

## SAFETY DATA SHEET

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

- 1.1. Product identifier:  
**n-BUTYL CHLOROFORMATE**
- Chemical name: n-Butyl chloroformate  
CAS number: 592-34-7  
EC number: 209-750-5  
Index number: 607-138-00-6  
Registration number: 01-2120087840-51-0001; Transported isolated intermediate.
- 1.2. Relevant identified uses of the substance and uses advised against:  
Organic synthesis intermediate for industrial use.
- 1.3. Details of the supplier of the safety data sheet:  
**FRAMOChem FRENCH-HUNGARIAN FINE CHEMICALS LTD.**  
3700 Kazincbarcika, Szerviz Str. 5., POB. 504  
Tel.: +36 48 311-991  
Fax: (48) 512-162  
E-mail: [info@framochem.hu](mailto:info@framochem.hu)
- 1.3.1. Responsible person: -  
E-mail: [info@framochem.hu](mailto: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 3 – H226  
Skin corrosion/irritation, Hazard Category 1B – H314  
Acute toxicity (inhalation), Hazard Category 3 – H331
- Warning H statements:**  
**H226** – Flammable liquid and vapour.  
**H314** – Causes severe skin burns and eye damage.  
**H331** – Toxic if inhaled.
- 2.2. Label elements:
- Chemical name: n-Butyl chloroformate  
CAS number: 592-34-7  
EC number: 209-750-5

GHS02



GHS05



GHS06



DANGER

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**Warning H statements:**

- H226** – Flammable liquid and vapour.  
**H314** – Causes severe skin burns and eye damage.  
**H331** – Toxic if inhaled.

**Precautionary P statements:**

- P210** – Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
**P280** – Wear protective gloves/protective clothing/eye protection/face protection.  
**P284** – Wear respiratory protection.  
**P304 + P340** – IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
**P303 + P361 + P353** – IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].  
**P310** – Immediately call a POISON CENTER/doctor.  
**P403** – Store in a well-ventilated place.

2.3. Other hazards:

The substance does not meet the PBT or vPvB 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:

Chemical name: n-Butyl chloroformate  
Synonym: Chloroformate-n-butyl ester; chloroformic acid butyl ester  
CAS number: 592-34-7  
EC number: 209-750-5  
Index number: 607-138-00-6  
Formula: C<sub>5</sub>H<sub>9</sub>ClO<sub>2</sub>  
Molar mass: 136.5 g/mol  
Purity: ≥ 99 %

### SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures:

General information: Immediately remove contaminated clothing. If the patient is likely to become unconscious, place and transport in stable sideways position (recovery position). First aid personnel should pay attention to their own safety.

IN CASE OF INGESTION:

Measures:

- Immediately rinse mouth and then drink 200-300 ml of water.
- Seek medical attention.

IN CASE OF INHALATION:

Measures:

- Keep patient calm, remove to fresh air, seek medical attention.
- Immediately administer a corticosteroid from a controlled/metered dose inhaler.

IN CASE OF SKIN CONTACT:

Measures:

- Immediately wash thoroughly with plenty of water and apply sterile dressings.
- Consult a skin specialist.

IN CASE OF EYE CONTACT:

Measures:

- Immediately wash affected eyes for at least 15 minutes under running water with eyelids held open.
- Consult an eye specialist.

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:

Treat according to symptoms (decontamination, vital functions), no known specific antidote.  
Pulmonary oedema prophylaxis. Medical monitoring for at least 24 hours.

### SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing media:

5.1.1. Suitable extinguishing media:

Dry powder, carbon dioxide, alcohol-resistant foam.

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- 5.1.2. Unsuitable extinguishing media:  
Water.
- 5.2. Special hazards arising from the substance or mixture:  
Flammable liquid and vapour.  
Can be released in case of fire: hydrogen chloride, phosgene, carbonyl chloride, carbon oxides, halogenated compounds.
- 5.3. Advice for fire fighters:  
Wear appropriate full protective clothing and self-contained breathing apparatus.  
Suppress gases/vapours/mists with water spray jet.  
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:  
Wear a self-contained breathing apparatus.  
Avoid contact with the skin, eyes and clothing.  
Keep people away and stay on the upwind side.
- 6.2. Environmental precautions:  
Discharge into the environment must be avoided.
- 6.3. Methods and material for containment and cleaning up:  
For large amounts: Pump off product. Dispose of absorbed material in accordance with regulations.  
For residues: Pick up with suitable absorbent material. Dispose of absorbed material in accordance with regulations.
- 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.  
Protect against moisture.  
In case of insufficient ventilation, wear suitable respiratory equipment.  
Technical measures:  
Ensure thorough ventilation of stores and work areas.  
Use only in enclosed systems.  
Adequate extraction of the vapours is necessary when working with open containers.  
Precautions against fire and explosion:  
Protect against electrostatic charges.  
Keep ignition sources away.  
Fire extinguishers should be kept handy.
- 7.2. Conditions for safe storage, including any incompatibilities:  
Technical measures and storage condition:  
Segregate from alkalis and alkalizing substances.  
Protect from direct sunlight, moisture and heat.  
Keep only in the original, tightly closed container in a cool, dry, well-ventilated place away from ignition sources, heat or flames.  
Frequently check condition of drums (increase in pressure, bulging, rust).  
Product has to be immediately consumed or disposed of, if signs of pressure increase or bulging are being detected at a drum.  
Storage at a proportionate temperature is required, to avoid 'breathing' of containers.  
Storage stability:  
Storage temperature: < 20 °C  
Storage duration: 6 months  
If the stated storage temperature is exceeded the shelf life can be reduced.  
From the data on storage duration in this safety data sheet no agreed statement regarding the warrantee of application properties can be deduced.  
Improper storage may result in pressure build up in the drums.  
Storage stability is based upon ambient temperatures and conditions described.  
Incompatible materials: see section 10.5.  
Packaging material: no special prescriptions / original container.
- 7.3. Specific end use(s):

No specific instructions available.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Control parameters:

Occupational exposure limit values (Commission Directive 2000/39/EC of 8 June 2000):  
The substance is not regulated with exposure limit value.

Phosgene may be released from the substance:

**Phosgene** (CAS: 75-44-5):

TWA value 0.08 mg/m<sup>3</sup>; 0.02 ppm (OEL (EU))

STEL value 0.4 mg/m<sup>3</sup>; 0.1 ppm (OEL (EU))

#### **PNEC values:**

Freshwater: 0.225 mg/l

Freshwater – intermittent release: 2.25 mg/l

Marine water: 0.022 mg/l

STP: 2.476 mg/l

Freshwater sediment: 1.04 mg/kg sediment dry weight

Marine water sediment: 0.104 mg/kg sediment dry weight

Soil: 0.075 mg/kg soil dry weight

<b>DNEL</b>		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

### 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.

#### 8.2.2. Individual protection measures, such as personal protective equipment:

Do not breathe vapour/spray.

Avoid contact with the skin, eyes and clothing.

The substance was registered as a transported isolated intermediate. The manufacturer/importer has received the confirmation by the user that the substance is used under strictly controlled conditions in accordance with art. 18 of the REACH regulation (EC) No 1907/2006.

When using, do not eat, drink or smoke.

Wash hands and/or face before breaks and at the end of work.

Gloves must be inspected regularly and prior to each use. Replace if necessary (e.g. pinhole leaks).

Take off immediately all contaminated clothing. Wash contaminated clothing before reuse. Store work clothing separately.

1. Eye/face protection: use appropriate, tightly fitting protective glasses and face shields (EN 166).

2. Skin protection:

a. Hand protection: chemical resistant protective gloves (EN 374)

Suitable materials for short-term contact (recommended: at least protective index 2, corresponding > 30 minutes of permeation time according to EN 374):

- fluoroelastomer (FKM) - 0.7 mm coating thickness

- butyl rubber (butyl) - 0.7 mm coating thickness

- nitrile rubber (NBR) - 0.4 mm coating thickness

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.

Manufacturer's directions for use should be observed because of great diversity of types.

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- 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: if gases/vapours are formed, use appropriate respiratory protection (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. <b>Appearance:</b>	colourless liquid	20 °C, 1013 hPa	
2. <b>Odour:</b>	no data available*		
3. Odour threshold:	no data available*		
4. pH value:	no data available*		
5. Melting point/freezing point:	not applicable (below -20 °C)		
6. Initial boiling point/boiling range:	142 °C	101 325 Pa	
7. Flash point:	30 °C	closed cup	
8. Evaporation rate:	no data available*		
9. Flammability (solid, gas):	not applicable (liquid)		
10. Upper/lower flammability or explosive limits:	no data available*		
11. Vapour pressure:	7.2 hPa	20 °C	
12. Vapour density:	no data available*		
13. Relative density:	1.06	20 °C	
14. Solubility(ies):	not applicable (the substance is hydrolytically unstable at pH 4, 7 and 9 (half-life less than 12 hours))		
15. Partition coefficient: n-octanol/water:	not applicable (the substance decomposes)		
16. Self-ignition temperature:	285 °C		
17. Degradation temperature:	no data available*		
18. Viscosity:	dynamic: 0.68 mPa.s	-10.0 °C	
19. Explosive properties:	not explosive		
20. Oxidizing properties:	no oxidizing properties		

### 9.2. Other information:

Surface tension: not applicable.

Flammability (liquid): flammable liquid.

The substance has no pyrophoric properties and does not liberate flammable gases in contact with water.

The substance is not a self-heating substance or mixture.

The substance is not an organic peroxide.

There are no chemical groups associated with explosive properties present in the molecule.

The substance is incapable of reacting exothermically with combustible materials on the basis of the chemical structure.

\*: 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:

None known.

### 10.2. Chemical stability:

The stability of the substance is not considered as critical.

The substance decomposes when heated.

The substance is not corrosive to metals.

Corrodes metals in the presence of water.

Even when products are stored appropriately a slowly decomposition reaction takes place. If the storage conditions and duration are taken into account, no hazard is caused by the product.

10.3. Possibility of hazardous reactions:

At elevated temperatures gas forming exothermic decomposition reaction may occur. 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. ppm 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.

10.4. Conditions to avoid:

Temperature: > 40 °C.

Ignition sources (heat, sparks, open flame), direct sunlight, electrostatic charge, humidity, excessive temperatures, contamination.

Disregard of the conditions mentioned may result in undesirable decomposition reactions.

10.5. Incompatible materials:

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

10.6. Hazardous decomposition products:

Hydrogen chloride, carbon dioxide, 1-chlorobutane, butyl chloride.

## SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects:

Acute toxicity: Toxic if inhaled.

Skin corrosion/irritation: Causes severe skin burns.

Serious eye damage/eye irritation: Causes serious 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:

LD50 (oral, rat): 1325 mg/kg bw

LC50 (inhalative, rat): > 200 ppm/1h

Irritation/corrosion:

In a skin irritation/corrosion and an eye irritation test the test substance was found to be corrosive to the skin and eye.

Repeated dose toxicity:

In a 28-day inhalation repeated dose toxicity study (OECD 412, GLP) the NOAEC was determined to be 28.2 (highest dose tested) and 10.0 µg/L, for systemic and local effects respectively.

Genetic toxicity:

No adverse effect observed (negative) (Ames test, OECD 471).

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:

Corrosive, may cause burning.

Ingestion: harmful substance.

Inhalation: may cause fatal poisoning. 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.

Eye contact: Lachrymatory agent. 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.

Toxic 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:  
The substance is not classified as hazardous for the environment.  
Aquatic toxicity data for butyl chloroformate (parent substance):  
Acute toxicity to fish:  
LC50 (*Leuciscus idus*): 4.64 mg/l/96h  
Toxicity to microorganisms:  
EC20 (industrial activated sludge): 70 mg/l/3h  
Aquatic toxicity data for butanol (hydrolysis product):  
Acute toxicity to fish:  
LC50 (*Pimephales promelas*): 1376 mg/l/96h  
Acute toxicity to aquatic invertebrates:  
EC50 (*Daphnia magna*): 1328 mg/l/48h  
Acute toxicity to algae:  
EC50 (*Selenastrum capricornutum*): 225 mg/l/96h  
Chronic toxicity to algae:  
EC10 (*Selenastrum capricornutum*): 134 mg/l/96h  
Toxicity to microorganisms:  
EC10 (*Pseudomonas putida*): 2476 mg/l/17h  
Aquatic toxicity data for hydrogen chloride (hydrolysis product):  
Acute toxicity to fish:  
LC50 (*Cyprinus carpio*): 4.92 mg/l/96h (pH 4.3)  
Acute toxicity to aquatic invertebrates:  
LC50 (*Daphnia magna*): 0.492 mg/l/48h (pH 5.3)  
Acute toxicity to algae:  
ErC50 (*Pseudokirchneriella subcapitata*): 0.492 mg/l/72h (pH 5.3)  
Chronic toxicity to algae:  
NOErC (*Pseudokirchneriella subcapitata*): 0.097 mg/l/72h (pH 6.0)
- 12.2. Persistence and degradability:  
Phototransformation:  
After evaporation or exposure to the air, the parent substance will be slowly degraded by photochemical processes. This assessment refers to dry air. In mist, rain, droplets and aerosols, hydrolysis will be the major fate process due to the short half-life in aqueous environments. Therefore, this estimate may be of low relevance.  
Hydrolysis:  
Butyl chloroformate rapidly hydrolyses in contact with water to form butanol (CAS: 71-36-3), hydrogen chloride (CAS: 7647-01-0) and carbon dioxide (CAS: 124-38-9). Therefore, for all environmental compartments except air, available data on the environmental fate and pathways of the hydrolysis products is provided.  
Biodegradation:  
The substance is readily biodegradable (by OECD criteria).
- 12.3. Bioaccumulation potential:  
Accumulation in organisms is not expected.
- 12.4. Mobility in soil:  
During hydrolysis it decomposes into hydrochloric acid and acryloyl which are dispersed in the water.  
Adsorption/desorption:  
Adsorption of the substance to the solid soil phase is not expected.  
Henry's Law constant:  
The hydrolysis product butanol will slowly evaporate into the atmosphere from the water surface.  
Distribution modelling:  
Over time, the unchanged hydrolysis product butanol will preferentially distribute into the compartment water (73.3 %) and air (26.6 %).
- 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:  
Incinerate in suitable incineration plant, observing local authority regulations.  
Hydrolysis with alkali/ammonia solution in water.  
Esterification with methanol and afterwards incineration in a suitable incineration facility.  
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:  
Contaminated packaging:  
Be careful when handling empty packing which is not decontaminated and rinsed.  
Decontamination of product residues with sodium hydroxide solution/ammonia solution in water.  
Thermal recycling of the cleaned drums.
- 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:  
ADR/RID; IMDG: UN 2743  
IATA: -
- 14.2. UN proper shipping name:  
ADR/RID: n-BUTYL CHLOROFORMATE  
IMDG: n-BUTYL 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  
IATA: -
- 14.4. Packaging group:  
ADR/RID: II  
IMDG: II  
IATA: -
- 14.5. Environmental hazards:  
ADR/RID: no  
IMDG: no  
IATA: -
- 14.6. Special precautions for user:  
No relevant information available.
- 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



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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).

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: Regulations Concerning the International Carriage of Dangerous Goods by Rail. IATA: International Air Transport Association. IMDG: International Maritime Dangerous Goods.

Key literature references and sources for data:

Previous version of the safety data sheet (13. 02. 2015, version CLP \_ B).  
REACH registration dossier.

Relevant H-Phrases (number and full text) of Section 2 and 3:

**H226** – Flammable liquid and vapour.

**H314** – Causes severe skin burns and eye damage.

**H331** – Toxic 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](mailto:info@msds-europe.com)