controls / Personal protection

8.1 Control parameters

Ingredients with workplace control parameters
Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Personal protective equipment

Eye/face protection	Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles.
Skin protection	Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.
Body Protection	Flame retardant antistatic protective clothing.
Respiratory protection	Recommended Filter type: Filter ABEK (acc. to DIN 3181) for vapours of organic compounds. The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.
Environmental exposure controls	Do not let product enter drains.

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	liquid
Color	colourless
Odor	No data available
pH value	No data available
Melting point/freezing point	-80 °C (101.3 kPa)
Initial boiling point and boiling range	103-105 °C
Flash point	15.6 °C (101.3 kPa)
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Upper/lower flammability or explosive limits	4 vol.% / 15 vol.%
Vapour pressure	36 x 102 Pa (20 °C) 63 x 102 Pa (57 °C)
Density	1.074 g/cm3 (20 °C) / 1.076 -1.078 (20 °C)
Relative density	No data available
Water solubility	In water: 12.59 g/l (25 °C, pH: 6-8) The product decomposes when exposed to water. Soluble in common organic solvents (e.g. ether, benzene).
Partition coefficient: n-octanol/water	log Pow = 1.79 (20 °C)
Auto-ignition temperature	535 °C (101.3 kPa)
Decomposition temperature	No data available
Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: No data available
Particle characteristics	No data available
Explosive properties	No data available
Oxidizing properties	No data available

9.2 Other information

No data available

10. Stability and reactivity

10.1 Reactivity

Not stable under normal conditions.

10.2 Chemical stability

Thermally unstable. Unstable at room temperature.

10.3 Possibility of hazardous reactions

Reacts violently with water.

10.4 Conditions to avoid

Contact with water. Do not store above 0°C.

10.5 Incompatible materials

Water, alkalis, acids, metals, amines, alcohols, oxidising agents.

10.6 Hazardous decomposition products

In the event of fire: see section 5

11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity	LD50 (oral, rat): 468.3-632.4 mg/kg bw LD50 (oral, rat): ca. 544.2 mg/kg bw LD50 (dermal, rabbit): 11300 mg/kg bw LC50 (inhalative, rat): 299 ppm/1h
Skin corrosion/irritation	No data available
Serious eye damage/eye irritation	No data available
Eye damage/irritation	No data available
Respiratory or skin sensitisation	No data available
Germ cell mutagenicity	No data available
Carcinogenicity	No data available
Reproductive toxicity	No data available
STOT-single exposure	No data available
STOT-repeated exposure	No data available
Aspiration hazard	No data available

11.2 Additional information

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

12. Ecological information

12.1 Toxicity

Based on available data, the classification criteria are not met.
During the hydrolysis, the product decomposes into hydrochloric acid, carbon dioxide and

isopropanol.
Isopropyl alcohol (Isopropanol): Miscible with water in all ratio.

12.2 Persistence and degradability

No data available

12.3 Bioaccumulation potential

No data available

12.4 Mobility in soil

In case of hydrolysis hydrochloric acid, carbon dioxide and isopropanol is formed, which is completely soluble in water.
Henry's Law constant: 0.004 atm m3/mol (25 °C, 101.3 kPa)

12.5 Results of PBT and vPvB assessment

The substance does not meet the PBT or vPvB criteria according to Annex XIII of Regulation 1907/2006/EC.

12.6 Endocrine disrupting properties

Endocrine disrupting property: Not an endocrine disruptor.

12.7 Other adverse effects

No data available

13. Disposal considerations

13.1 Waste treatment methods

Product

Disposal according to the local regulations.
The product can be incinerated in a chemical incinerator equipped with an afterburner and scrubber.
No waste disposal key according to the List of Waste Code (LoW code) can be determined for this product, as only the purpose of application defined by the user enables an allocation. The LoW code number has to be determined after a discussion with a waste disposal specialist.

Contaminated packaging

Dispose according to the relevant regulations.
The contaminated packaging should be cleaned with alkaline solution**.**

14. Transport information

14.1 UN Number

ADR/RID: 2407 IMDG: 2407 IATA: -

14.2 UN proper shipping name

ADR/RID: ISOPROPYL CHLOROFORMATE	IMDG: ISOPROPYL CHLOROFORMATE	IATA: Air transport of the substance is PROHIBITED!

14.3 Transport hazard class(es)

ADR/RID: 6.1 (3+8)	IMDG: 6.1 (3+8)	IATA: -

14.4 Packing group

ADR/RID: I	IMDG: I	IATA: -

14.5 Environmental hazards

ADR/RID: no	IMDG Marine pollutant: no	IATA: -

14.6 Special precautions for user

Refrigerated transport!
Tunnel restriction code: (D)

15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out.

16. Other information

16.1 Information regarding the revision of the safety data sheet

Version 1 based on the classification according to Regulations (EC) No 1272/2008, (EU) 878/2020 and (EU) 707/2023.

16.2 Full text of H-Statements referred to under sections 2 and 3

H225	Highly flammable liquid and vapour.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H330	Fatal if inhaled.

16.3 Additional information

The information contained herein is in conformity with EU Directive EC 1907/2006 and EC 1272/2008, and is believed to be accurate and represents the best information currently available to us on the date of publication. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their

own investigations to determine the suitability of the information for their particular purposes. In no event shall Valsynthese SA be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Valsynthese SA has been advised of the possibility of such damages.