

SAFETY DATA SHEET

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

1.1. Product identifier:

3-Chloropropionyl chloride

Chemical name: 3-chloropropionyl chloride
CAS number: 625-36-5
EC number: 210-890-4
Registration number: 01-2120097787-33-0003, as a transported isolated intermediate

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

Intermediate for industrial use.

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

Information about the manufacturer/distributor:

Framochem French-Hungarian Fine Chemicals Ltd.

3700 Kazincbarcika, Szervíz str. 5., PO Box 504

Telephone: +36 (48) 311-991

Fax: +36 (48) 512-162

1.3.1. Responsible person:

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E-mail:

info@framochem.hu

1.4. Emergency telephone number:

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 (EC) No 1272/2008 (CLP):

Corrosive to metals, Hazard Category 1 – H290

Acute toxicity (oral), Hazard Category 4 – H302

Skin corrosion/irritation, Hazard Category 1A – H314

Serious eye damage/eye irritation, Hazard Category 1 – H318

Acute toxicity (inhalation), Hazard Category 1 – H330

Hazard statements:

H290 – May be corrosive to metals.

H302 – Harmful if swallowed.

H314 – Causes severe skin burns and eye damage.

H318 – Causes serious eye damage.

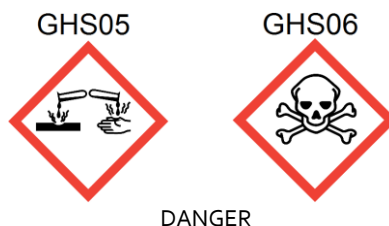
H330 – Fatal if inhaled.

2.2. Label elements:

Chemical name: 3-chloropropionyl chloride

CAS number: 625-36-5

EC number: 210-890-4



Hazard statements:

H290 – May be corrosive to metals.
H302 – Harmful if swallowed.
H314 – Causes severe skin burns and eye damage.
H330 – Fatal if inhaled.

EUH 071 – Corrosive to the respiratory tract.

Precautionary statements:

P260 – Do not breathe dust/fume/gas/mist/vapours/spray.
P280 – Wear protective gloves, protective clothing, eye protection/face protection.
P284 – [In case of inadequate ventilation] wear respiratory protection.
P301 + P330 + P331 – IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 – IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P304 + P340 + P301 – IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.
P305 + P351 + P338 + P301 – 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.
P405 – Store locked up.
P501 – Dispose of contents/container in accordance with local regulations.

2.3. **Other hazards:**

No other known specific hazards for human or environment.
The substance is not PBT/vPvB.
Endocrine disrupting property: Not an endocrine disruptor.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. **Substance:**

Chemical name: 3-chloropropionyl chloride
Synonym: 3PCL
CAS number: 625-36-5
EC number: 210-890-4
Molecular formula: C₃H₄Cl₂O
Molecular weight: 126.969

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. Do not perform mouth-to-mouth resuscitation.

INGESTION:

Measures:

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

INHALATION:

Measures:

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

SKIN CONTACT:

Measures:

- Immediately wash thoroughly with plenty of water, apply sterile dressings, consult a skin specialist.

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:

Harmful if swallowed.

Causes severe skin burns and eye damage.

Fatal if inhaled.

Corrosive to the respiratory tract.

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:

Dry powder, carbon dioxide, foam.

5.1.2. Unsuitable extinguishing media:

Water.

5.2. Special hazards arising from the substance or mixture:

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. Advice for firefighters:

Wear full protective clothing and self-contained breathing apparatus.

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:

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

6.1.2. For emergency responders:

Breathing protection is required.

Avoid contact with the skin, eyes and clothing.

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:

For large amounts: Pump off product.

For residues: Pick up with suitable absorbent material (e.g. sand, sawdust, general-purpose binder, kieselguhr).

Dispose of absorbed material in accordance with regulations.

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.

Wash hands and face thoroughly after use.

Wash contaminated clothing before reuse.

Technical measures:

Provide adequate ventilation, exhaustion.

Precautions against fire and explosion:

Prevent electrostatic charge - sources of ignition should be kept well clear - fire extinguishers should be kept handy.

7.2. Conditions for safe storage, including any incompatibilities:

Technical measures and storage condition:

Keep container tightly closed and dry; store in a cool place.

Storage at a proportionate temperature is required, to avoid 'breathing' of containers.

Storage stability: 6 months

From the data on storage duration in this safety data sheet no agreed statement regarding the warrantee of application properties can be deduced.

Incompatible materials: See Section 10.5

Packaging material: Glass, High density polyethylene (HDPE).

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.

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	0.045 mg/l	assessment factor = 1000
Marine water	0.005 mg/l	assessment factor = 10000
Freshwater sediment	0.335 mg/kg sediment dw	equilibrium partitioning method
Marine water sediment	0.034 mg/kg sediment dw	equilibrium partitioning method
Sewage Treatment Plant (STP)	482 mg/l	assessment factor = 1
Intermittent release	0.453 mg/l	no notes
Secondary poisoning	no data	no potential for bioaccumulation
Soil	0.04 mg/kg soil dw	no notes
Air	no data	no hazard identified

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:**

Avoid contact with the skin, eyes and clothing.

Do not breathe vapour/spray.

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, tightly fitting protective glasses (EN 166) and face shield.

2. **Skin protection:**

a. **Hand protection:** Use appropriate, chemical-resistant protective gloves (EN 374).

Suitable materials also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374):

butyl rubber (butyl) - 0.7 mm coating thickness

fluoroelastomer (FKM) - 0.7 mm coating thickness

Suitable materials short-term contact and/or splashes (recommended: At least protective index 2, corresponding > 30 minutes of permeation time according to EN 374):

chloroprene rubber (CR) - 0.5 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.

- 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 self-contained breathing apparatus.

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. Physical state	viscous liquid
2. Colour	dark brown
3. Odour, odour threshold	pungent odour
4. Melting point/freezing point	-32 °C
5. Boiling point or initial boiling point and boiling range	the substance decomposes before boiling
6. Flammability	non-flammable
7. Lower and upper explosion limit	no data*
8. Flash point	70.5 °C (EU method A.9)
9. Auto-ignition temperature	490 °C
10. Decomposition temperature	no data*
11. pH	no data*
12. Kinematic viscosity	1.15 mm ² /s (at 20 °C)
13. Solubility in water	not applicable; The substance is hydrolytically unstable at pH 4, 7 and 9 (half-life less than 12 hours)
in other solvents	no data*
14. Partition coefficient n-octanol/water (log value)	not applicable; the substance decomposes
15. Vapour pressure	4.51 hPa (at 20 °C)
16. Density and/or relative density	1.3205 g/cm ³ (at 20 °C)
17. Relative vapour density	no data*
18. Particle characteristics	no data*

9.2. Other information:

9.2.1. Information with regard to physical hazard classes:

The substance is not a flammable liquid.

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

The substance is not a self-reactive substance.

The substance is not a self-heating substance.

The substance is not an organic peroxide.

The substance is not explosive.

No oxidising properties. The substance is incapable of reacting exothermically with combustible materials on the basis of the chemical structure.

9.2.2. Other safety characteristics:

Dynamic viscosity: 1.52 mPa.s (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, or the property is not applicable for the product.

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity:

No reactivity known.

May be corrosive to metals.

- 10.2. Chemical stability:**
The product is stable if stored and handled as prescribed/indicated.
The substance decomposes when heated.
- 10.3. Possibility of hazardous reactions:**
Evolution of corrosive gases/vapours. Reacts with water and basic components to generate heat. On contact with water, gaseous decomposition products are formed, which cause build-up of pressure in tightly closed containers. 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. Addition of water leads to increase in temperature. Vapours may form ignitable mixture with air. Substance/product is highly reactive. In damp air hydrochloric acid formation is possible. Violent reactions with water and/or alcohols, with formation of hydrochloric acid. Violent and explosive reaction with water.
- 10.4. Conditions to avoid:**
Avoid electro-static charge. Avoid humidity. Avoid heat. Avoid prolonged storage.
Disregard of the conditions mentioned may result in undesirable decomposition reactions.
- 10.5. Incompatible materials:**
Alkaline reactive substances, alcohols, bases, amines, water.
- 10.6. Hazardous decomposition products:**
Hydrogen chloride.
When heated can give off ignitable vapours.

SECTION 11: TOXICOLOGICAL INFORMATION

- 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008:**
Acute toxicity: Harmful if swallowed. Fatal if inhaled.
Skin corrosion/irritation: Causes severe skin burns.
Serious eye damage/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. Summaries of the information derived from the test conducted:**
No data available.
- 11.1.2. Relevant toxicological properties:**
Acute toxicity:
In an acute oral toxicity study (similar to OECD 401) a LD₅₀ between 1000 and 1470 mg/kg bw was derived. In an acute inhalation toxicity study a LC₅₀ <0.90 mg/L air/1h was derived.
Based on an oral LD₅₀ of > 1000 and < 1470 mg/kg bw the test substance has to be classified for Acute toxicity, category 4: H302.
Based on an inhalation 1 hour-LC₅₀ <0.90 mg/L air the test substance has to be classified as Acute toxicity, category 1: H330.
Corrosion/irritation:
The test substance was concluded to be corrosive to the skin and causing irreversible damage to the eye.
- 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:**
No data available.
- 11.1.5. Delayed and immediate effects as well as chronic effects from short and long-term exposure:**
Harmful if swallowed.
Causes severe skin burns and eye damage.
Fatal if inhaled.
Corrosive to the respiratory tract.
- 11.1.6. Interactive effects:**
No data available.
- 11.1.7. Absence of specific data:**
No information.
- 11.2. Information on other hazards:**
Endocrine disrupting properties:
Endocrine disrupting property: Not an endocrine disruptor.
Other information:
No data available.

SECTION 12: ECOLOGICAL INFORMATION

12.1. **Toxicity:**

The substance is not classified as hazardous for the environment.

- Acute toxicity data:

The lowest effect value (LC/EC₅₀) for acute toxicity to aquatic organisms (fish and aquatic invertebrates) is >10 and ≤. 100 mg/L. However, the parent compound hydrolyses to form 3-chloropropionic acid. The hydrolysis product is readily biodegradable (Trénel J. and Kühn R., 1982). Log Kow values of the parent compound and its hydrolysis product are <4. Therefore, based on the available data for the hydrolysis product 3-chloropropionic acid and for the parent compound itself, the parent compound is not to be classified as chronically hazardous to the aquatic environment.

- Chronic toxicity data:

Chronic data are available for algae (*Desmodesmus subspicatus*, 72-h ErC₁₀ = 10.1 mg/L; ECHA disseminate data, 2015), indicating that the substance does not present a long-term hazard according to the categories outlined in Table 4.1.0(b) (ii) (Commission Regulation (EU) No 286/2011 amending Regulation (EC) No 1272/2008) for rapidly degradable substances. Based on the chronic data for the hydrolysis product methanol, the parent compound is not to be classified as chronically hazardous to the aquatic environment as the lowest chronic effect value is clearly higher than 1 mg/L

12.2. **Persistence and degradability:**

Stability:

In contact with water, the substance is expected to rapidly hydrolyse. This estimation refers to dry air. In mist, rain, droplets and aerosols, hydrolysis will be the major fate process of the chloroformate due to the short half-life in aqueous solution. Therefore, this estimate may be of low relevance.

Phototransformation in air:

After evaporation or exposure to air, the substance and its hydrolysis product will be slowly degraded by photochemical processes.

Biodegradation:

3-chloropropionyl chloride (CAS 625-36-5) is rapidly hydrolysed in contact with water and forms 3-chloropropionic acid (CAS 107-94-8) and HCl. The hydrolysis product 3-chloropropionic acid is readily biodegradable (Trénel J. and Kühn R., 1982). Regarding the hydrolysis products HCl, biodegradation is not applicable due to the inorganic character of this molecule.

12.3. **Bioaccumulative potential:**

Due to the low log Kow of the parent compound and its hydrolysis products, significant accumulation in organisms is not to be expected (calculated, BASF SE, 2019).

12.4. **Mobility in soil:**

Adsorption to the solid soil phase is not expected.

From the water surface the substance will slowly evaporate into the atmosphere. However, 3-chloropropionyl chloride hydrolyses rapidly in contact with water to form 3-chloropropionic acid (CAS 107-94-8). Therefore, this model calculation may be of low relevance.

Over time, the substance will preferentially distribute into the compartment water (74.1%) and slightly into the compartment air (25.9%).

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

The substance is not PBT/vPvB.

12.6. **Endocrine disrupting properties:**

Endocrine disrupting property: Not an endocrine disruptor.

12.7. **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.

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:**

Contaminated packaging should be emptied as far as possible; then it can be passed on for recycling after being thoroughly cleaned.

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:**
No data available.

SECTION 14: TRANSPORT INFORMATION

- 14.1. **UN number or ID number:**
UN 3390
- 14.2. **UN proper shipping name:**
ADR/RID: TOXIC BY INHALATION LIQUID, CORROSIVE, N.O.S. (3-Chloropropionyl chloride)
IMDG: TOXIC BY INHALATION LIQUID, CORROSIVE, N.O.S. (3-chloropropionyl chloride)
IATA: Passenger Aircraft: Not permitted for transport
Cargo Aircraft: Not permitted for transport
- 14.3. **Transport hazard class(es):**
6.1 + 8
Tunnel restriction code: C/D
- 14.4. **Packing group:**
I
- 14.5. **Environmental hazards:**
ADR/RID: no
IMDG: Marine pollutant substance: no
- 14.6. **Special precautions for user:**
No relevant information available.
- 14.7. **Maritime transport in bulk according to IMO instruments:**
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) 2020/878 of 18 June 2020 amending Annex II to Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

- 15.2. **Chemical safety assessment:** No chemical safety assessment is required since the product is an intermediate.

SECTION 16: OTHER INFORMATION

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

Literature references / data sources:
REACH Registration dossier.

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

H290 – May be corrosive to metals.
H302 – Harmful if swallowed.
H314 – Causes severe skin burns and eye damage.
H330 – Fatal if inhaled.
EUH 071 – Corrosive to the respiratory tract.

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.

IMO: International Maritime Organization.

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.

Safety data sheet was prepared by:
MSDS-Europe
International branch of ToxInfo Kft.

Professional help regarding the explanation of
the safety data sheet:
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