

according to Regulation No. 1907/2006 (REACH) and Commission Regulation (EU) 2020/878

Antifreeze EKO EXTRA

Revision: 2.0 Issue date:

2017-05-05

2021-10-25 Revision date:

**SECTION 1:** Identification of the substance/mixture and of the company/undertaking

> **Product identifier** 1.1

> > Chemical name/ trade name: **Antifreeze EKO EXTRA**

OMA CZ. a.s. Producer:

Address: Stráž pod Ralskem, 47127, Borová 103

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

Intended use: Coolant for car cooling circuits.

Uses advised against: The use should be limited to those listed above.

Details of the supplier of the safety data sheet

Supplier of SDS: OMA CZ, a.s.

Address: Stráž pod Ralskem, 47127, Borová 103

Identification No.: 25406761 +420 487 851 016 Tel: www.omacz.cz ww.

Responsible person for this SDS: OMA CZ, a.s., laborator@omacz.cz

1.4 **Emergency telephone number** 

National Poisons Information Service (NPIS), Royal Infirmary of Edinburgh, Edinburgh

EH16 4SA, United Kingdom, Tel.: +44 121 507 4123, 844 892 0111

**SECTION 2: Hazards identification** 

> Classification of the substance or mixture 2.1

This mixture is not classified as hazardous. Classification according to the

EC Regulation No. 1272/2008 (CLP):

2.2 **Label elements** 

Labelling according to Regulation (EC) No 1272/2008 [CLP]:

Hazard pictogram(s): None Signal word(s): None. Contain: Hazard statement(s): None

Precautionary statement(s): None.

Supplemental information:

EUH210 Safety data sheet available on request.

Other hazards 2.3

This mixture does not contain any substances which are classified as PBT or vPvB

This product does not contain SVHC.

This product does not contain endocrine disruptors in a concentration of 0.1% by weight

or higher.

**SECTION 3:** Composition/information on ingredients

> 3.2 Mixtures

		CAS	
Name of the component	Combont (waight 9/)	EINECS	Classification according to
Name of the component	Content (weight %)	Index N°	Regulation (EC) No 1278/2008 (CLP)
		Reg. Number	



according to Regulation No. 1907/2006 (REACH) and Commission Regulation (EU) 2020/878

Antifreeze EKO EXTRA

Revision: 2.0

Issue date: 2017-05-05

Revision date: 2021-10-25

Propane-1,2-diol	Not specified	1 \\-\\-\-h	This substance is not dangerous but has DI values (see Section 8) /toxicological informations 11 and 12)	NELs and PNEC and eco-
2-ethylhexanoic acid	≥1-<3	149-57-5 205-743-6 607-230-00-6 -	Repr. 2	H361d

For full text of H-statements see SECTION 16.

#### SECTION 4: First aid measures

4.1 Description of first aid measures

General advice: In any case, avoid chaotic behavior. If you need medical treatment, always take the

original package with the label or the safety data sheet.

Inhalation: Break Exposure. Remove victim to fresh air, keep calm and warm.

Skin contact: Remove contaminated clothing and footwear. Wash the affected skin with water and

soap. If there is irritation, seek medical attention.

Eye contact: If the contact lenses are used, carefully remove them and start rinsing with clean water,

the affected eye wide open, from the inner corner to the outside and also under the lid

for at least 15 minutes. If problems persist, seek medical attention.

Ingestion: Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an

unconscious person or if it has cramps.

Protection of first aiders: When providing first aid, it is essential to ensure both the rescue and the rescued safety.

4.2 Most important symptoms and effects, both acute and delayed

No data available.

4.3 Indication of any immediate medical attention and special treatment needed

 $Symptomatic\ treatment.$ 

#### **SECTION 5:** Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media: alcohol resistant foam, extinguishing powder, CO2, water mist.

Unsuitable extinguishing media: Direct water flow.

5.2 Special hazards arising from the substance or mixture

 $Combustion\ products\ and\ hazardous\ gases:\ smoke,\ carbon\ monoxide,\ carbon\ dioxide.$ 

5.3 Advice for firefighters

Respiratory units exposed to smoke or vapors must be equipped with respiratory and eye protection devices. When using in enclosed areas, an insulating respirator must be used. Containers exposed to fire cool with water mist. Collect extinguishing water separately,

and avoid its penetration into the soil and water.

## SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Wear suitable protective clothing, replace contaminated clothing. Avoid contact with skin and eyes, contamination of clothes and shoes. Ensure ventilation of the affected area. All

persons who do not participate in rescue operations to a safe distance.

#### 6.2 Environmental precautions



according to Regulation No. 1907/2006 (REACH) and Commission Regulation (EU) 2020/878

#### **Antifreeze EKO EXTRA**

Revision: 2.0 Issue date: 2017-05-05

Revision date: 2021-10-25

Prevent leakage into the environment, avoid ingress into surface water and sewers, soil and land. In case of leakage into the sewage system or water course, inform immediately its administrator, the police, the fire brigade or the environmental department.

#### 6.3 Methods and material for containment and cleaning up

In case of leakage, localize and, if possible, absorb / remove mechanically. Residues or smaller amounts sweep / get absorbed into a suitable absorbent (universal sorbent, diatomaceous earth, soil, sand) and place in suitable containers and labeled for disposal transmit in accordance with applicable regulations.

6.4 Reference to other sections

See section 7, 8 a 13.

#### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Use appropriate PPE. Use only in well-ventilated areas with fresh air intake or with adequate ventilation. Do not eat, drink, smoke. After working, wash your hands. Make sure the eyewash station and safety shower are close to the workplace. Comply with regulations on health and safety at work.

#### 7.2 Conditions for safe storage, including any incompatibilities

Store in well sealed original containers in dry, cool and well-ventilated areas. Store in a vertical position to prevent leakage and dripping. Keep away from food, feed and medication. Recommended storage temperature: > -35 ° C. Storage time: 5 years. Do not store together with strong oxidizing agents.

7.3 Specific end use(s)

See section 1.2.

## SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

Exposure limits: According to national legislation of target country.

Substance	CAS	 permissible	Note
No data available.			

Substances with Community Exposure Limits:

Union occupational exposure limit values in accordance with Directive 2000/39/EC (as amended).

		Limit values		
Substance	CAS	OEL (mg/m³)	STEL (mg/m³)	Note
No data available.				

**DNEL:** 

Propane-1,2-diol (CAS: 57-55-6)



according to Regulation No. 1907/2006 (REACH) and Commission Regulation (EU) 2020/878

## **Antifreeze EKO EXTRA**

Revision: Issue date: 2.0 2017-05-05

Revision date:

2021-10-25

Exposed group and route of exposure	Duration of exposure	Type of effect	Unit	Value
Workers				
Inhalation	Long-term (chronic)	systemic	mg/m³	168
		local	mg/m³	10
Consumers				
Inhalation	Lange to man (along min)	systemic	mg/m³	50
Inhalation Long-term (ch	Long-term (chronic)	local	mg/m³	10

2-ethylhexanoic acid (CAS: 149-57-5)

Exposed group and route of exposure	Duration of exposure	Type of effect	Unit	Value
Workers				
Inhalation	Long-term (chronic)	systemic	mg/m³	14
Dermal	Long-term (chronic)	systemic	mg/kg <sub>bw/d</sub>	2
Consumers				
Inhalation	Long-term (chronic)	systemic	mg/m³	3.5
Dermal	Long-term (chronic)	systemic	mg/kg <sub>bw/d</sub>	1
Oral	Long-term (chronic)	systemic	mg/kg <sub>bw/d</sub>	1

PNEC:

Propane-1,2-diol (CAS: 57-55-6)

Component of the environ	Component of the environment		Unit	Value
	Freshwater	PNEC water, fresh.	mg/L	260
	Freshwater, occasional leakage	PNEC water, fresh.	mg/L	183
Water environment	Freshwater sediment	PNEC sed., fresh.	mg/kg sediment dw	572
	Seawater	PNEC water, mar.	mg/L	26
	Marine sediment	PNEC sed., mar.	mg/kg sediment dw	57.2
Microbiological activity	Wastewater treatment plant	PNEC sew. treat.	mg/L	20 000
Terrestrial environment /	Soil	PNEC soil	mg/kg <sub>soil dw</sub>	50
organisms	3011	FILC soil	iiig/ kg soil dw	30

2-ethylhexanoic acid (CAS: 149-57-5)

Component of the environ	ment	PNEC	Unit	Value
	Freshwater	PNEC water, fresh.	mg/L	0.398
	Freshwater, occasional leakage	PNEC water, fresh.		1
Water environment	Freshwater sediment	PNEC sed., fresh.	mg/kg sediment dw	4.74
	Seawater	PNEC water, mar.	mg/L	0.04
	Marine sediment	PNEC sed., mar.	mg/kg sediment dw	0.474
Microbiological activity	Wastewater treatment plant	PNEC sew. treat.	mg/L	71.7
Terrestrial environment /	Soil	PNEC soil	mg/kg <sub>soil dw</sub>	0.712
organisms	3011	FIVEC soil	1118/ NB soil dw	0.712

Sebacic acid (CAS: 111-20-6)

Component of the environment	PNEC	Unit	Value



according to Regulation No. 1907/2006 (REACH) and Commission Regulation (EU) 2020/878

Revision: Issue date: 2.0 2017-05-05

Antifreeze EKO EXTRA

Revision date: 2021-10-25

	Freshwater	PNEC water, fresh.	mg/L	0.018
		PNEC water, fresh.	mg/L	0.18
Water environment			mg/kg sediment dw	0.547
	Seawater	PNEC water, mar.	mg/L	0.002
	Marine sediment	PNEC sed., mar.	mg/kg sediment dw	0.055
Microbiological activity	Wastewater treatment plant	PNEC sew. treat.	mg/L	10
Terrestrial environment /	Soil	PNEC soil	ma/ka	0.099
organisms	3011	PINEC soil	mg/kg <sub>soil dw</sub>	0.099

8.2 Exposure controls

Technical measures: Ensure adequate ventilation, especially in confined areas. Technical measures and

appropriate work procedures take precedence over personal protective equipment.

Observe the usual hygiene principles. Do not eat, drink, smoke. Before breaks and after

work wash your hands with warm water and soap.

Individual protection measures

Respiratory protection: Work with the product in a well ventilated area, otherwise use mask with a combined

particle filter and organic vapours and aerosols, type A-P according to EN 14387 the accident, fire, exceeding concentrations for the working environment, wear selfcontained

breathing apparatus.

Hand protection: Protective gloves resistant to chemicals according to EN 374. Observe the

recommendations of a particular manufacturer of gloves when choosing suitable thickness, material and permeability. E.g. Nitrile rubber (NBR), Material 0.4 mm, class 2, penetration time > 30 min .; Butyl rubber, Material 0.7 mm, class 2, penetration time > 30

min. Replace damaged gloves.

Eye / face protection: Safety glasses with side-plates or facial shields (EN 166).

Skin protection: Working clothes (EN ISO 13688) and footwear (EN ISO 20347).

Thermal hazards: No data available.

Environmental exposure controls: Avoid unnecessary releases into the environment.

#### SECTION 9: Physical and chemical properties

#### 9.1 Information on basic physical and chemical properties

Physical state: Liquid Colour: Red

Odour: Characteristic
Odour threshold: No data available.

pH: 8.8

Melting point / freezing point (°C): No data available.

Boiling point or initial boiling point and

point and > 150

1.05

boiling range (°C):

Flash point (°C): > 100

Evaporation rate: No data available. Flammability (gases, liquids and solids): No data available.

Lower and upper explosion limit:

Vapour pressure (20 °C):

Vapour pressure (50 °C):

Relative vapour density:

No data available.

No data available.

Density and/or relative density (g/cm³,

20 °C):

Solubility (20 °C): Unlimited



according to Regulation No. 1907/2006 (REACH) and Commission Regulation (EU) 2020/878

Antifreeze EKO EXTRA

Revision: 2.0 Issue date:

2017-05-05

Revision date: 2021-10-25

Partition coefficient n-octanol/water (log No data available.

No data available. Auto-ignition temperature: No data available. Decomposition temperature: Dynamic viscosity (20 °C): 60.5 mPa.s Refractive index (20 °C): No data available.

Oxidising properties: The substance or mixture is not classified as oxidizing.

**Explosive properties:** Non-explosive

9.2 Other information

> VOC (%): No data available. Dry matter content: No data available.

#### 9.2.1 Information with regard to physical hazard classes

The product has no physical hazards.

9.2.2 Other safety characteristics:

mechanical sensitivity: No data available. No data available. self-accelerating polymerisation

temperature:

formation of explosible dust/air mixtures: No data available.

acid/alkaline reserve: No data available. evaporation rate No data available. No data available. miscibility: conductivity: No data available. corrosiveness: No data available. No data available. gas group: redox potential: No data available. radical formation potential: No data available. No data available. photocatalytic properties:

### SECTION 10: Stability and reactivity

10.1 Reactivity Not expected under proper conditions of use.

10.2 Chemical stability Stable under normal conditions.

10.3 Possibility of hazardous reactions It reacts with strong oxidants.

10.4 Conditions to avoid Comply with the handling and storage conditions set out in Section 7.

10.5 Incompatible materials Strong oxidizing agents.

10.6 Hazardous decomposition products Hazardous decomposition products are not known.

#### **SECTION 11:** Toxicological information

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

**Individual components** 

Propane-1,2-diol (CAS: 57-55-6)

Acute toxicity:

Toct type	Results	Fyrancius.	Tostod organisms
Test type	nesuits	lExposure	Tested organisms



according to Regulation No. 1907/2006 (REACH) and Commission Regulation (EU) 2020/878

## **Antifreeze EKO EXTRA**

Revision: Issue date: 2.0 2017-05-05

Revision date:

2021-10-25

key study	22 000 mg/kg bw, LD50	oral: gavage	rat
key study	> 2 000 mg/kg bw, LD50	dermal	rabbit
weight of evidence	> 44.9 mg/L air	inhalation: aerosol	rat

## Serious eye damage / irritation:

Test type	Results	Exposure	Tested organisms
	No data available.		

## Skin corrosion / irritation:

Test type	Results	Exposure	Tested organisms
OECD 404, key study	not irritating	Skin	rabbit

## Respiratory or skin sensitisation:

Test type	Results	Exposure	Tested organisms
	No data available.		

## STOT - single exposure:

Test type	Results	Exposure	Tested organisms
	No data available.		

## STOT - repeated exposure:

Test type	Results	Exposure	Tested organisms
	1 700 mg/kg bw/day, NOAEL		
kovistudy	-male	a mail	rat
key study	2 100 mg/kg bw/day, NOAEL	oral	rat
	-female		
	1 000 mg/m³ air, NOAEC		
key study	-female	inhalation	rat
key study	2 200 mg/m³ air, NOAEC	innalation	
	-male		
supporting study	0.02 ml/twice a week, NOAEL	dermal	mouse

## Carcinogenicity:

Test type	Results	Exposure	Tested organisms
key study		oral: drinking water	rat
supporting study	> 350 mg/m³ air, NOAEC	inhalation: vapour	rat
supporting study	0.02 ml/twice a week, NOAEL	dermal	mouse

## Germ cell mutagenicity:

Test type	Results	Exposure	Tested organisms
key study	negative	oral: gavage	rat

## Reproductive toxicity:

Test type	Results	Exposure	Tested organisms	
-----------	---------	----------	------------------	--



according to Regulation No. 1907/2006 (REACH) and Commission Regulation (EU) 2020/878

## **Antifreeze EKO EXTRA**

Revision: Issue date: 2.0 2017-05-05

Revision date:

2021-10-25

water water	key study	10 100 mg/kg bw/day, NOAEL		mouse
-------------	-----------	----------------------------	--	-------

#### Aspiration hazard:

Test type	Results	Exposure	Tested organisms
	No data available.		

## 2-ethylhexanoic acid (CAS: 149-57-5)

## Acute toxicity:

Test type	Results	Exposure	Tested organisms
OECD 401, key study	2 043 mg/kg bw, LD50	oral: gavage	rat
OECD 402, key study	> 2 000 mg/kg bw, LD50	dermal	rat
OECD 403, key study	0.11 mg/L air, LC0	inhalation: vapour	rat

## Serious eye damage / irritation:

Test type	Results	Exposure	Tested organisms
OECD 405, key study	not irritating	Eye	rabbit

## Skin corrosion / irritation:

Test type	Results	Exposure	Tested organisms
OECD 404, key study	slightly irritating	Skin	rabbit

## Respiratory or skin sensitisation:

Test type	Results	Exposure	Tested organisms
OECD 406, key study	not sensitising	Skin	guinea pig

## STOT - single exposure:

Test type	Results	Tested organisms
	No data available.	

## STOT - repeated exposure:

Test type	Results	Exposure	Tested organisms
key study	ca. 300 mg/kg bw/day, NOAEL	oral	rat

## Carcinogenicity:

Test type	Results	Exposure	Tested organisms
	No data available.		

## Germ cell mutagenicity:

Test type	Results	Exposure	Tested organisms
OECD 474, key study	negative	oral: gavage	mouse

## Reproductive toxicity:

Test type	Results	Exposure	Tested organisms



according to Regulation No. 1907/2006 (REACH) and Commission Regulation (EU) 2020/878

#### **Antifreeze EKO EXTRA**

Revision: 2.0

Issue date: 2017-05-05

Revision date: 2021-10-25

key study 250 mg/kg bw/day, NOAEL-P0 800 mg/kg bw/day, NOAEL-F1	oral: feed	rat
---	------------	-----

#### Aspiration hazard:

Test type	Results	Exposure	Tested organisms
	No data available.		

#### Mixture:

Acute toxicity: The product does not meet the criteria for classification. Serious eye damage / irritation: The product does not meet the criteria for classification. The product does not meet the criteria for classification. Skin corrosion / irritation: Respiratory or skin sensitisation: The product does not meet the criteria for classification. STOT - single exposure: The product does not meet the criteria for classification. STOT - repeated exposure: The product does not meet the criteria for classification. Carcinogenicity: The product does not meet the criteria for classification. Germ cell mutagenicity: The product does not meet the criteria for classification. Reproductive toxicity: The product does not meet the criteria for classification. The product does not meet the criteria for classification. Aspiration hazard:

11.2 Information on other hazards Endocrine disrupting properties

This product does not contain endocrine disruptors in a concentration of 0.1% by weight

or higher.

Other information: No data available.

## **SECTION 12:** Ecological information

## 12.1 Toxicity

The product does not meet the criteria for classification.

## Propane-1,2-diol (CAS: 57-55-6)

Toxicity	Tested organisms	Results	Test type
Acute toxicity to fish	Oncorhynchus mykiss	40 613 mg/L, LC50 / 96 h	
Acute toxicity to invertebrates	Ceriodaphnia dubia	18 340 mg/L, LC50 / 48 h	
Acute toxicity to aquatic algae	Pseudokirchneriella subcapitata	19 000 mg/L, EC50 / 96 h	OECD 201

#### 2-ethylhexanoic acid (CAS: 149-57-5)

Toxicity	Tested organisms	Results	Test type
Acute toxicity to fish	Oryzias latipes	> 100 mg/L, LC50 / 96 h	OECD 203
Acute toxicity to invertebrates	Daphnia magna	913 mg/L, EC50 / 48 h	OECD 202
Acute toxicity to aquatic algae	Pseudokirchneriella subcapitata	500 mg/L, EC50 / 72 h	OECD 201

**12.2 Persistence and degradability** The mixture is biodegradable.

Propane-1,2-diol is readily biodegradable - 81.7% / 28 days (OECD 301F). 2-Ethylhexanoic acid is readily biodegradable - 99% / 28 days (OECD 301 E).

**12.3** Bioaccumulative potential Propane-1,2-diol - Partition coefficient, n-octanol / water (log Pow): -1.07; BCF = 0.09.

2-Ethylhexanoic acid - log Pow: 2.96 (OECD 107)



according to Regulation No. 1907/2006 (REACH) and Commission Regulation (EU) 2020/878

#### **Antifreeze EKO EXTRA**

Revision: 2.0

Issue date: 2017-05-05

Revision date: 2021-10-25

**12.4 Mobility in soil** The product is soluble in water and mobile in soil.

12.5 Results of PBT and vPvB assessment This mixture does not contain any substances which are classified as PBT or vPvB

12.6 Endocrine disrupting properties

This product does not contain endocrine disruptors in a concentration of 0.1% by weight

or higher.

**12.7 Other adverse effects** Avoid release to the environment.

**SECTION 13: Disposal considerations** 

13.1 Waste treatment methods

Catalogue No. of mixture waste: 16 01 14 Antifreeze fluids containing dangerous substances

Waste codes / waste designations

according to LoW:

15 01 10 Packaging containing residues of or contaminated by dangerous substances

15 01 02 Plastic packaging

-completely cleaned packaging:

Recommended procedure for mixture

waste disposal:

Remains of the mixture to be collected in labelled containers and handed over to a person authorized to handle hazardous waste. Do not spill unused product into the sewerage system. Not to be disposed of together with municipal waste. If possible, regenerate the product. Recommended way of disposal in the hazardous waste

incinerator.

Recommended procedure for packaging

disposal:

Empty containers must be disposed of in accordance with the applicable waste legislation. After perfect cleaning, the packaging can be used as a secondary raw material for the same purpose. Recommended way of disposing of recycling, burning in a hazardous waste

incinerator or storing hazardous waste.

Physical / chemical properties that may

affect waste treatment method:

No data available.

Sewage disposal-relevant information: Protect against weathering. Prevent leakage of waste into the water / soil / sewage

system. In case of leakage, inform the competent authorities.

Other disposal recommendations: Dispose of in accordance with applicable legislation.

#### **SECTION 14: Transport information**

	Type of transport	Land transport ADR / RID	Sea transport IMDG	Air Transport ICAO / IATA
14.1	UN number or ID number	There is no dangerous good in terms of transport.	There is no dangerous good in terms of transport.	There is no dangerous good in terms of transport.
14.2	UN proper shipping name	-	-	-
	Transport hazard class(es)	-	-	-
	Classification code	-	-	-
14.3	EmS	-	-	-



according to Regulation No. 1907/2006 (REACH) and Commission Regulation (EU) 2020/878

#### **Antifreeze EKO EXTRA**

Revision: 2.0 Issue date:

2017-05-05

Revision date: 2021-10-25

		Packaging instructions	-	-	-
		Labels	-	-	-
	14.4	Packing group	-	-	-

14.5 Environmental hazards No data available.

14.6 Special precautions for user

No data available.

14.7 Maritime transport in bulk according to IMO instruments

Not specified.

#### Other information

Type of transport	Land transport ADR / RID	Sea transport IMDG	Air Transport ICAO / IATA
Limited quantities:	-	-	-
Excepted quantities:	-	-	-
Transport category:	-	-	-
Tunnel restriction code:	-	-	-
Segregation group:	-	-	-

#### **SECTION 15: Regulatory information**

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

Regulation (EC) No. 1272/2008 (CLP) on classification, labelling and packaging of substances and mixtures,... Regulation (EC) No. 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH),...

Applicable national regulations.

No Chemical Safety Assessment has been carried out for this mixture by the supplier. 15.2 Chemical safety assessment

#### **SECTION 16: Other information**

#### Complete text of all classifications and hazard classes referred to in SECTION 3

**Hazard class:** Repr. 2 - Reproductive toxicity, category 2

H-statements: H361d Suspected of damaging the unborn child.

#### Abbreviations:

ADN Inland waterways

**ADR Accord Dangereuses Route** CAS Chemical Abstracts Service DNEL Derived no-effect level EC50 Effect concentration for 50%

**EINECS European Inventory of Existing Commercial Chemical Substances** 

IATA International Air Transport Association ICAO International Civil Aviation Organization IMDG **International Maritime Dangerous Goods** 

LC50 Lethal concentration for 50%

LD50 Lethal dose for 50%

LOEC Lowest observable effect concentration

NEL No effect level



according to Regulation No. 1907/2006 (REACH) and Commission Regulation (EU) 2020/878

#### **Antifreeze EKO EXTRA**

Revision: 2.0 Issue date: 2017-05-05

Revision date: 2021-10-25

NOAEC No observable adverse effect concentration

NOAEL No observable adverse effect level

OEL Occupational Exposure Limit (workplace exposure limit - 8 hours / shift)

PBT Persistent, bioacumulative and toxic

PEL Permissible exposure limits
PNEC Predicted no-effect concentration

RID Regulations for the International Carriage of Dangerous Goods by Rail
STEL Short Term Exposure Limit (short exposure - corresponds to approx. 15 min.)

TT Toxic threshold

VOC Volatile organic substances

vPvB Very persistent and very bioacumulative

Changes to previous version SDS: formal revision of the safety data sheet

This revision follows the revision: 1.0 from 2017-05-05 and complies with Regulations (EC) No. 1907/2006 (REACH) and No. 1272/2008 (CLP).

Key literature references and sources for data: data from the safety data sheet of raw materials, manufacturer's information, CASEC database.

Classification was performed by calculation method.

#### Instructions for training:

Workers who come into contact with dangerous substances must be aware of the effects of these substances, how they are treated, and protective measures to the extent necessary.

Furthermore, they must be familiar with the first aid principles, with the necessary sanitation procedures and with the procedures for disaster and accident elimination.

The person handling this chemical product must be familiar with the safety rules and the data given in the safety data sheet.

If a hazardous chemical / mixture is classified as corrosive or toxic, workers should be made aware of the Corrosive / Toxic Chemicals / Mixing Rules.

Persons carrying dangerous substances must be familiar with the ADR / RID accident instructions.

### Other information:

The above information describes the conditions for safe handling of the product and corresponds to the current knowledge of the manufacturer and serves as instruction for the training of the persons handling the product.

The manufacturer carries guarantee the above-described properties of the product at the recommended use.

The user is responsible for determining the suitability of the product for specific purposes and adapting security measures if such application is contrary to the manufacturer's recommendations.