

SAFETY DATA SHEET

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

1.1. Product identifier:

METHYL CHLOROFORMATE

Chemical name: Methyl chloroformate

CAS number: 79-22-1

EC number: 201-187-3

Index number: 607-019-00-9

Registration number: 01-2119463323-44-0002; transported isolated intermediate

1.2. Relevant identified uses of the substance or mixture 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 út 5, Pf. 504

Tel: +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:

Public Toxicological Health Service (ETTSZ)

1097 Budapest, Albert Flórián út 2-6.

Tel.: +36 80 201 199 (0-24, free of charge – only from Hungary)

Tel.: +36 1 476 6464 (0-24, normal charge – also from foreign countries)

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture:

Classification according to Regulation (EC) No 1272/2008 (CLP):

Flammable liquids, Hazard Category 2 – H225

Acute toxicity (oral), Hazard Category 2 – H300

Acute toxicity (dermal), Hazard Category 4 – H312

Acute toxicity (inhalation), Hazard Category 1 – H330

Skin corrosion/irritation, Hazard Category 1B – H314

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

Hazard statements:

H225 – Highly flammable liquid and vapour.

H300 – Fatal if swallowed.

H312 – Harmful in contact with skin.

H314 – Causes severe skin burns and eye damage.

H318 – Causes serious eye damage.

H330 – Fatal if inhaled.

2.2. Label elements:

Chemical name: Methyl chloroformate
CAS number: 79-22-1
EC number: 201-187-3



Hazard statements:

H225 – Highly flammable liquid and vapour.
H300 – Fatal if swallowed.
H312 – Harmful in contact with skin.
H314 – Causes severe skin burns and eye damage.
H330 – Fatal if inhaled.

Precautionary statements:

P210 – Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P223 – Do not allow contact with water.
P234 – Keep only in original packaging.
P240 – Ground and bond container and receiving equipment.
P241 – Use explosion-proof electrical/ventilating/lighting equipment.
P242 – Use non-sparking tools.
P243 – Take action to prevent static discharges.
P280 – Wear protective gloves/protective clothing/eye protection/face protection.
P284 – Wear respiratory protection.
P390 – Absorb spillage to prevent material damage.
P303 + P361 + P353 – IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P370 + P378 – In case of fire: Use dry extinguishing power, alcohol resistant foam or carbon dioxide to extinguish.
P403 + P235 – Store in a well-ventilated place. Keep cool.
P501 – Dispose of contents/container as hazardous waste according to the local regulations.

EUH 071 – Corrosive to the respiratory tract.

2.3. Other hazards:

See Section 11.
Results of PBT and vPvB assessment: Not considered a PBT or vPvB substance.
Endocrine disrupting property: Not an endocrine disruptor.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance:

IUPAC name: Methyl chlorocarbonate
Chemical name: Methyl chloroformate
Synonym: Chlorformate methyl ester; Methoxycarbonyl chloride
CAS number: 79-22-1
EC number: 201-187-3
Index number: 607-019-00-9
Formula: $C_2H_3ClO_2$
Molar mass: 94.5 g/mol
Purity: >99.3 %

SECTION 4: FIRST AID MEASURES

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

General information: In all cases keep the victim at physical and mental rest and warm. In all serious events and always in case of eye contact, seek for medical help.

INGESTION:

Measures:

- Rinse the mouth with clean water, make the victim drink 0.1-0.2 l of water.
- Do not induce vomiting.
- Obtain immediate medical help.

INHALATION:

Measures:

- Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- Obtain immediate medical help.

SKIN CONTACT:

Measures:

- Immediately remove the contaminated clothes.
- Clean the affected skin surface with plenty of running water.
- Obtain immediate medical help.

EYE CONTACT:

Measures:

- Remove contact lenses.
- In case of contact with eyes flush immediately with plenty of flowing water for 15 minutes holding eyelids apart (for at least 15 minutes).
- Obtain immediate medical help.

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

Fatal if swallowed.

Harmful in contact with skin.

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 extinguishing powder, alcohol resistant foam, carbon dioxide.

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, phosgene / carbonyl chloride, nitrogen oxides, carbon oxides, halogenated compounds) 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.

Knock down gases/vapours/mists with water spray.

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:**
Wear respiratory protection and protective clothes.
Avoid inhaling vapours, mist or gases.
Ensure adequate ventilation.
Remove the ignition sources.
Evacuate personnel to safe areas.
Beware of vapours accumulating to form explosive concentrations.
Vapours can accumulate in low areas.
- 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 material with non-combustible absorbent (e.g. sand, earth, vermiculite), then place into a suitable, closed, properly labelled chemical waste container for disposal.
During the collection/placement/disposal of the hazardous waste use appropriate personal protective equipment. Use carbonate or sodium bicarbonate solution to the neutralization of the product.
- 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.
Avoid contact with eyes and skin.
Avoid inhalation of vapour/mist/spray.
Wear appropriate personal protective equipment.
Do not eat, drink or smoke during the work.
Technical measures:
If vapour/mist may be generated, ensure adequate ventilation/local exhaust.
Precautions against fire and explosion:
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting/equipment.
Use non-sparking tools.
Take action to prevent static discharges.
- 7.2. Conditions for safe storage, including any incompatibilities:**
Technical measures and storage condition:
Keep in original, tightly closed and appropriately labelled container.
Store in cool and dry place, protected from moisture.
Protect from direct weather conditions (light, heat, frost, moisture).
The place of storage has to be properly ventilated.
Incompatible materials: See Section 10.5
Packaging material: No special prescriptions.
- 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.
- Information about the decomposition products:
Methanol (CAS: 67-56-1): 8 hours: 260 mg/m³, 200 ppm (Regulation 2006/15/EC)

Phosgene (CAS: 75-44-5): 8 hours: 0.08 mg/m³, 0.02 ppm; Short term: 0.4 mg/m³, 0.1 ppm (Regulation 2000/39/EC)

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	4.5 µg/L	no notes
Marine water	450 ng/L	no notes
Freshwater sediment	18 µg/kg sediment dw	no notes
Marine water sediment	1.8 µg/kg sediment dw	no notes
Sewage Treatment Plant (STP)	10 mg/L	no notes
Intermittent release	45 µg/L	no notes
Secondary poisoning	no data	no potential for bioaccumulation
Soil	963 ng/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. Do not breathe gas/mist/spray.

Ensure adequate ventilation where vapour/mist/spray is generated.

The body protection suitable for the given workplace should be chosen according to the quantity of the hazardous material and its concentration.

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

- Eye/face protection:** Use adequate, tightly sealed protective goggles/face shield (EN ISO 16321-1:2022; EN 166).
- Skin protection:**
 - Hand protection:** In case of short term contact or splash risk, use appropriate protective gloves (EN 374). Material: butyl rubber. Thickness: 0.7 mm. Breakthrough time: >30 min.
 - Other:** Use appropriate protective clothes, apron, boots, cap. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier.
- Respiratory protection:** If gases, vapours are formed, use appropriate respiratory protective device (against vapours of organic compounds, e.g. EN 14387 - type A). In case of higher concentrations or for long term contact: self-contained breathing apparatus.
- Thermal hazards:** No thermal hazards known.

8.2.3. **Environmental exposure controls:**

Avoid uncontrolled escape of substance into the environment.

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	liquid
2. Colour	colourless
3. Odour, odour threshold	pungent
4. Melting point/freezing point	< -81 °C
5. Boiling point or initial boiling point and boiling range	70.81-72 °C (101.3 – 101.325 kPa)
6. Flammability	highly flammable liquid and vapour
7. Lower and upper explosion limit	7.8 vol% / 23.3 vol%
8. Flash point	10 – 17.8 °C (101.3 kPa)
9. Auto-ignition temperature	475 - 504 °C (101.3 – 101.325 kPa)
10. Decomposition temperature	no data*
11. pH	not applicable
12. Kinematic viscosity	no data*
13. Solubility in water in other solvents	decomposes in contact with water soluble in organic solvents
14. Partition coefficient n-octanol/water (log value)	-0.77 – 0.136 (25 °C)
15. Vapour pressure	13.753 kPa (20 °C)
16. Density and/or relative density	1.23 g/cm ³ (20 °C)
17. Relative vapour density	3.3 (air=1)
18. Particle characteristics	no data*

9.2. Other information:

9.2.1. Information with regard to physical hazard classes:

Explosive properties: Not explosive.
Oxidising properties: Not oxidising.

9.2.2. Other safety characteristics:

Dynamic viscosity: 0.43 – 0.546 mPa*s

*: 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:

Reacts violently with water.

10.2. Chemical stability:

Stable within normal temperature and general work conditions.

10.3. Possibility of hazardous reactions:

Air sensitive.
Reacts violently with water.
Decomposes to the effect of heat.

10.4. Conditions to avoid:

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Avoid direct contact with sunlight.
Take action to prevent static discharges.

10.5. Incompatible materials:

Oxidizing agents. Water, alcohols, bases, amines.

10.6. Hazardous decomposition products:

Methyl chloride, hydrogen chloride, carbon dioxide, methanol.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008:

Acute toxicity: Fatal if swallowed. Harmful in contact with skin. Fatal if inhaled.

Skin corrosion/irritation: Causes severe skin burns and eye damage.

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:

LD₅₀ (oral, rat): 313 mg/kg bw

LC₅₀ (inhalative, rat): 60-210 mg/m³ air/4h

LC₅₀ (inhalative, rat): 51-53 ppm/4h

LC₅₀ (inhalative, rat): 450 mg/m³ air/60 min

Irritation/corrosion:

Skin: Adverse effect observed (corrosive).

Eyes: Adverse effect observed (irritating).

Repeated dose toxicity:

NOAEL (inhalative, rat): 3.94 mg/m³ air

NOAEC (inhalative, rat): 1.6-12.14 mg/m³ air

NOAEC (inhalative, rat): 0.4 ppm

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:

Inhalation: May cause pulmonary oedema (the symptoms can be delayed, even hours after the exposition).

Irritation: severely irritates the skin and the eyes. Irritates the mucous membranes.

Sensitisation: Some chloroformates may be sensitizing (not frequent).

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

Fatal if swallowed.

Harmful in contact with skin.

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.

The substance decomposes with hydrolysis and during the process hydrochloric acid, carbon dioxide and alcohol is formed.

LC₅₀ (fish): 4.5-15400 mg/l/4 days

LC₅₀ (fish): 2.5 mg/l/4 days

LC₁₀₀ (fish): 6.3 mg/l/4 days

EC₅₀ (aquatic invertebrates): 492-10000000 µg/l/48h

EC₅₀ (aquatic invertebrates): 492-10000000 µg/l/24h

EC₀ (aquatic invertebrates): 10 g/l/48h

EC₀ (aquatic invertebrates): 10 g/l/24h

EC₅₀ (algae and cyanobacteria): 22 g/l/4 days

EC₅₀ (algae and cyanobacteria): 492-780 µg/l/72h

NOEC (algae and cyanobacteria): 97 µg/l/72h

EC₅₀ (microorganisms): 1 g/l/3h

EC₅₀ (microorganisms): 1 g/l/30 min

12.2. Persistence and degradability:

Dissipation half life (DT₅₀): 17.2 – 73.7 days

Degradation rate constant (OH radicals): 0 cm³ molecule⁻¹ d⁻¹

Biodegradation in water: Readily biodegradable.

12.3. Bioaccumulative potential:

No data available.

12.4. Mobility in soil:

The substance decomposes with hydrolysis while methyl alcohol is formed, which is fully soluble in water.

K_{oc}: 0.13-0.61

Henry's law constant: 28 Pa m³/mol (25 °C)

Distribution modelling:

Air: 12.5 – 72.4 %

Water: 27.6 – 87.5 %

12.5. Results of PBT and vPvB assessment:

Not considered a PBT or vPvB substance.

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:

The product can be incinerated in an incinerator equipped with an afterburner and scrubber in accordance with local 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:

Dispose of in accordance with national regulations.

Cleaning contaminated packaging: with aqueous solution of sodium hydroxide or ammonia.

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:**
ADR/RID; IMDG: UN 1238
IATA: Transport by air is forbidden.
- 14.2. **UN proper shipping name:**
ADR/RID: METHYL CHLOROFORMATE
IMDG: METHYL CHLOROFORMATE
- 14.3. **Transport hazard class(es):**
6.1 TFC
- 14.4. **Packing group:**
I
- 14.5. **Environmental hazards:**
Environmental hazard: none.
Marine pollutant: no.
- 14.6. **Special precautions for user:**
Labels: 6.1 + 3 + 8
- 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 information.

SECTION 16: OTHER INFORMATION

Information regarding the revision of the safety data sheet:

The safety data sheet has been revised according to Regulation (EU) 2020/878 (Section 1-16).
The hazard classification of the substance was modified compared to the previous version.

This safety data sheet supersedes all previous versions according to Annex II of Regulation (EC) No 1907/2006.

Literature references / data sources:

Previous version of the safety data sheet (14. 09. 2017, version CLP_D).

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

H225 – Highly flammable liquid and vapour.
H300 – Fatal if swallowed.
H312 – Harmful in contact with skin.
H314 – Causes severe skin burns and eye damage.
H318 – Causes serious 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: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.
ADR: 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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www.msds-europe.com

