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Safety data sheet

BASF safety data sheet. This document has been drafted following generic rules for safety data sheets. It does not replace the safety data sheet provided according to Regulation (EC) No 1907/2006.

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Date / First version: 27.02.2023
Product: **Lupranat* T 80 M**

(ID no. 30835700/SDS_GEN_EU/EN)
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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Lupranat* T 80 M

Chemical name: m-tolylidene diisocyanate
INDEX-Number: 615-006-00-4
CAS Number: 26471-62-5

REACH registration number: 01-2119454791-34-0013, 01-2119454791-34-0000, 01-2119454791-34-0033

1.2. Relevant identified uses of the substance or mixture and uses advised against

Uses advised against: All consumer uses are strongly advised against., Professional cleaning applications with aprotic polar solvents (meeting the IUPAC definition)
Recommended use: polyurethane component, industrial chemicals

For the detailed identified uses of the product see appendix of the safety data sheet.

1.3. Details of the supplier of the safety data sheet

Company:
BASF SE
67056 Ludwigshafen
GERMANY
Division Monomers

Telephone: +49 621 60 42737
E-mail address: pss.monomers@basf.com

1.4. Emergency telephone number

International emergency number:

Telephone: +49 180 2273-112

SECTION 2: Hazards Identification

2.1. Classification of the substance or mixture

According to Regulation (EC) No 1272/2008 [CLP]

Acute Tox. 1 (Inhalation - vapour)	H330 Fatal if inhaled.
Skin Corr./Irrit. 2	H315 Causes skin irritation.
Eye Dam./Irrit. 2	H319 Causes serious eye irritation.
Resp. Sens. 1	H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin Sens. 1	H317 May cause an allergic skin reaction.
Carc. 2	H351 Suspected of causing cancer.
STOT SE 3	H335 May cause respiratory irritation.
Aquatic Chronic 3	H412 Harmful to aquatic life with long lasting effects.

Specific Concentration Limits According to Regulation (EC) No 1272/2008 [CLP]

Resp. Sens. 1: >= 0.1 %

For the classifications not written out in full in this section the full text can be found in section 16.

2.2. Label elements

According to Regulation (EC) No 1272/2008 [CLP]

Pictogram:

Signal Word:

Danger

Hazard Statement:

H319	Causes serious eye irritation.
H315	Causes skin irritation.
H330	Fatal if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317	May cause an allergic skin reaction.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.
H412	Harmful to aquatic life with long lasting effects.

Precautionary Statements (Prevention):

P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves, protective clothing and eye protection or face protection.
P260	Do not breathe mist or vapour.

P201	Obtain special instructions before use.
P284	In case of inadequate ventilation wear respiratory protection.
P273	Avoid release to the environment.
P202	Do not handle until all safety precautions have been read and understood.
P272	Contaminated work clothing should not be allowed out of the workplace.
P264	Wash contaminated body parts thoroughly after handling.

Precautionary Statements (Response):

P310	Immediately call a POISON CENTER or physician.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P303 + P352	IF ON SKIN (or hair): Wash with plenty of soap and water.
P362 + P364	Take off contaminated clothing and wash it before reuse.

Precautionary Statements (Storage):

P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.

Precautionary Statements (Disposal):

P501	Dispose of contents and container to hazardous or special waste collection point.

Labeling of special preparations (GHS):

EUH204: Contains isocyanates. May produce an allergic reaction.
As from 24 August 2023 adequate training is required before industrial or professional use.

Hazard determining component(s) for labelling: m-tolylidene diisocyanate

2.3. Other hazards

According to Regulation (EC) No 1272/2008 [CLP]

Avoid any contact with the substance in case of known allergy to isocyanates, skin complaints, hypersensitivity reactions, chronic respiratory disease, asthmatic attacks or bronchial attacks

SECTION 3: Composition/Information on Ingredients

3.1. Substances

Chemical nature

isocyanate

Regulatory relevant ingredients

m-tolylidene diisocyanate

Content (W/W): >= 99.9 % - <= 100 % CAS Number: 26471-62-5 EC-Number: 247-722-4 INDEX-Number: 615-006-00-4	Acute Tox. 1 (Inhalation - vapour) Skin Corr./Irrit. 2 Eye Dam./Irrit. 2 Resp. Sens. 1 Skin Sens. 1 Carc. 2 STOT SE 3 (irr. to respiratory syst.) Aquatic Chronic 3 H319, H315, H330, H334, H317, H335, H351, H412 Specific concentration limit: Resp. Sens. 1: >= 0.1 %

For the classifications not written out in full in this section, including the hazard classes and the hazard statements, the full text is listed in section 16.

3.2. Mixtures

Not applicable

SECTION 4: First-Aid Measures

4.1. Description of first aid measures

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

If inhaled:
Keep patient calm, remove to fresh air, seek medical attention.

On skin contact:
Immediately wash thoroughly with soap and water, seek medical attention.

On contact with eyes:
Wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

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

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

Symptoms: Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11.

Hazards: Symptoms can appear later.

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

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote, administer corticosteroid dose aerosol to prevent pulmonary odema.

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing media

Suitable extinguishing media:
dry powder, carbon dioxide, water spray, foam

Unsuitable extinguishing media for safety reasons:
water jet

5.2. Special hazards arising from the substance or mixture

Endangering substances: carbon monoxide, Carbon dioxide, hydrogen cyanide, nitrogen oxides, isocyanate
Advice: The substances/groups of substances mentioned can be released in case of fire. Evolution of fumes/fog.

5.3. Advice for fire-fighters

Special protective equipment:
Wear self-contained breathing apparatus and chemical-protective clothing.

Further information:
Keep containers cool by spraying with water if exposed to fire. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

SECTION 6: Accidental Release Measures

High risk of slipping due to leakage/spillage of product.

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective clothing. Information regarding personal protective measures, see section 8.
Ensure adequate ventilation. Use breathing apparatus if exposed to vapours/dust/aerosol.

6.2. Environmental precautions

Do not empty into drains. Do not discharge into the subsoil/soil.

6.3. Methods and material for containment and cleaning up

For large amounts: Pump off product.
For residues: Pick up with inert absorbent material (e.g. sand, earth etc.).
Neutralize with a solution of 5 - 10 % Sodium carbonate, 0,2 - 2 % detergents and 90 - 95 % water.
Dispose of absorbed material in accordance with regulations.

6.4. Reference to other sections

Information regarding exposure controls/personal protection and disposal considerations can be found in section 8 and 13.

SECTION 7: Handling and Storage

7.1. Precautions for safe handling

Provide suitable exhaust ventilation at the processing machines. Ensure thorough ventilation of stores and work areas. Avoid aerosol formation. When handling heated product, vapours of the product should be ventilated, and respiratory protection used. Wear respiratory protection when spraying. Danger of bursting when sealed gastight. Protect against moisture. Clean up contamination as soon as they occur. Provide basic employee training to prevent/minimize exposures. Products freshly manufactured from isocyanates can contain incompletely reacted isocyanates and other dangerous substances, e.g. primary aromatic amines. Industrial cleaning with aprotic polar solvents (meeting the IUPAC definition) may lead to formation of hazardous primary aromatic amine (>0,1%). See Section 11.

Protection against fire and explosion:
No special precautions necessary.

7.2. Conditions for safe storage, including any incompatibilities

Keep away from water. Segregate from foods and animal feeds. Segregate from acids and bases.

Suitable materials for containers: Carbon steel (Iron), High density polyethylene (HDPE), Low density polyethylene (LDPE), tinned carbon steel (Tinplate), Stainless steel 1.4301 (V2)
Further information on storage conditions: From this information no suitability of the materials mentioned above for the design of installations, including containers for permanent storage, can be inferred. Special conditions apply to the selection of materials in this regard, which we can communicate on request.
Keep container tightly closed in a cool, well-ventilated place. Protect against moisture. Formation of CO2 and build up of pressure possible. Danger of bursting when sealed gastight.

Storage stability:
Protect against moisture.
If moisture enters isocyanate containers, CO2 forms and pressure builds up.

7.3. Specific end use(s)

For the relevant identified use(s) listed in Section 1 the advice mentioned in this section 7 is to be observed.

SECTION 8: Exposure Controls/Personal Protection

8.1. Control parameters

PNEC

freshwater: 0.0125 mg/l

marine water: 0.00125 mg/l

intermittent release: 0.125 mg/l

STP: 1 mg/l

DNEL

worker:
Short-term exposure - systemic effects, Inhalation: 0.14 mg/m3

worker:
Short-term exposure - local effects, Inhalation: 0.14 mg/m3

worker:
Long-term exposure- systemic effects, Inhalation: 0.035 mg/m3

worker:
Long-term exposure - local effects, Inhalation: 0.035 mg/m3

8.2. Exposure controls

Appropriate engineering controls
It is recommended to control the adherence of the DNEL/DMEL-values by measurements. Ensure an efficient ventilation of the working place (at least 3 air changes per hour).

Personal protective equipment

Respiratory protection:
Respiratory protection in case of vapour/aerosol release. (Combination filter EN 14387 A-P2)

Hand protection:
Chemical resistant protective gloves (EN ISO 374-1)
Suitable materials also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN ISO 374-1):
butyl rubber (butyl) - 0.7 mm coating thickness

nitrile rubber (NBR) - 0.4 mm coating thickness
chloroprene rubber (CR) - 0.5 mm coating thickness
Unsuitable materials
polyvinylchloride (PVC) - 0.7 mm coating thickness
Polyethylene-Laminate (PE laminate) - ca. 0.1 mm coating thickness

Suitable materials that provide sufficient protection for industrial cleaning with aprotic polar solvents (meeting the IUPAC definition):
butyl rubber (butyl) - 0.7 mm coating thickness
nitrile rubber (NBR) - 0.4 mm coating thickness
chloroprene rubber (CR) - 0.5 mm coating thickness

Eye protection:
Safety glasses with side-shields (frame goggles) (e.g. EN 166)

Body protection:
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).

General safety and hygiene measures

Do not breathe vapour/spray. With products freshly manufactured from isocyanates body protection and chemical resistant protective gloves is recommended. Wearing of closed work clothing is required additionally to the stated personal protection equipment. No eating, drinking, smoking or tobacco use at the place of work. Take off immediately all contaminated clothing. Hands and/or face should be washed before breaks and at the end of the shift. At the end of the shift the skin should be cleaned and skin-care agents applied.

Environmental exposure controls

For information regarding environmental exposure controls, see Section 6.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

State of matter:	liquid	
Form:	liquid	
Colour:	amber to brown	
Odour:	characteristic, pungent odour	
Odour threshold:	Not determined due to respiratory tract sensitizing properties.	
melting range:	9.5 - 10 °C (1,013 hPa)	(Directive 84/449/EEC, A.1)
Boiling range:	252 - 254 °C (1,013 hPa)	(Directive 84/449/EEC, A.2)
Flammability:	hardly combustible	(derived from flash point)

Lower explosion limit:		
	For liquids not relevant for classification and labelling.	
Upper explosion limit:		
	For liquids not relevant for classification and labelling.	
Flash point:	132 °C	(Directive 84/449/EEC, A.9, closed cup)
Auto-ignition temperature:	> 595 °C	(Directive 84/449/EEC, A.15)
Thermal decomposition:	230 °C	
SADT:	Not a substance liable to self-decomposition according to UN transport regulations, class 4.1.	
pH value:		
	not applicable, substance/mixture reacts violently with water	
Viscosity, kinematic:	2.221 mm2/s (20 °C)	(measured)
Viscosity, dynamic:		
	not determined	
Solubility in water:	Study scientifically not justified. 124 mg/l (25 °C)	(calculated)
Partitioning coefficient n-octanol/water (log Kow):	(22 °C) Study scientifically not justified.	(OECD Guideline 117)
Vapour pressure:	0.015 hPa (20 °C)	(Directive 84/449/EEC, A.4)
Relative density:	approx. 1.22 (20 °C)	
Density:	1.22 g/cm3 (20 °C)	(Directive 84/449/EEC, A.3)
Relative vapour density (air):		
	not applicable	

Particle characteristics

Particle size distribution: The substance / product is marketed or used in a non solid or granular form. -

9.2. Other information

Information with regard to physical hazard classes

Explosives

Explosion hazard:	not explosive	(Directive 84/449/EEC, A.14)
Impact sensitivity:	not shock-sensitive	(Directive 92/69/EEC, A.14)

Oxidizing properties

Fire promoting properties:	Based on its structural properties the product is not classified as oxidizing.

Pyrophoric properties

Self-ignition temperature: Test type: Spontaneous self-ignition at room-temperature.

not self-igniting

Self-heating substances and mixtures

Self heating ability: It is not a substance capable of spontaneous heating.

Substances and mixtures, which emit flammable gases in contact with water

Formation of flammable gases:
Forms no flammable gases in the presence of water.

Corrosion to metals

Corrosive effects to metal are not anticipated.

Other safety characteristics

Radioactivity:

not radioactive for transport purposes

Miscibility with water:
Reacts with water.

pKA:
Study technically not feasible.

:
No data available.

Surface tension:
Based on chemical structure, surface activity is not to be expected.

Molar mass: 174.16 g/mol

Other Information: If necessary, information on other physical and chemical parameters is indicated in this section.

SAPT-Temperature:
Product does not fulfil criteria for polymerizing substances according to transport regulations.

Evaporation rate:
Value can be approximated from Henry's Law Constant or vapor pressure.

SECTION 10: Stability and Reactivity

10.1. Reactivity

No hazardous reactions if stored and handled as prescribed/indicated.

Corrosion to metals:	Corrosive effects to metal are not anticipated.	
Reactions with water/air:	Reaction with:	water
	Flammable gases:	no
	Toxic gases:	no
Formation of flammable gases:	Remarks:	Forms no flammable gases in the presence of water.

10.2. Chemical stability

The product is chemically stable.

Peroxides: The product does not contain peroxides. The product/the substance has not a tendency towards the formation of peroxide.

10.3. Possibility of hazardous reactions

10.4. Conditions to avoid

Avoid moisture.

10.5. Incompatible materials

Substances to avoid:
Copper, zinc powder — zinc dust (pyrophoric), Tin, acids, alcohols, amines, water, Alkalines

10.6. Hazardous decomposition products

No hazardous decomposition products if stored and handled as prescribed/indicated.

SECTION 11: Toxicological Information

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

Acute toxicity

Assessment of acute toxicity:
Of very high toxicity after short-term inhalation. Of low toxicity after single ingestion. Virtually nontoxic after a single skin contact.

Experimental/calculated data:
LD50 rat (oral): 4,130 mg/kg (OECD Guideline 401)

LC50 rat (by inhalation): 0.48 mg/l 1 h (OECD Guideline 403)

The vapour was tested.

LD50 rabbit (dermal): > 9,400 mg/kg (OECD Guideline 402)

Irritation

Assessment of irritating effects:
Irritating to eyes, respiratory system and skin.

Experimental/calculated data:
Skin corrosion/irritation
rabbit: Irritant. (OECD Guideline 404)

Serious eye damage/irritation
rabbit: Irritant. (Draize test)

Respiratory/Skin sensitization

Assessment of sensitization:
The substance may cause sensitization of the respiratory tract. Sensitization after skin contact possible. Studies in animals suggest that dermal exposure may lead to pulmonary sensitization. However, the relevance of this result for humans is unclear.

Experimental/calculated data:
Mouse Local Lymph Node Assay (LLNA) mouse: skin sensitizing (OECD Guideline 429)

Germ cell mutagenicity

Assessment of mutagenicity:
The substance was mutagenic in various test systems with bacterias and cell cultures; however, these results could not be confirmed in tests with mammals.

Carcinogenicity

Assessment of carcinogenicity:
In long-term studies, a carcinogenic effect was observed when the substance was given orally to laboratory animals(gavage). Not carcinogenic in laboratory animals after long-term inhalation exposures. IARC (International Agency for Research on Cancer) has classified this substance as group 2B (The agent is possibly carcinogenic to humans).

Reproductive toxicity

Assessment of reproduction toxicity:
The results of animal studies gave no indication of a fertility impairing effect.

Developmental toxicity

Assessment of teratogenicity:
No indications of a developmental toxic / teratogenic effect were seen in animal studies.

Specific target organ toxicity (single exposure)

Assessment of STOT single:
Causes temporary irritation of the respiratory tract.

Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

Assessment of repeated dose toxicity:
The substance may cause damage to the lung even after repeated inhalation of low doses, as shown in animal studies. The substance may cause damage to the upper respiratory tract after repeated inhalation, as shown in animal studies.

Aspiration hazard

Study scientifically not justified.

Interactive effects

No data available.

11.2. Information on other hazards

Endocrine disrupting properties

The substance is not identified to have endocrine disrupting properties according to Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 nor is included in the Candidate List of substances of very high concern according to EU REACh Article 59 for having endocrine disrupting properties.

SECTION 12: Ecological Information

12.1. Toxicity

Assessment of aquatic toxicity:
Acutely harmful for aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.
The product may hydrolyse. The test result maybe partially due to degradation products.

Toxicity to fish:
LC50 (96 h) 133 mg/l, Oncorhynchus mykiss (OECD Guideline 203, static)

Aquatic invertebrates:
EC50 (48 h) 12.5 mg/l, Daphnia magna (OECD Guideline 202, part 1, static)
The details of the toxic effect relate to the nominal concentration.

Aquatic plants:
EC50 (96 h) 3,230 mg/l (growth rate), Skeletonema costatum (OECD Guideline 201, static)
The details of the toxic effect relate to the nominal concentration.

(96 h) 4,300 mg/l (growth rate), Chlorella vulgaris (OECD Guideline 201, static)
The details of the toxic effect relate to the nominal concentration.

Microorganisms/Effect on activated sludge:
EC50 (3 h) > 100 mg/l, activated sludge (OECD Guideline 209, aquatic)

Chronic toxicity to fish:
No data available.

Chronic toxicity to aquatic invertebrates:
No observed effect concentration (21 d) 1.1 mg/l, Daphnia magna (OECD Guideline 211, static)
The details of the toxic effect relate to the nominal concentration.

Assessment of terrestrial toxicity:
No toxic effects have been observed in studies with soil living organisms. No toxic effects have been observed in studies with terrestric plants.

Soil living organisms:
LC50 (14 d) > 1,000 mg/kg, Eisenia foetida (OECD Guideline 207, artificial soil)

Terrestrial plants:
No observed effect concentration (14 d) >= 1,000 mg/kg, Avena sativa (OECD Guideline 208)

No observed effect concentration (14 d) >= 1,000 mg/kg, Lactuca sativa (OECD Guideline 208)

Other terrestrial non-mammals:
No data available.

12.2. Persistence and degradability

Assessment biodegradation and elimination (H2O):
Poorly biodegradable. Not readily biodegradable (by OECD criteria). The product is unstable in water. The elimination data also refer to products of hydrolysis.

Elimination information:
0 % BOD of the ThOD (28 d) (OECD Guideline 302 C) (aerobic, activated sludge, domestic, non-adapted) Poorly biodegradable.

Assessment of stability in water:
In contact with water the substance will hydrolyse rapidly.

Information on Stability in Water (Hydrolysis):
$t_{1/2}$ 0.5 min, (other, pH 7)

12.3. Bioaccumulative potential

Assessment bioaccumulation potential:
Accumulation in organisms is not to be expected.
The product has not been tested. The statement has been derived from the properties of the hydrolysis products.

Bioaccumulation potential:
No data available.

12.4. Mobility in soil

Assessment transport between environmental compartments:
Volatility: Due to the product characteristics the test is impossible.
Adsorption in soil: Due to the product characteristics the test is impossible.

12.5. Results of PBT and vPvB assessment

According to Annex XIII of Regulation (EC) No.1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): The product does not fulfill the criteria for PBT (Persistent/bioaccumulative/toxic) and vPvB (very persistent/very bioaccumulative). Self classification

12.6. Endocrine disrupting properties

The substance is not identified to have endocrine disrupting properties according to Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 nor is included in the Candidate List of

substances of very high concern according to EU REACh Article 59 for having endocrine disrupting properties.

12.7. Other adverse effects

The product does not contain substances that are listed in Regulation (EC) 1005/2009 on substances that deplete the ozone layer.

12.8. Additional information

Adsorbable organically-bound halogen (AOX):
This product contains no organically-bound halogen.

Other ecotoxicological advice:
Do not release untreated into natural waters. Do not allow to enter soil, waterways or waste water channels.

SECTION 13: Disposal Considerations

13.1. Waste treatment methods

The waste codes are manufacturer's recommendations based on the designated use of the product. Other use and special waste disposal treatment on customer's location may require different waste-code assignments.

Incinerate in suitable incineration plant, observing local authority regulations.
Dispose of isocyanate waste in dry containers and never mix together with other wastes (reaction, dangerous pressure build up).

Waste key:
08 05 01¤ waste isocyanates

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

SECTION 14: Transport Information

Land transport

ADR

UN number or ID number: UN2078
UN proper shipping name: TOLUENE DIISOCYANATE

Transport hazard class(es):	6.1
Packing group:	II
Environmental hazards:	no
Special precautions for user:	Tunnel code: D/E

RID

UN number or ID number:	UN2078
UN proper shipping name:	TOLUENE DIISOCYANATE
Transport hazard class(es):	6.1
Packing group:	II
Environmental hazards:	no
Special precautions for user:	None known

Inland waterway transport

ADN

UN number or ID number:	UN2078
UN proper shipping name:	TOLUENE DIISOCYANATE
Transport hazard class(es):	6.1
Packing group:	II
Environmental hazards:	no
Special precautions for user:	None known

Transport in inland waterway vessel

Not evaluated

Sea transport

IMDG

UN number or ID number:	UN 2078
UN proper shipping name:	TOLUENE DIISOCYANATE
Transport hazard class(es):	6.1
Packing group:	II
Environmental hazards:	no Marine pollutant: NO
Special precautions for user:	EmS: F-A; S-A

Air transport

IATA/ICAO

UN number or ID number:	UN 2078
UN proper shipping name:	TOLUENE DIISOCYANATE
Transport hazard class(es):	6.1
Packing group:	II
Environmental hazards:	No Mark as dangerous for the environment is needed
Special precautions for user:	None known

14.1. UN number or ID number
See corresponding entries for “UN number or ID number” for the respective regulations in the tables above.

14.2. UN proper shipping name
See corresponding entries for “UN proper shipping name” for the respective regulations in the tables above.

14.3. Transport hazard class(es)
See corresponding entries for “Transport hazard class(es)” for the respective regulations in the tables above.

14.4. Packing group
See corresponding entries for “Packing group” for the respective regulations in the tables above.

14.5. Environmental hazards
See corresponding entries for “Environmental hazards” for the respective regulations in the tables above.

14.6. Special precautions for user
See corresponding entries for “Special precautions for user” for the respective regulations in the tables above.

14.7. Maritime transport in bulk according to IMO instruments

Maritime transport in bulk is not intended.

SECTION 15: Regulatory Information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Prohibitions, Restrictions and Authorizations

Annex XVII of Regulation (EC) No 1907/2006: Number on List: 3, 75, 74

Directive 2012/18/EU - Control of Major Accident Hazards involving dangerous substances (EU):
List entry in regulation: H1

If it is intended to use materials for the manufacture of consumer goods (e. g. products which will come into contact with foodstuffs or with the skin, toys) or medical products, national and international regulations have to be observed. Where no regulations exist, consumer goods or medical products must at least comply with European legislation. We recommend contacting our Sales and our Product Safety departments.

15.2. Chemical Safety Assessment

Chemical Safety Assessment performed

SECTION 16: Other Information

Assessment of the hazard classes according to UN GHS criteria (most recent version)

Eye Dam./Irrit. 2A
STOT SE 3 (irritating to respiratory system)
Skin Corr./Irrit. 2
Skin Sens. 1
Resp. Sens. 1
Aquatic Chronic 3
Aquatic Acute 3
Carc. 2
Acute Tox. 1 (Inhalation - vapour)
Acute Tox. 5 (oral)

For the classification of the mixture the following methods have been applied: extrapolation on the concentration levels of the hazardous substances, on basis of test results and after evaluation of experts.
The methodologies used are mentioned at the respective test results.

Acute Tox.	Acute toxicity
Skin Corr./Irrit.	Skin corrosion/irritation
Eye Dam./Irrit.	Serious eye damage/eye irritation
Resp. Sens.	Respiratory sensitization
Skin Sens.	Skin sensitization
Carc.	Carcinogenicity
STOT SE	Specific target organ toxicity — single exposure
Aquatic Chronic	Hazardous to the aquatic environment - chronic
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H330	Fatal if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317	May cause an allergic skin reaction.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.

H412 Harmful to aquatic life with long lasting effects.

Abbreviations
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road. ADN = The European Agreement concerning the International Carriage of Dangerous Goods by Inland waterways. ATE = Acute Toxicity Estimates. CAO = Cargo Aircraft Only. CAS = Chemical Abstract Service. CLP = Classification, Labelling and Packaging of substances and mixtures. DIN = German national organization for standardization. DNEL = Derived No Effect Level. EC50 = Effective concentration median for 50% of the population. EC = European Community. EN = European Standards. IARC = International Agency for Research on Cancer. IATA = International Air Transport Association. IBC-Code = Intermediate Bulk Container code. IMDG = International Maritime Dangerous Goods Code. ISO = International Organization for Standardization. STEL = Short-Term Exposure Limit. LC50 = Lethal concentration median for 50% of the population. LD50 = Lethal dose median for 50% of the population. TLV = Threshold Limit Value. MARPOL = The International Convention for the Prevention of Pollution from Ships. NEN = Dutch Norm. NOEC = No Observed Effect Concentration. OEL = Occupational Exposure Limit. OECD = Organization for Economic Cooperation and Development. PBT = Persistent, Bioaccumulative and Toxic. PNEC = Predicted No Effect Level. PPM = Parts per million. RID = The European Agreement concerning the International Carriage of Dangerous Goods by Rail. TWA = Time Weight Average. UN-number = UN number at transport. vPvB = very Persistent and very Bioaccumulative.

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. This safety data sheet is neither a Certificate of Analysis (CoA) nor technical data sheet and shall not be mistaken for a specification agreement. Identified uses in this safety data sheet do neither represent an agreement on the corresponding contractual quality of the substance/mixture nor a contractually designated use. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.