

## SAFETY DATA SHEET

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

**1.1. Product identifier:**

**OCTANOIC ACID CHLORIDE**

Chemical name: Octanoic acid chloride  
CAS number: 111-64-8  
EC number: 203-891-6  
Registration number: 01-2119457030-53-0006

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

Transported, isolated intermedier for industrial use.

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

**Framochem French-Hungarian Fine Chemicals Ltd.**

3700 Kazincbarcika, Szerviz út 5, Pf. 504  
Hungary  
Tel: (48) 311-991  
Fax: (48) 512-162

**1.3.1. Responsible person:**

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**E-mail:**

[info@framochem.hu](mailto:info@framochem.hu)

**1.4. Emergency telephone number: +36 1 476 6464, +36 80 201 199 (0-24 h)**

### SECTION 2: HAZARDS IDENTIFICATION

**2.1. Classification of the substance:**

Classification according to Regulation (EC) No 1272/2008 (CLP):  
Corrosive to metals, Hazard Category 1 – H290  
Skin corrosion/irritation, Hazard Category 2 – H315  
Sensitisation - Skin, hazard category 1 – H317  
Serious eye damage/eye irritation, Hazard Category 1 – H318  
Acute toxicity (inhalation), Hazard Category 2 – H330

**Hazard statements:**

**H290** – May be corrosive to metals.

**H315** – Causes skin irritation.

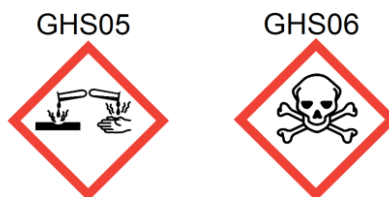
**H317** – May cause an allergic skin reaction.

**H318** – Causes serious eye damage.

**H330** – Fatal if inhaled.

**2.2. Label elements:**

Chemical name: Octanoic acid chloride  
CAS number: 111-64-8  
EC number: 203-891-6



**Hazard statements:**

- H290** – May be corrosive to metals.  
**H315** – Causes skin irritation.  
**H317** – May cause an allergic skin reaction.  
**H318** – Causes serious eye damage.  
**H330** – Fatal if inhaled.

**EUH 014** – Reacts violently with water.

**Precautionary statements:**

- P260** – Do not breathe gas/mist/vapours/spray.  
**P280** – Wear protective gloves/protective clothing/eye protection/face protection.  
**P284** – Wear respiratory protection.  
**P302 + P352** – IF ON SKIN: Wash with plenty of water.  
**P333 + P313** – If skin irritation or rash occurs: Get medical advice/ attention.  
**P304 + P340** – IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
**P305 + P351 + P338 + P310** – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.  
**P403 + P233** – Store in a well-ventilated place. Keep container tightly closed.

2.3. **Other hazards:**

The product is sensitive to moisture. Reacts violently with water (hydrolysis) and hydrochloric acid if formed. Combustible liquid. Pulmonary oedema may occur.  
Results of PBT and vPvB assessment: No data available.

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. **Substance:**

Chemical name: Octanoic acid chloride  
Synonym: Caprylic acid chloride, Octanoyl chloride  
CAS number: 111-64-8  
EC number: 203-891-6  
Molecular formula: C<sub>8</sub>H<sub>15</sub>ClO  
Molecular weight: 162.5 g/mol  
Purity: > 98 %

Other hazardous contaminant:

Phosgene (< 0.1 %, CAS: 75-44-5), decanoyl chloride (CAS: 112-13-0)

## SECTION 4: FIRST AID MEASURES

4.1. **Description of first aid measures:**

**General information:** Immediately remove victim from the place of exposure. Change contaminated clothing and shoes as soon as possible, and wash them before reuse. Do not give anything to drink to an unconscious person, and do not induce vomiting. If symptoms of poisoning occur or if poisoning is suspected, immediately call a physician and show the label or this safety data sheet. Information on the necessary measures may be obtained by the national poison centre.

**INGESTION:**

Measures:

- Immediately obtain medical attention or transport the victim to a hospital.
- Do not induce vomiting.
- If the victim is conscious, give him several glasses of water to drink.
- Never give anything orally to an unconscious person.

- Show the label or the safety data sheet to the doctor in attendance.

**INHALATION:**

## Measures:

- Take the victim into fresh air and let him rest.
- Immediately obtain medical attention or transport the victim to a hospital.
- Breathing support and the inhalation of oxygen may be required.
- Do not apply mouth-to-mouth respiration.

**SKIN CONTACT:**

## Measures:

- Wash the affected skin area immediately with plenty of flowing water and soap, and continue to wash for at least 15 minutes.
- Immediately remove contaminated clothing and shoes.
- Treat contaminated clothing and shoes as waste.
- Immediately obtain medical attention.

**EYE CONTACT:**

## Measures:

- Immediately rinse eye with plenty of flowing water or eyewash solution, while keep eyelids apart. Continue to rinse for at least 30 minutes.
- Prevent the victim from rubbing his eye or keeping his eyes closed.
- It is recommended to consult with an ophthalmologist as soon as possible.

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

Causes skin irritation.

May cause an allergic skin reaction.

Causes serious eye damage.

Fatal if inhaled.

Pulmonary oedema may occur after inhalation.

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

No special treatment needed; treat symptomatically.

**SECTION 5: FIREFIGHTING MEASURES**
**5.1. Extinguishing media:****5.1.1. Suitable extinguishing media:**

Carbon dioxide, dry extinguishing agent or appropriate foam.

**5.1.2. Unsuitable extinguishing media:**

The use of water is prohibited. Reacts violently with water.

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

Combustible liquid. The container may burst upon the effect of heat.

During the (thermal) decomposition of the product, toxic gases/vapours containing phosgene, hydrochloric acid, carbon monoxide and carbon dioxide may be formed; the inhalation of such combustion products can have serious adverse effects on health.

**5.3. Advice for firefighters:**

Do not let hazardous waste and waste water from extinction to reach water bodies, soil or the sewage system.

Wear full protective clothing and self-contained, compressed-air breathing apparatus operated in positive pressure mode.

**SECTION 6: ACCIDENTAL RELEASE MEASURES**
**6.1. Personal precautions, protective equipment and emergency procedures:****6.1.1. For non-emergency personnel:**

Allow only well-trained experts wearing suitable protective clothing to abide in the field of the accident.

**6.1.2. For emergency responders:**

Remove all sources of ignition.

Provide efficient ventilation.

Prevent the product from getting into contact with eyes and skin. Avoid exposure via inhalation.

**6.2. Environmental precautions:**

Dispose of the spillage and the resulting waste according to the applicable environmental regulations. Do not allow the product 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 product with non-combustible, inert, mineral absorbent (earth, sand), then place into a suitable, closed, properly labelled chemical waste container for removal/disposal. Keep away from sources of heat and ignition. During the collection, placement, disposal of the waste, wear appropriate individual protective equipment. Waste water from clean-up and residues of the substance should be treated as hazardous waste.

**6.4. Reference to other sections:**

For further and detailed information see Sections 8 and 13.

**SECTION 7: HANDLING AND STORAGE**

**7.1. Precautions for safe handling:**

Observe conventional hygiene precautions.  
 Prevent the product from getting into contact with eyes and skin.  
 Do not eat, drink or smoke during work.  
 Change contaminated clothing and shoes immediately, and wash them before reuse.  
 Wash hands after handling the product and before breaks and eating. Wash thoroughly after work (handwashing with warm water and shower with soap).

**Technical measures:**

Efficient air-exchange (general ventilation and local exhaust) is required during handling the product.  
 Use appropriate personal protective equipment during working with the product (see Section 8).

**Precautions against fire and explosion:**

No special measures required.

**7.2. Conditions for safe storage, including any incompatibilities:**

**Technical measures and storage condition:**

Keep product away from incompatible materials and sources of ignition.  
 Store the product in tightly (hermetically) sealed metal drum, in a cool, dry (free from water and moisture), well-ventilated place, protected from heat.

**Incompatible materials:** See Section 10.5

**Packaging material:** Metal drum with appropriate coating (lined with polyethylene).

**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 (EC) No 2000/39 of 8 June 2000):  
 The substance is not regulated with exposure limit value.

Contaminant:

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

Eight hours: 0.08 mg/m<sup>3</sup>; 0.02 ppm

Short-term: 0.4 mg/m<sup>3</sup>; 0.1 ppm

DNEL values		Oral exposure		Dermal exposure		Inhalative exposure	
		Short term (acute)	Long term (chronic)	Short term (acute)	Long term (chronic)	Short term (acute)	Long term (chronic)
Consumer	Local	no data	no data	no data	no data	no data	no data
	Systemic	no data	no data	no data	no data	no data	no data
Worker	Local	no data	no data	no data	no data	no data	no data
	Systemic	no data	no data	no data	no data	no data	no data

PNEC values		
Compartment	Value	Note(s)
Freshwater	0.144 mg/l	no notes
Marine water	0.014 mg/l	no notes
Freshwater sediment	1.02 mg/kg sediment dry weight	no notes
Marine water sediment	no data	no notes

Sewage Treatment Plant (STP)	100 mg/l	no notes
Intermittent release	1.44 mg/l	no notes
Secondary poisoning	no data	no notes
Soil	0.275 mg/kg soil dry weight	no notes

Due to the rapid hydrolysis of the parent compound, the PNEC derivation is based on the results for the hydrolysis product octanoic acid (CAS: 124 -07 -2).

**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. On the place of frequent use/working, provide hand and body washing facilities. Is it recommended to install emergency showers.

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

Prevent the product from getting into contact with eyes, skin and clothing. Avoid the inhalation of vapours. The product reacts violently with water.

The information regarding personal protective equipment is only for informative purposes. A complete risk assessment is required before the use of the product for the determination of the appropriate personal protective equipment, taking local circumstances into account.

1. **Eye/face protection:** Use appropriate protective glasses/face protection (EN 166). To keep eyewash bottles available is recommended.
2. **Skin protection:**
  - a. **Hand protection:** Use appropriate, chemical-resistant protective gloves (EN 374). Suitable materials for prolonged, direct contact: recommended: level 6 protective index, > 480 minutes breakthrough time  
 nitril rubber (NBR) – 0,4 mm thickness  
 fluoro elastomer (FKM) – 0,7 mm thickness  
 The selection of suitable gloves does not only depend on the material, but also on further marks of quality which may vary from manufacturer to manufacturer. The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
  - b. **Other:** Use appropriate, acid-resistant protective clothing, apron and safety footwear (in case of splashing, EN 14605 or EN ISO 13982).
3. **Respiratory protection:** Use appropriate, efficient personal respiratory protective device (e.g. gas mask against organic solvents and acids, equipped with a filter type A2B2 during work, to avoid exposure via inhalation, or if necessary, use self-contained breathing apparatus with a closed system.
4. **Thermal hazards:** No thermal hazards known.

**8.2.3. Environmental exposure controls:**

No specific prescription.

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 is necessary before deciding upon further protective measures.

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

**9.1. Information on basic physical and chemical properties:**

Parameter	Value / Test method / Remarks
1. <b>Appearance:</b>	colourless liquid
2. <b>Odour:</b>	characteristic, pungent odour
3. Odour threshold:	no data*
4. pH:	no data*
5. Melting point/freezing point:	-60 °C
6. Initial boiling point and boiling range:	195 °C
7. Flash point:	82 °C
8. Evaporation rate:	no data*
9. Flammability (solid, gas):	no data*
10. Upper/lower flammability or explosive limits:	no data*
11. Vapour pressure:	0.33 x 10 <sup>2</sup> Pa

12. Vapour density:	5.61
13. Relative density:	no data*
14. Solubility(ies):	in water: decomposes upon contact with water (hydrochloric acid is formed during hydrolysis) in organic solvents: well-soluble in general organic solvents (e.g. ether)
15. Partition coefficient: n-octanol/water:	no data*
16. Auto-ignition temperature:	no data*
17. Decomposition temperature:	no data*
18. Viscosity:	no data*
19. Explosive properties:	no data*
20. Oxidizing properties:	no data*

#### 9.2. Other information:

Density: 0.9535 g/cm<sup>3</sup>

\*: 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:

Reacts violently with water

### 10.2. Chemical stability:

Stable at room temperature and under normal pressure.

### 10.3. Possibility of hazardous reactions:

Reacts with bases, water, amines and alcohol.

The substance decomposes upon contact with water during a violent hydrolysis.

May have a corrosive effect on metals.

### 10.4. Conditions to avoid:

Keep product away from sources of ignition and heat, incompatible materials and moisture.

### 10.5. Incompatible materials:

Strong oxidizing agents. Water. Moisture.

### 10.6. Hazardous decomposition products:

Hydrogen chloride, phosgene, carbon monoxide, carbon dioxide.

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1. Information on toxicological effects:

**Acute toxicity:** Fatal if inhaled.

**Skin corrosion/irritation:** Causes skin irritation.

**Serious eye damage/irritation:** Causes serious eye damage.

**Respiratory or skin sensitisation:** May cause an allergic skin reaction.

**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. Summaries of the information derived from the test conducted:

No data available.

#### 11.1.2. Relevant toxicological properties:

**Acute toxicity:**

LD<sub>50</sub> (oral, rat): > 2000 mg/kg

LC<sub>50</sub> (inhalation, rat): 0.63 mg/l/4h (combined)

**Irritant/corrosive effect:**

The substance causes skin irritation. Based on this, serious eye damage is expected.

**Sensitization:**

Based on the LLNA study carried out on a substance with similar structure, octanoic acid chloride is expected to be sensitizing.

**Germ cell mutagenicity:**

OECD 471 (bacterial revers mutation assay): Negative.

**Carcinogenicity:**

The substance is not included in the national list containing substances with carcinogenic effect (ACGIH, IARC, NIOSH, NTP, OSHA).

**Further toxicological data:**

Other hazardous or harmful (toxic) effect may occur apart from those mentioned in this safety data sheet.

**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:**

Irritant, corrosive substance, which causes lacrimation.

May cause burns in case of contact with eyes or skin.

Harmful if ingested. May cause burns if ingested or inhaled. Pulmonary oedema may occur.

May cause headaches, nausea and vomiting if ingested.

The inhalation of vapours may cause irritation of the mucous membrane. May cause burns in the airways. Pulmonary oedema may occur.

**11.1.5. Delayed and immediate effects as well as chronic effects from short and long-term exposure:**

Causes skin irritation.

May cause an allergic skin reaction.

Causes serious eye damage.

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:**

The substance is not classified as hazardous for the environment, because its acute toxicity is > 100 mg/l.

**12.2. Persistence and degradability:**

The substance is readily biodegradable.

**12.3. Bioaccumulation potential:**

Accumulation in aquatic organisms is not expected.

If the product gets into contact with water, hydrolysis occurs, during which hydrochloric acid and octanoic acid is formed.

**12.4. Mobility in soil:**

No data available.

**12.5. Results of PBT and vPvB assessment:**

No data available.

**12.6. Other adverse effects:**

Do not discharge the product, its unused residues and its container into water bodies, soil and the sewage system.

**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:**

Do not discharge the product, its unused residues and its container into water bodies, soil and the sewage system.

**List of Waste Code:**

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.

**13.1.2. Information regarding the disposal of the packaging:**

Treatment and disposal of packaging contaminated with hazardous waste should be carried out based on the instructions given for the product itself.

Empty packaging should be collected according to the relevant regulations in force and disposed of in an appropriate way.

**13.1.3. Physical/chemical properties that may affect waste treatment options shall be specified:**

No data available.

**13.1.4. Sewage disposal:**

No data available.

**13.1.5. Special precautions for any recommended waste treatment:**

Processing, use or contamination of the manufactured product may invalidate, modify or make statements and information regarding waste treatment and disposal incomplete. Waste generator is responsible with the professional treatment of the generated waste and for the compliance with the legal regulations in force. It is the duty and responsibility of the user of the product to ensure, that if residues or wastes of the substance is considered to be hazardous, its treatment should be carried out in accordance with the legal regulations in force.

## SECTION 14: TRANSPORT INFORMATION

ADR/RID; IMDG; IATA:

**14.1. UN Number:**

UN 2927

**14.2. UN proper shipping name:**

TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S.

**14.3. Transport hazard class(es):**

Class: 6.1

Labels: 6.1 + 8

**14.4. Packing group:**

II

**14.5. Environmental hazards:**

IMDG:

Marine pollutant material: No.

**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 (EC) No 1999/45 and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive (EEC) No 76/769 and Commission Directives (EEC) No 91/155, (EEC) No 93/67, (EC) No 93/105 and (EC) No 2000/21

**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 (EEC) No 67/548 and (EC) No 1999/45, and amending Regulation (EC) No 1907/2006

**COMMISSION REGULATION (EU) No 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.

## SECTION 16: OTHER INFORMATION

**Information regarding the revision of the safety data sheet:** No information.

**Literature references / data sources:**

Hungarian version of the safety data sheet (13. 11. 2020, version 5).

**Relevant hazard statements (code and full text) of Sections 2 and 3:**

**H290** – May be corrosive to metals.

**H315** – Causes skin irritation.

**H317** – May cause an allergic skin reaction.

**H318** – Causes serious eye damage.



**H330** – Fatal if inhaled.

**EUH 014** – Reacts violently with water.

**Training advice:** No data available.

**Full text of the abbreviations in the safety data sheet:**

ADN: The European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.

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

ATE: Acute Toxicity Estimate.

AOX: Adsorbable organic halides.

BCF: Bioconcentration factor.

BOD: Biological Oxygen Demand.

CAS number: Chemical Abstract Service number.

CLP: Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures.

CMR effects: Carcinogenic, mutagenic, reprotoxic effects.

COD: Chemical Oxygen Demand.

CSA: Chemical Safety Assessment.

CSR: Chemical Safety Report.

DNEL: Derived-No-Effect-Level.

ECHA: European Chemical Agency.

EC: European Community.

EC number: EINECS and ELINCS numbers (see also EINECS and ELINCS).

EEC: European Economic Community.

EEA: European Economic Area (EU + Iceland, Liechtenstein and Norway).

EINECS: European Inventory of Existing Commercial Chemical Substances.

ELINCS: European List of Notified Chemical Substances.

EN: European Norm.

EU: European Union.

EWC: European Waste Catalogue (replaced by LoW – see below).

GHS: Globally Harmonized System of Classification and Labelling of Chemicals.

IATA: International Air Transport Association.

ICAO-TI: Technical Instructions for the Safe Transport of Dangerous Goods by Air.

IMDG: International Maritime Dangerous Goods.

IMSBC: International Maritime Solid Bulk Cargoes.

IUCLID: International Uniform Chemical Information Database.

IUPAC: International Union of Pure and Applied Chemistry.

Kow: n-Octanol - Water Partition Coefficient.

LC50: Lethal concentration resulting in 50 % mortality.

LD50: Lethal dose resulting in 50 % mortality (median lethal dose).

LoW: List of Waste.

LOEC: Lowest Observed Effect Concentration.

LOEL: Lowest Observed Effect Level.

NOEC: No Observed Effect Concentration.

NOEL: No Observed Effect Level.

NOAEC: No Observed Adverse Effect Concentration.

NOAEL: No Observed Adverse Effect Level.

OECD: Organization for Economic Cooperation and Development.

OSHA: Occupational Safety and Health Administration.

PBT: Persistent, Bioaccumulative and Toxic.

PNEC: Predicted No Effect Concentration.

QSAR: Quantitative Structure Activity Relationship.

REACH: Regulation 1907/2006/EC concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals.

RID: Regulations Concerning the International Transport of Dangerous Goods by Rail.

SCBA: Self Contained Breathing Apparatus.

SDS: Safety Data Sheet.

STOT: Specific Target Organ Toxicity.

SVHC: Substances of Very High Concern.

UN: United Nations.

UVCB: Chemical Substances of Unknown or Variable Composition, Complex Reaction Products and Biological Materials.

VOC: Volatile Organic Compound.

vPvB: very Persistent and very Bioaccumulative.

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.

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Safety data sheet was prepared by:  
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