

SAFETY DATA SHEET

SECTION 1: IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier:

n-PROPYL CHLOROFORMATE

IUPAC name: n-Propyl chloroformate

CAS number: 109-61-5

EC number: 203-687-7

Registration number: 01-2119457016-43-0002; Transported isolated intermediate.

1.2. Relevant identified uses of the substance and uses advised against:

Organic synthesis intermediate for industrial use.

Environmental release category:

ERC1: Manufacture of the substance

ERC6a: Use of intermediate

Process category:

PROC 1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions

PROC 2: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

PROC 3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment conditions

PROC 8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities

PROC 9: Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

PROC 15: Use as laboratory reagent

1.3. Details of the supplier of the safety data sheet:

FRAMOCHEM FRENCH-HUNGARIAN FINE CHEMICALS LTD.

3700 Kazincbarcika, Szerviz út 5, Pf. 504

Telephone: +36 (48) 311-991

Fax: +36 (48) 512-162

1.3.1. Responsible person: -

E-mail: info@framochem.hu

1.4. Emergency telephone number:

Public Toxicological Health Service (ETTSZ)

1096 Budapest, Nagyvárad tér 2.

Tel.: 06 1 476 6464, 06 80 201 199 (0-24 h)

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance:

Classification according to Regulation 1272/2008/EC (CLP):

Flammable liquids, Hazard Category 2 – H225

Acute toxicity (oral), Hazard Category 4 – H302

Skin corrosion/irritation, Hazard Category 1B – H314

Acute toxicity (inhalation), Hazard Category 2 – H330

Warning **H statements:**

H225 – Highly flammable liquid and vapour.

H302 – Harmful if swallowed.

H314 – Causes severe skin burns and eye damage.

H330 – Fatal if inhaled.

2.2. Label elements:

IUPAC name: n-Propyl chloroformate
CAS number: 109-61-5
EC number: 203-687-7



Warning H statements:

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

Precautionary P statements:

P210 – Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P223 – Do not allow contact with water.
P240 – Ground/bond container and receiving equipment.
P241 – Use explosion-proof electrical/ventilating/lighting equipment.
P242 – Use only non-sparking tools.
P243 – Take precautionary measures against static discharge.
P280 – Wear protective gloves/protective clothing/eye protection/face protection.
P260 – Do not breathe dust/fume/gas/mist/vapours/spray.
P271 – Use only outdoors or in a well-ventilated area.
P303 + P361 + P353 – IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P370 + P378 – In case of fire: Use powder, carbon dioxide, foam to extinguish.
P403 + P235 – Store in a well-ventilated place. Keep cool.
P501 – Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3. Other hazards:

The substance does not meet the PBT criteria according to Annex XIII of Regulation 1907/2006/EC.
Information concerning specific hazards for human and environment: see Section 11 and 12.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance:

IUPAC name: n-Propyl chloroformate
Synonym: Chloroformate n-propyl ester
CAS number: 109-61-5
EC number: 203-687-7
Index number: 607-142-00-8
Formula: C₄H₇ClO₂
Molar mass: 122.5 g/mol
Purity: ≥ 99 %

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures:

GENERAL INFORMATION: Obtain immediate medical attention and show him the label. First aid personnel should pay attention to their own safety.

IN CASE OF INGESTION:

Measures:

- Obtain immediate medical attention and show him the label or this safety data sheet.
- Place the victim into comfortable position.
- Do not give the victim anything to eat or drink, and do not induce vomiting if the victim is unconscious.
- Flush the mouth of the victim with plenty of water then give him 1-2 glasses of water.

IN CASE OF INHALATION:

Measures:

- Take the victim into fresh air, loosen his clothes and let him rest.
- If the victim is unconscious and breathing, place him into recovery position.
- Apply oxygen if necessary.
- Obtain medical attention and show him the label or this safety data sheet.

IN CASE OF SKIN CONTACT:

Measures:

- Remove the contaminated clothes.
- Wash the skin surface with plenty of water and soap (for 15 minutes).
- The substance penetrates through the skin and may cause poisoning. For the first-aiders it is recommended to wear protective equipment (protective gloves).
- If symptoms occur, obtain immediate medical attention and show him the label.

IN CASE OF EYE CONTACT:

Measures:

- In case of contact with eyes flush with water while moving the eyeballs and holding eyelids apart (for at least 15 minutes).
- In case of persistent symptoms, obtain medical help and show him the label.

4.2. **Most important symptoms and effects, both acute and delayed:**

See section 11 for information on health effects and symptoms.

4.3. **Indication of any immediate medical attention and special treatment needed:**

No special treatment needed, treat symptomatically. Medical monitoring for at least 24 hours.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. **Extinguishing media:**

5.1.1. Suitable extinguishing media:

Powder, carbon dioxide, foam.

5.1.2. Unsuitable extinguishing media:

Avoid the use and contact with water.

Do not use full water jet, because it can disperse and spread fire.

5.2. **Special hazards arising from the substance or mixture:**

Highly flammable liquid and vapour.

In case of fire, smoke and other combustion products (hydrogen chloride, carbon oxides) may be formed, the inhalation of such combustion products can have serious adverse effects on health.

5.3. **Advise for fire fighters:**

Wear full protective clothing and self-contained breathing apparatus.

These means can protect from the skin and eye contact and from the inhalation of the hazardous gases and smoke.

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

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. **Personal precautions, protective equipment and emergency procedures:**

6.1.1. For non-emergency personnel:

Keep unprotected people away, allow only well trained experts wearing suitable protective clothing to abide in the field of accident.

6.1.2. For emergency responders:

Evacuate the unauthorized persons from the place of the accident.

Remove all ignition sources from the affected area.

Close the designated area.

Ensure adequate ventilation.

Breathing protection required.

6.2. **Environmental precautions:**

Dispose of spillage and waste (product/packaging) in accordance with all applicable environmental laws. Do not allow the substance and the resulting waste to enter sewers/soil/surface or ground water. Notify the respective authorities in accordance with local law in the case of environmental pollution immediately.

6.3. **Methods and material for containment and cleaning up:**

Collect the spilled material with inert, non-combustible, mineral absorbent (sand, earth, and perlite), then place into a suitable, closed, properly labelled chemical waste container for disposal. During disposal wear suitable personal protective equipment.

6.4. **Reference to other sections:**

For further and detailed information see section 8 and 13.

SECTION 7: HANDLING AND STORAGE

- 7.1. Precautions for safe handling:
Observe conventional hygiene precautions.
Avoid contact with skin, eyes and clothing, avoid inhalation.
Do not eat, drink and smoke in the workplace.
Use adequate personal protective equipment (see section 8).
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.
Protect against moisture.
Protect against heat.
Technical measures:
Effective ventilation is required during the handling of the product.
Precautions against fire and explosion:
Keep away from heat, sparks, open flame and hot surfaces. No smoking.
Prevent electrostatic charge.
Fire extinguishers should be kept handy.
- 7.2. Conditions for safe storage, including any incompatibilities:
Technical measures and storage condition:
Keep in original, closed and appropriately labelled container.
The place of storage has to be properly ventilated and cleanable.
Store in cool and dry place.
Follow all instructions on the label.
Keep away from direct sunshine and other heat- and explosion sources.
Storage temperature: 20 °C
Storage duration: 6 Months
Protect from temperatures above 35 °C.
Incompatible materials: see section 10.5.
Packaging material: glass, Steel with polyethylene liner, stainless steel with PTFE-coating, Isolemail PM Noir, special steel Hastelloy B3 2.4600, Proco-Enamel Unsuitable materials for containers: carbon steel (iron), Stainless steel 1.4571, Stainless steel 1.4306 (V2A).
- 7.3. Specific end use(s):
No specific instructions available.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters:

Occupational exposure limit values:
The substance is not regulated with exposure limit value.

DNEL		Routes of exposure	Exposure frequency	Remarks:
Worker	Consumer			
no data available	no data available	Dermal	Short term (acute) Long term (repeated)	no data available
no data available	no data available	Inhalative	Short term (acute) Long term (repeated)	no data available
no data available	no data available	Oral	Short term (acute) Long term (repeated)	no data available

PNEC:
Freshwater: 1 mg/l
Intermittent release: 20 mg/l
Marine water: 0.1 mg/l
Freshwater sediment: 0.1 mg/kg
STP: 10 mg/l
Soil: 0.218 mg/kg soil dw

8.2. Exposure controls:

In case of a hazardous material with no controlled concentration limit it is the employer's duty to keep concentration levels down to a minimum achievable by existing scientific and technological means, where the hazardous substance poses no

- harm to workers.
- 8.2.1 Appropriate engineering controls:
In pursuance of work is proper foresight needed to avoid spilling onto clothes and floors and to avoid contact with eyes and skin.
The inhalation exposure should be avoided.
Ensure adequate ventilation, especially in closed areas.
Before the breaks and after the work hours wash thoroughly (hand and body).
The contaminated clothes should be removed immediately and should be cleaned before re-use.
Do not eat or smoke during the processing.
In the vicinity of the workplace safety shower and eye wash fountain has to be installed.
Do not breathe vapour/spray.
- 8.2.2. Individual protection measures, such as personal protective equipment:
1. Eye/face protection: use appropriate tightly fitting protective glasses/protective mask according to EN 166.
 2. Skin protection:
 - a. Hand protection: use adequate protective gloves according to EN 374. Suitable materials short-term contact and/or splashes (recommended: At least protective index 2, > 30 minutes): butyl rubber (butyl) - 0.7 mm. Supplementary note: The specifications are based on tests, literature data and information of glove manufacturers or are derived from similar substances by analogy. Due to many conditions (e.g. temperature) it must be considered, that the practical usage of a chemical-protective glove in practice may be much shorter than the permeation time determined through testing.
 - b. Other: 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).
 3. Respiratory protection: use breathing protection if gases/vapours are formed. Gas filter for gases/vapours of organic compounds (boiling point >65 °C, e. g. EN 14387 Type A) Suitable respiratory protection for higher concentrations or long-term effect: Self-contained breathing apparatus.
 4. Thermal hazard: None known.
- 8.2.3. Environmental exposure controls:
No special measures required.
The requirements detailed in Section 8 assume skilled work under normal conditions and usage of the product for appropriate aims. If conditions differ from normal or work is carried out under extreme conditions an expert's advice should be sought out before deciding upon further protective measures.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties:

Parameter	Test method:	Remarks:
1. Appearance:		colourless liquid
2. Odour:		pungent
3. Odour threshold:		no data available*
4. pH value:		not applicable
5. Melting point/ freezing point:		< -70 °C
6. Initial boiling point/boiling range:		115 °C 112.4 °C
7. Flash point:		35 °C 26 °C
8. Evaporation rate:		no data available*
9. Flammability (solid, gas):		no data available*
10. Upper/lower flammability or explosive limits:		no data available*
11. Vapour pressure:		2 kPa (20 °C) 13 kPa (60 °C) 26.7 hPa (26.7 °C)
12 Vapour density:		4,2
13. Relative density:		1.09 g/cm ³
14. Solubility(ies):		decomposes upon contact with water, soluble in common organic solvents water solubility:
15. Partition coefficient: n-octanol/water:		10890 mg/L not applicable

16. Auto-ignition temperature: 475 °C
17. Decomposition temperature: no data available*
18. Viscosity: 0.8 mPa s dynamic, 20 °C

19. Explosive properties: no data available*
20. Oxidizing properties: no data available*

9.2. Other information:

Density: 1.09 g/cm³ (20 °C)

*: The manufacturer did not carry out any tests on this parameter for the product or the results of the tests are not available at the time of publication of the data sheet.

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity:

Stable at room temperature and general conditions of work.

10.2. Chemical stability:

At normal temperature and general conditions of work stable.

10.3. Possibility of hazardous reactions:

In case of contact with humid air or water, hydrolyzes.

The formation of gaseous decomposition products builds up pressure in tightly closed containers if the product is greatly overheated. Evolution of corrosive gases/vapours. Reacts with water and basic components to generate heat. Reacts with activated carbon. Reacts with alkalis and metals. Reacts with alcohols, amines, aqueous acids and alkalis. Reacts with water and moisture, with formation of hydrogen chloride. Partly very violent reactions with bases and numerous organic classes of substances such as alcohols and amines. Impurities promote decomposition. Energy is released when reacting with e.g. acids, alkaline reacting substances, amines or catalysts. Traces of heavy metals reduce the onset temperature and lead to instability and exothermic product release with gas formation. Vapours may form ignitable mixture with air.

See Section 10.5.

10.4. Conditions to avoid:

Temperature: 40 °C

Avoid all sources of ignition: heat, sparks, open flame. Avoid direct sunlight. Avoid electro-static charge. Avoid humidity. Avoid heat. Avoid prolonged storage. Disregard of the conditions mentioned may result in undesirable decomposition reactions. Avoid excessive temperatures. Avoid contamination.

10.5. Incompatible materials:

Alkaline reactive substances, alcohols, bases, amines, iron compounds, heavy metal salts, water.

10.6. Hazardous decomposition products:

Chloromethane; methyl chloride, hydrogen chloride, carbon dioxide.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects:

Acute toxicity: Harmful if swallowed. Fatal if inhaled.

Skin corrosion/irritation: Causes severe skin burns.

Serious eye damage/eye irritation: Causes severe eye damage.

Respiratory or skin sensitisation: Based on available data, the classification criteria are not met.

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

Carcinogenicity: Based on available data, the classification criteria are not met.

Reproductive toxicity: Based on available data, the classification criteria are not met.

STOT-single exposure: Based on available data, the classification criteria are not met.

STOT-repeated exposure: Based on available data, the classification criteria are not met.

Aspiration hazard: Based on available data, the classification criteria are not met.

11.1.1. For substances subject to registration, brief summaries of the information derived from the test conducted:

No data available.

11.1.2. Relevant toxicological properties of the hazardous substances:

Acute toxicity - oral:

LD₅₀ (oral, mouse): 650 mg/kg

LD₅₀ (oral, rat): 1210 mg/kg bw (OECD 401)

Mortality:

46.4 mg/kg: no mortality observed

100 mg/kg: no mortality observed

147 mg/kg: no mortality observed

681 mg/kg: 1/5 females died within 2 d; no mortality observed in males

1000 mg/kg: 1/5 females died within 1 d; no mortality observed in males

1470 mg/kg: 4/5 females died within 1 d; 5/5 males died within 1 d

2150 mg/kg: 10/10 animals died within 1 d

3160 mg/kg: 10/10 animals died within 1 d

Clinical signs:

46.4 mg/kg: no treatment related effects

100 mg/kg: no treatment related effects

147 mg/kg: aggressiveness

681 mg/kg: dyspnoea, stertor (respiratory noise), apathy, staggering, tremors, piloerection, salivation, poor general state

1000 mg/kg: dyspnoea, apathy, staggering, piloerection, poor general state

1470 mg/kg: dyspnoea, apathy, abnormal position, staggering, cyanosis, exsiccosis, piloerection, shortness of breath, poor general state

2150 mg/kg: dyspnoea, apathy, abnormal position, staggering, tremors, cyanosis, piloerection, poor general state

3160 mg/kg: dyspnoea, apathy, staggering, piloerection, poor general state

Body weight:

Body weight gain at d 13

46.4 mg/kg: males: +99g; females +36 g

100 mg/kg: males: +90g; females +39 g

147 mg/kg: males: +77g; females +34 g

681 mg/kg: males: +97g; females +43 g

1000 mg/kg: males: +59g; females +41 g

1470 mg/kg: males: -; female +39 g

Animals that died:

Heart: acute dilatation on the right side; acute passive hyperemia; stomach: necrotic white mucosa (necrotic corrosive gastritis); intestines: necrotic white mucosa (necrotic corrosive gastritis)

Sacrificed animals:

46.4 - 147 mg/kg: Organs: no abnormalities detected

1000 and 1470 mg/kg: Forestomach: diverticularization, in some cases with scabs/crusts and in some cases adhesions between the forestomach and spleen, liver and peritoneum

Acute toxicity - dermal:

LD₅₀ (dermal, rat): 10 mg/kg

LD₅₀ (dermal, rabbit: ≥ 10.2 g/kg bw (OECD 402)

Mortality:

There were no deaths at 6.8 g/kg bw. Two animals (one male on day 11, one female on day 4) died at 10.2 g/kg bw.

Clinical signs:

The animals in both dose groups were hypoactive within 2-3 days of exposure and did not recover. Severe irritation and edema and burns were observed at the end of the 24 hr exposure period. Six days later the skin was necrotic.

Body weight:

Surviving animals did not gain weight.

Gross pathology:

Hyperemia of the kidneys and necrosis of the skin at the site of contact.

Acute toxicity - inhalation:

LC₅₀ (inhalative, mouse): 319 ppm/1h, and 1598 mg/m³

LC₅₀ (inhalative, rat): 1.385 mg/l/3 min, 1.019 mg/l/1 h (OECD 403)

Mortality:

3 min at 1.385 mg/L: 12/12 animals died within 2 h

1 h at 1.019 mg/L: 3/10 animals died within 6 d

Clinical signs:

3 min at 1.385 mg/L: Vigorous attempts to escape; extremely severe irritation to the mucosa; gasping breathing

1 h at 1.019 mg/L: Restlessness; irritation to the mucosa; dyspnea

Body weight:

Mean body weight after 14 d

1 h at 1.019 mg/L: males 190 g (+25g); females 157 g (+24 g)

Gross pathology:

3 min at 1.385 mg/L: Congestion and edema of the lungs

1 h at 1.019 mg/L: Acute pulmonary emphysema

Irritation:

Skin and eye irritant.

Genetic toxicity - in vitro:

Guideline: OECD 471

Species / strain: S. typhimurium TA 1535, TA 1537, TA 98 and TA 100

Metabolic activation: with and without

Genotoxicity: negative

Cytotoxicity: yes

11.1.3. Information on likely routes of exposure:

Ingestion, inhalation, skin contact, eye contact.

- 11.1.4. Symptoms related to the physical, chemical and toxicological characteristics:
Acute effects:
In case of inhalation, ingestion or absorption through skin may cause fatal poisoning. Corrosive substance, may cause burns. The substance is extremely destructive for the mucous membranes, respiratory tract, eyes and skin.
Ingestion: corrosive substance.
Inhalation: may cause fatal poisoning. Burns and serious damage in tissues may occur in the respiratory tract. After the inhalation exposition the convulsion of the muscles of the larynx and the bronchia, larynx and bronchia inflammation or **laryngeal edema**, pneumonia is likely.
Major symptoms of the poisoning: burning feeling, coughing, wheezing, inflammation of the larynx, labored breathing, headache, nausea and vomiting.
Skin contact: corrosive substance, causes skin irritation. In case of inhalation, ingestion or absorption through skin may cause fatal poisoning.
Eye contact: may cause strong eye irritation, and in some cases may cause burning.
- 11.1.5. Delayed and immediate effects as well as chronic effects from short and long-term exposure:
Causes severe skin burns and eye damage.
Harmful if swallowed.
Fatal if inhaled.
- 11.1.6. Interactive effects:
No data available.
- 11.1.7. Absence of specific data:
No information.
- 11.1.8. Other information:
No data available.

SECTION 12: ECOLOGICAL INFORMATION

- 12.1. **Toxicity:**
LC50 (fish): 4480-4630 mg/l/96 h
EC50 (invertebrates): 1000 mg/l/48 h
NOEC (Chlorella pyrenoidosa): 1150 mg/l/48 h
EC50 (Chlorella pyrenoidosa): > 1150 mg/l/48 h
EC50 (activated sludge): > 1000 mg/l/3 h
- 12.2. **Persistence and degradability:**
Practically insoluble in water, hydrolyzes in contact with water.
In case of hydrolysis hydrochloric acid, carbon dioxide and n-propanol is formed.
Readily biodegradable: 64% - 5 days, 76% - 10 days, 85% - 15 days, 75% - 20 days.
- 12.3. **Bioaccumulation potential:**
Koc: 4.29
log Koc: 0.63
The very low Koc indicates no significant adsorption of propanol to soils.
Henry's Law constant H: 0.117 Pa m³/mol (20 °C) - from the water surface the substance will not evaporate into the atmosphere.
Percent distribution in media: air: 91.2%, water: 8.78%, soil: 0.01%, sediment: 0.01%
- 12.4. **Mobility in soil:**
No data available.
- 12.5. **Results of PBT and vPvB assessment:**
This substance does not meet the criteria of PBT or vPvB.
- 12.6. **Other adverse effects:**
No data available.

SECTION 13: DISPOSAL CONSIDERATIONS

- 13.1. **Waste treatment methods:**
Disposal according to the local regulations.
- 13.1.1. Information regarding the disposal of the product:
The product can be incinerated in a chemical incinerator equipped with an afterburner and scrubber.
European Waste Code:
No appropriate EWC code can be given for the substance, since the identification of the proper code can be done with the method of use defined by the user of the substance. The European waste code number has to be determined after a discussion with a specialist dealing with waste disposal.
- 13.1.2. Information regarding the disposal of the packaging:
Dispose of in the same manner as the substance.
The contaminated packaging should be cleaned with alkaline solution.

- 13.1.3. Physical/chemical properties that may affect waste treatment options shall be specified:
None known.
- 13.1.4. Sewage disposal:
None known.
- 13.1.5. Special precautions for any recommended waste treatment:
No data available.

SECTION 14: TRANSPORT INFORMATION

- 14.1. UN Number:
UN 2740
- 14.2. UN proper shipping name:
ADR/RID: n-PROPYL CHLOROFORMATE
IMDG: n-PROPYL CHLOROFORMATE
IATA: Air transport of the substance is PROHIBITED!
- 14.3. Transport hazard class(es):
ADR/RID: 6.1.TFC Labels: 6.1 + 3 + 8
IMDG: 6.1
- 14.4. Packaging group:
ADR/RID: I
IMDG: I
- 14.5. Environmental hazard:
ADR/RID: no
IMDG: no
- 14.6. Special precautions for user:
Passenger Aircraft: Not permitted for transport
Cargo Aircraft: Not permitted for transport
- 14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code:
Not applicable.

SECTION 15: REGULATORY INFORMATION

- 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture:
REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC
- REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006
- Commission Regulation (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)
- 15.2. Chemical safety assessment: no information available.

SECTION 16: OTHER INFORMATION

Information regarding the revision of the safety data sheet:
The safety data sheet has been revised according to Regulation (EU) 2015/830 (Section 1-16).
The hazard classification of the substance has changed compared to the previous version (31. 05. 2018, version CLP_C).

Full text of the abbreviations in the safety data sheet:
DNEL: Derived no effect level. PNEC: Predicted no effect concentration. CMR effects: carcinogenicity, mutagenicity and toxicity for reproduction. PBT: Persistent, bioaccumulative and toxic. vPvB: Very Persistent, Very Bioaccumulative. n.d.: not defined. n.a.: not applicable. ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road. RID: European Agreements Concerning the International Carriage of Dangerous Goods by Rail. IMDG: International Maritime Dangerous Goods Code. IATA: International Air Transport Association.

Key literature references and sources for data:
previous version of the safety data sheet (18. 02. 2015, version CLP_B),
REACH registration folder

Relevant H-Phrases (number and full text) of Section 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.

Training advice: no data available.

This safety data sheet had been prepared on the basis of information provided by the manufacturer/supplier and conform to the relevant regulations.

The information, data and recommendations contained herein are provided in good faith, obtained from reliable sources and believed to be true and accurate as of the date issued; however, no representation is made as to the comprehensiveness of the information. The SDS shall be used only as a guide for handling the product; in the course of handling and using the product other considerations may arise or be required.

Users are cautioned to determine the appropriateness and applicability of the above information to their particular circumstances and purposes and assume all risk associated with the use of this product. It is the responsibility of the user to fully comply with local, national and international regulations concerning the use of this product.

Safety data sheet was prepared by: ToxInfo Kft.

Professional help regarding the explanation of the safety data sheet:
+36 70 335 8480; info@msds-europe.com