

SECTION 1: NAME OF THE SUBSTANCE OR MIXTURE AND THE UNDERTAKING

1.1 Product identifier

ZKS24

1.2 Relevant identified uses of the substance or mixture and uses that are discouraged:

Use of the substance/mixture

Relevant Identified Uses (Consumer Use): Construction Foam

Relevant identified uses (to the professional): Construction foam

Uses not discouraged: Any application not specified in this section or in section 7.3.

1.3 Details of the supplier providing the safety data sheet

Manufacturer/Supplier

Dichtstofftechnik Müller & Müller GmbH & Co.KG

Dübener Landstraße 1

06905 Bad Schmiedeberg OT Söllichau

+49 34 2 43 / 34 55 - 00

Phone

+49 34 2 43 / 34 55 - 20

Fax

Email

kontakt@dubaust.de

1.4 Emergency number

Poison control center Berlin, 24 hours a day: +49 (0) 30 19 24 0

Country	Organization/ Company	Address	Emergency number
Germany	BfR Bundesinstitut für Risikobewertung / German Federal institute for Risk Assessment	Max-Dohm-Str. 8-10 10589 Berline	+49 30 18 41 2 0

SECTION 2: POTENTIAL HAZARDS

2.1 Classification of the substance or mixture

Regulation (EC) No 1272/2008

The classification of this product was carried out in accordance with Regulation No. 1272/2008 (CLP).

Acute Tox. 4: Acute Inhalation Toxicity, Category 4, H332

Aerosol 1: Flammable aerosols, category 1, H222

Aerosol 1: Container is pressurized: May burst when heated., H229

Carc. 2: Carcinogenicity, Category 2, H351

Eye Irrit. 2: Eye Irritation, Category 2, H319

Or Sens. 1: Respiratory sensitization, category 1, H334

Skin Irrit. 2: Skin irritation, category 2, H315

Skin Sens. 1: Skin Sensitization, Category 1, H317

STOT RE 2: Specific target organ toxicity (repeated exposure), hazard category 2, H373

STOT SE 3: Toxicity to the respiratory tract (single exposure), category 3, H335

2.2 Marking elements

Regulation (EC) No 1272/2008

Danger



Hazard warnings:

H222 - Extremely flammable aerosol.

H229 - Container is pressurized: May burst when heated.

H315 - Causes skin irritation.

H317 - May cause allergic skin reactions.

H319 - Causes severe eye irritation.

H332 - Harmful by inhalation.

H334 - May cause allergy, asthma-like symptoms or difficulty breathing if inhaled.

H335 - May irritate the respiratory tract.

H351 - May cause cancer.

H373 - May damage organs with prolonged or repeated exposure

Safety instructions:

P101: If medical advice is required, have packaging or label ready.

P102: Keep out of reach of children.

P210: Keep away from heat, hot surfaces, sparks, open flames and other types of ignition sources. No smoking.
P211: Do not spray against open flame or other ignition source.
P251: Do not puncture or burn, even after use.
P271: Use outdoors or in well-ventilated rooms only.
P280: Wear protective gloves/protective clothing/respiratory protection/eye protection/protective shoes.
P304+P340: ON INHALATION: Take the person out into the fresh air and ensure unobstructed breathing.
P305+P351+P338: IN CASE OF CONTACT WITH EYES: Rinse gently with water for a few minutes. Remove any contact lenses if possible. Continue to rinse.
P410+P412: Protect from sunlight and do not expose to temperatures above 50°C/122°F.
P501: Dispose of contents/container in accordance with local/regional/national/international regulations.

Additional information:

EUH204: Contains isocyanates. May cause allergic reactions.

Substances contributing to classification

4,4'-methylene diphenyl diisocyanate, isomers and homologues; Reaction products of Phosphoryl trichloride and 2-methyloxirane

Additional marking:

In people who are already sensitized to diisocyanates, handling this product may cause allergic reactions.

If you have asthma, eczematous skin conditions or skin problems, avoid contact, including skin contact, with the product.

Do not use the product if there is insufficient ventilation or wear a protective mask with an appropriate gas filter (type A1 according to EN 14387).

From 24 August 2023, adequate training must be provided before industrial or commercial use

2.3 Other hazards:

The product does not meet the PBT/vPvB criteria.

The product does not meet the criteria for its endocrine disrupting properties.

SECTION 3: COMPOSITION/INGREDIENT INFORMATION

3.1 Fabrics:

Not relevant

3.2 Mixtures:

Chemical description: Mixture based on organic substances

Hazardous ingredients:

According to Annex II to Regulation (EC) No 1907/2006 (point 3), the product contains:

Identification	Chemical name/classification		Concentration
CAS: 9016-87-9 EC: 618-498-9 Index: Not Relevant REACH: Not relevant	4,4'-Methylene diphenyl diisocyanate, isomers and homologues ⁽¹⁾ Self-rated		30 - <50 %
	Regulation 1272/2008	Acute Tox. 4: H332; Carc. 2: H351; Eye Irrit. 2: H319; Resp. Sens. 1: H334; Skin Irrit. 2: H315; Skin Sens. 1: H317; STOT RE 2: H373; STOT SE 3: H335 - Hazard	
CAS: 1244733-77-4 EC: 807-935-0 Index: Not Relevant REACH: 01-2119486772-26-XXXX	Reaction products of phosphoryl trichloride and 2-methyloxirane ⁽¹⁾ Self-rated		10 - <20 %
	Regulation 1272/2008	Acute Tox. 4: H302; Aquatic Chronic 3: H412; Carc. 2: H351 - Attention	
CAS: 115-10-6 EC: 204-065-8 Index: 603-019-00-8 REACH: 01-2119472128-37-XXXX	Dimethyl ether ⁽²⁾ ATP CLP00		5 - <10 %
	Regulation 1272/2008	Flam. Gas 1A: H220; Press. Gas: H280 - Hazard	
CAS: 75-28-5 EC: 200-857-2 Index: 601-004-00-0 REACH: 01-2119485395-27-XXXX	Isobutane ⁽³⁾ ATP CLP00		5 - <10 %
	Regulation 1272/2008	Flam. Gas 1A: H220; Press. Gas (Liq.): H280 - Hazard	
CAS: 107-21-1 EC: 203-473-3 Index: 603-027-00-1 REACH: 01-2119486944-28-XXXX	Ethandiol ⁽¹⁾ Self-rated		5 - <10 %
	Regulation 1272/2008	Acute Tox. 4: H302; STOT RE 2: H373 - Attention	
CAS: 74-98-6 EC: 200-827-9 Index: 601-003-00-5 REACH: 01-2119486944-21-XXXX	Propane ⁽²⁾ ATP CLP00		2.5 - <5 %
	Regulation 1272/2008	Flam. Gas 1A: H220; Press. Gas: H280 - Hazard	

For more information on the hazardousness of the substances, see Sections 11, 12 and 16.

Other information:

Identification	Specific concentration limit
4,4'-Methylene diphenyl diisocyanate, isomers and homologues CAS: 9016-87-9 EC: 618-498-9	% (wt./wt.) >=5: Skin Irrit. 2 - H315 % (wt./wt.) >=5: Eye Irrit. 2 - H319 % (wt./wt.) >=0.1: Resp. Sens. 1 - H334 % (wt./wt.) >=5: STOT SE 3 - H335

The estimated acute toxicity value for the substance set out in Part 3 of Annex VI to Regulation (EC) No 1272/2008 or for which those values are established in accordance with Annex I to that Regulation:

Identification	Acute toxicity		Genus
Ethandiol CAS: 107-21-1 EC: 203-473-3	LD50 oral	500 mg/kg	
	LD50 cutaneous	Not relevant	
	LC50 when inhaling haze	Not relevant	
Reaction products of phosphoryl trichloride and 2-methyloxirane CAS: 1244733-77-4 EC: 807-935-0	LD50 oral	632 mg/kg	Rat
	LD50 cutaneous	Not relevant	
	LC50 when inhaling haze	Not relevant	
4,4'-Methylene diphenyl diisocyanate, isomers and homologues CAS: 9016-87-9 EC: 618-498-9	LD50 oral	Not relevant	
	LD50 cutaneous	Not relevant	
	LC50 when inhaling haze	1.5 mg/L	

SECTION 4: FIRST AID MEASURES

4.1 Description of the first aid measures:

Symptoms of poisoning may occur after contact, which is why, in case of doubt, direct contact with the chemical product or persistence of malaise, a doctor should be consulted and the safety data sheet of this product should be presented to the doctor.

If inhaled:

Cases such as cardiac arrest should be used artificial ventilation techniques (mouth-to-mouth resuscitation, cardiac massage, oxygen supply, etc.). Medical advice must be sought immediately.

In contact with the skin:

Remove soiled clothing and shoes, rinse the skin or, if necessary, shower the affected person with plenty of cold water and neutral soap. In severe cases, consult a doctor. If the mixture causes burns or frostbite, the clothing must not be removed, as the injury caused could be aggravated if it sticks to the skin. If blisters form on the skin, they must not be pierced under any circumstances, as this increases the risk of infection.

In case of contact with eyes:

Rinse eyes with plenty of water for at least 15 minutes. If the person concerned wears contact lenses, they must be removed as long as they do not stick to the eyes, otherwise additional injuries may occur. In all cases, a doctor must be consulted as soon as possible after washing and the safety data sheet must be presented to him.

By swallowing/inhalation:

Do not provoke vomiting. If vomiting occurs, hold your head forward to avoid inhalation. Keep the affected person in a resting position. Rinse mouth and throat, as these may have been affected if swallowed.

4.2 Main acute and delayed symptoms and effects:

Do not provoke vomiting. If vomiting occurs, hold your head forward to avoid inhalation. Keep the affected person in a resting position. Rinse mouth and throat, as these may have been affected if swallowed.

4.3 Indications of immediate medical assistance or special treatment:

Not relevant

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing agents:

Suitable extinguishing agents:

Foam Extinguisher (AB), Dry Chemical Powder (ABC) Fire Extinguisher, Carbon Dioxide Fire Extinguisher (BC)

Unsuitable extinguishing agents:

Water jet

5.2 Special hazards posed by the substance or mixture:

As a result of combustion or thermal decomposition, reactive by-products are produced that are highly toxic and can therefore pose a high health risk.

5.3 Notes for firefighting:

Depending on the size of the fire, the use of full protective clothing and autonomous breathing equipment may be required. There should be a minimum stock of emergency facilities or equipment (fireproof blankets, portable first aid kit, ...) in accordance with Directive 89/654/EC.

Additional Notes:

Proceed in accordance with the internal emergency plan and the information sheets regarding what to do in the event of accidents and other emergencies. Keep away from any ignition sources. In the event of a fire, cool the storage tanks and tanks of the products, which can ignite or explode or are at risk of BLEVE due to increased temperatures. The leakage of the products used in firefighting into the groundwater must be avoided.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and procedures to be used in emergencies: Personnel not trained for emergencies:

Isolate leaks as long as this does not pose an additional risk to the people involved. Evacuate the area and keep away those without protective equipment. In view of possible contact with the spilled product, the use of personal protective elements is mandatory (see section 8). Above all, the formation of flammable vapour-air mixtures must be prevented, whether by aeration or by the use of a neutralising agent. Keep away from any ignition sources. Prevention of electrostatic charges by connecting all conductor surfaces on which static electricity can form, which in turn must be grounded in its entirety.

Emergency services:

Wear protective equipment. Keep unprotected people away. See Section 8.

6.2 Environmental protection measures:

Leakage into the water must be prevented at all costs. Store absorbed product appropriately in hermetically sealable containers. In the event of exposure of the general population or the environment, the competent authorities must be informed.

6.3 Methods and material for retention and cleaning:

It is recommended:

Prevent the product from entering drains, sewers or watercourses. Pick up the spilled product with sand or an inert absorbent and move it to a safe place. Do not absorb in sawdust or other flammable absorbents. Collect the product in appropriate containers and manage it in accordance with current legislation.

Release into water or sea:

Small spills:

Contain spilled material with the help of barriers or similar devices. Use absorbents suitable for collection and treat the waste in accordance with the regulations in force.

Large spills:

If possible, contain spilled substances in open waters by means of barriers or similar devices. If this is not possible, try to control the spread and collect the product by appropriate mechanical means. Always seek advice from professionals before using dispersants and make sure you have the necessary permits if you want to use dispersants. Treatment of waste in accordance with current regulations.

6.4 Reference to other sections:

See sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1 Protective measures for safe handling:

A.- Precautions for safe handling

The current legislation on the prevention of industrial risks must be complied with. Keep the container hermetically sealed. Keep spills and residues under control and dispose of them using safe methods (section 6). Avoid leakage from the container. Places where dangerous products are used must be kept tidy and clean.

B.- Technical recommendations for the prevention of fires and explosions.

Evaporation of the product should be avoided as it contains flammable substances and flammable vapour/air mixtures can form in the presence of ignition sources. Check ignition sources (mobile phones, sparks, ...) and slowly transfer them to avoid the formation of electrostatic charges. For information on conditions and materials to avoid, see Section 10.

C.- Technical recommendations for the prevention of ergonomic and toxicological risks.

Do not eat or drink during handling, then wash hands with suitable cleaning agents.

D.- Technical recommendations for the prevention of environmental risks

Due to the hazardous nature of this product to the environment, it is recommended that it be handled within an area that has contamination control barriers in the event of a leak and that absorption material be kept nearby.

7.2 Conditions for safe storage taking into account incompatibilities:

A.- Specific storage requirements to indicate minimum

temperature: 5 °C

Maximum temperature: 30 °C

B. General storage conditions.

Heat sources, radiation, static electricity and contact with food should be avoided. For more information, see section 10.5

7.3 Specific end uses:

The area of application of the product is described in the Technical Data Sheet (TDS)

SECTION 8: LIMITATION AND MONITORING OF EXPOSURE/PERSONAL EQUIPMENT

8.1 Parameters to monitor:

Substances whose occupational exposure limits must be controlled:

Occupational exposure limit values TRGS 900 (dated 15 January 2024):

Identification	Environmental limit values		
4,4'-Methylene diphenyl diisocyanate, isomers and homologues CAS: 9016-87-9 EC: 618-498-9	MAK (8h)		0.05 mg/m ³
	MAK (STEL)		0.05 mg/m ³
Dimethyl Ether CAS: 115-10-6 EC: 204-065-8	MAK (8h)	1000 ppm	1900 mg/m ³
	MAK (STEL)	8000 ppm	15200 mg/m ³
Isobutane CAS: 75-28-5 EC: 200-857-2	MAK (8h)	1000 ppm	2400 mg/m ³
	MAK (STEL)	4000 ppm	9600 mg/m ³
Propane CAS: 74-98-6 EC: 200-827-9	MAK (8h)	1000 ppm	1800 mg/m ³
	MAK (STEL)	4000 ppm	7200 mg/m ³
Ethandiol ⁽¹⁾ CAS: 107-21-1 EC: 203-473-3	MAK (8h)	10 ppm	26 mg/m ³
	MAK (STEL)	20 ppm	52 mg/m ³

DNEL (Employees):

Identification		Short exposure time		Long-term exposure time	
		Systematic	Pubs	Systematic	Pubs
4,4'-Methylene diphenyl diisocyanate, isomers and homologues CAS: 9016-87-9 EC: 618-498-9	Oral	Not relevant	Not relevant	Not relevant	Not relevant
	Cutaneous	Not relevant	Not relevant	Not relevant	Not relevant
	Inhalation	Not relevant	0.1 mg/m ³	Not relevant	0.05 mg/m ³
Reaction products of phosphoryl trichloride and 2-methyloxirane CAS: 1244733-77-4 EC: 807-935-0	Oral	Not relevant	Not relevant	Not relevant	Not relevant
	Cutaneous	Not relevant	Not relevant	2.91 mg/kg	Not relevant
	Inhalation	Not relevant	Not relevant	8.2 mg/m ³	Not relevant
Dimethyl Ether CAS: 115-10-6 EC: 204-065-8	Oral	Not relevant	Not relevant	Not relevant	Not relevant
	Cutaneous	Not relevant	Not relevant	Not relevant	Not relevant
	Inhalation	Not relevant	Not relevant	1894 mg/m ³	Not relevant
Ethandiol CAS: 107-21-1 EC: 203-473-3	Oral	Not relevant	Not relevant	Not relevant	Not relevant
	Cutaneous	Not relevant	Not relevant	106 mg/kg	Not relevant
	Inhalation	Not relevant	Not relevant	Not relevant	35 mg/m ³

DNEL (population):

Identification		Short exposure time		Long-term exposure time	
		Systematic	Pubs	Systematic	Pubs
4,4'-Methylene diphenyl diisocyanate, isomers and homologues CAS: 9016-87-9 EC: 618-498-9	Oral	Not relevant	Not relevant	Not relevant	Not relevant
	Cutaneous	Not relevant	Not relevant	Not relevant	Not relevant
	Inhalation	Not relevant	0.05 mg/m ³	Not relevant	0.025 mg/m ³
Reaction products of phosphoryl trichloride and 2-methyloxirane CAS: 1244733-77-4 EC: 807-935-0	Oral	2 mg/kg	Not relevant	0.52 mg/kg	Not relevant
	Cutaneous	Not relevant	Not relevant	1.04 mg/kg	Not relevant
	Inhalation	Not relevant	Not relevant	1.45 mg/m ³	Not relevant
Dimethyl Ether CAS: 115-10-6 EC: 204-065-8	Oral	Not relevant	Not relevant	Not relevant	Not relevant
	Cutaneous	Not relevant	Not relevant	Not relevant	Not relevant
	Inhalation	Not relevant	Not relevant	471 mg/m ³	Not relevant
Ethandiol CAS: 107-21-1 EC: 203-473-3	Oral	Not relevant	Not relevant	Not relevant	Not relevant
	Cutaneous	Not relevant	Not relevant	53 mg/kg	Not relevant
	Inhalation	Not relevant	Not relevant	Not relevant	7 mg/m ³

PNEC:

Identification					
4,4'-Methylene diphenyl diisocyanate, isomers and homologues CAS: 9016-87-9 EC: 618-498-9	STP	1 mg/L	Fresh water	1 mg/L	
	Soil	1 mg/kg	Seawater	0.1 mg/L	
	Intermittent	10 mg/L	Sediment (fresh water)	Not relevant	
	Oral	Not relevant	Sediment (seawater)	Not relevant	
Reaction products of phosphoryl trichloride and 2-methyloxirane CAS: 1244733-77-4 EC: 807-935-0	STP	19.1 mg/L	Fresh water	0.32 mg/L	
	Soil	0.34 mg/kg	Seawater	0.032 mg/L	
	Intermittent	0.51 mg/L	Sediment (fresh water)	11.5 mg/kg	
	Oral	0.0116 g/kg	Sediment (seawater)	1.15 mg/kg	
Dimethyl Ether CAS: 115-10-6 EC: 204-065-8	STP	160 mg/L	Fresh water	0.155 mg/L	
	Soil	0.045 mg/kg	Seawater	0.016 mg/L	
	Intermittent	1.549 mg/L	Sediment (fresh water)	0.681 mg/kg	
	Oral	Not relevant	Sediment (seawater)	0.069 mg/kg	
Ethandiol CAS: 107-21-1 EC: 203-473-3	STP	199.5 mg/L	Fresh water	10 mg/L	
	Soil	1.53 mg/kg	Seawater	1 mg/L	
	Intermittent	10 mg/L	Sediment (fresh water)	37 mg/kg	
	Oral	Not relevant	Sediment (seawater)	3.7 mg/kg	

8.2 Limitation and monitoring of exposure:

A.- Individual protective measures, for example personal protective equipment

According to the order of priority for the inspection of the workplace, local extraction in the work zone is recommended as a collective protective measure to avoid exceeding the limit values in the workplace. In the case of the use of personal protective equipment, it must have the "CE marking". For more information on personal protective equipment (storage, use, cleaning, maintenance, protection class), please refer to the information sheet provided by the manufacturer. The instructions provided in this article refer to the pure product. Protective measures for the diluted product may vary depending on the degree of dilution, application and method of application, etc. To determine the required installation of emergency showers or In the storage rooms, the regulations applicable in each case for the storage of chemicals are taken into account. For more information, see sections 7.1 and 7.2.

All information contained here is a recommendation. They must be substantiated by the occupational risk prevention services through any other preventive measures that the company may have.

B.- Respiratory protection.

Pictogram Risk Prevention	Ind. Protective Equipment	Marking	CEN regulations	Notes
 Mandatory Respiratory protection	Self-filter mask for gases and vapours and particles (filter type: A2, FFP2)		EN 149:2001+A1:2010 EN 405:2002+A1:2010 EN ISO 136:1998	Replace if increased breathing resistance or the smell or taste of the pollutant is noticed.

C.- Specific hand protection.

Pictogram Risk Prevention	Ind. Protective Equipment	Marking	CEN regulations	Notes
 Mandatory hand protection	Disposable Chemical Protection Gloves (Material: Nitrile, Penetration Time: > 480 min, Thickness: 0.35 mm, Conditions of Use: Normal)		EN ISO 21420:2020	Replace gloves at any sign of damage.

Since the product is a mixture of different materials, the resistance of the glove material cannot be calculated in advance and must be verified shortly before application.

D.- Face and eye protection

Pictogram Risk Prevention	Ind. Protective Equipment	Marking	CEN regulations	Notes
 Mandatory face shield	Panoramic safety goggles against splashes and/or ejection		EN 166:2002 EN ISO 4007:2018	Clean daily and disinfect at regular intervals according to the manufacturer's instructions. Use in case of risk of splashing is recommended.

E. Body protection

Pictogram Risk Prevention	Ind. Protective Equipment	Marking	CEN regulations	Notes
	Workwear			Replace it before signs of decay appear. For professional/industrial users who are exposed to the substance for a long time, CE III is recommended, in accordance with EN ISO 6529:2013, EN ISO 6530:2005, EN ISO 13688:2013, EN 464:1994 Regulations.
 Mandatory Foot protection	Safety footwear against Chemical hazards		EN ISO 20345:2022 EN 13832-1:2019	Boots at any sign of damage

F.- Supplementary emergency measures

It is recommended that additional emergency equipment be used in workplaces that are particularly exposed to the product or in situations where the risk assessment makes the need for such equipment clear.

Emergency measure	Regulations	Emergency measure	Regulations
 Emergency shower	ANSI Z358-1 ISO 3864-1:2011, ISO 3864-4:2011	 Eye Wash	DIN 12 899 ISO 3864-1:2011, ISO 3864-4:2011

Limitation and monitoring of environmental exposure:

Taking into account Community legislation on environmental protection, it is recommended to avoid the leakage of both the product and its packaging into the environment. For more information, see Section 7.1.D

Volatile organic compounds:

In application of Directive 2010/75/EU, this product has the following characteristics:

V.O.C. (Delivery):	19.33% Weight
Density of volatile organic compounds at 20 °C:	179.57 kg/m ³ (179.57 g/L)
Mean Carbon Number:	9
Average molecular weight:	333.7 g/mol

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on the basic physical and chemical properties:

For complete information, please refer to the product data sheet.

Physical appearance:

Physical state at 20 °C:	Aerosol
Appearance:	Not relevant *
Color: Green	
Smell:	Not relevant *
Odour threshold:	Not relevant *

Volatility:

Boiling temperature at atmospheric pressure:	-42 °C (propellant)
vapor pressure at 20 °C:	Not relevant *
Vapor pressure at 50 °C:	<300000 Pa (300 kPa)
Evaporation rate at 20 °C:	Not relevant *

Product marking:

Density at 20 °C:	929 kg/m ³
Relative density at 20 °C:	Not relevant *
Dynamic viscosity at 20 °C:	Not relevant *
Viscosity-to-density ratio at 20 °C:	Not relevant *
Viscosity-to-density ratio at 40 °C:	Not relevant *
Concentration:	Not relevant *
pH:	Not relevant *
Vapor density at 20 °C:	Not relevant *
Distribution coefficient n-octanol/water at 20 °C:	Not relevant * Water
solubility at 20 °C:	Not relevant *
Solubility Property:	Not relevant *
Decomposition Temperature:	Not relevant *
Melting point/freezing point:	Not relevant *
Packaging printing:	Not relevant *

Flammability:

Flash Point:	Not relevant *
Flammability (solid, gaseous):	Not relevant *
Self-ignition temperature:	410 °C (propellant)
Lower flammability limit:	Not relevant *

Upper flammability limit: Not relevant *

Particle properties:

Median Value of Equivalent Diameter: Not relevant *

9.2 Other information:

Information on physical hazard classes:

Explosive Properties: Oxidizing Not Relevant *

Properties: Not Relevant *

Substances and mixtures that have a corrosive effect on metals: Not Relevant *

Heat of combustion: Not Relevant *

Total Aerosol Percentage (by Mass) of Flammable Components: Not Relevant *

Other safety-related parameters: Not Relevant *

Surface tension at 20 °C: Refractive

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity:

No dangerous reactions are to be expected if the following technical instructions are followed. See Section 7 of the Security Data Sheet.

10.2 Chemical stability:

Chemically stable under the conditions of storage, handling and use.

10.3 Possibility of dangerous reactions:

Under normal conditions, no dangerous reactions are expected.

10.4 Conditions to avoid:

Applicable for handling and storage at room temperature:

Shock and friction	Contact with the air	Heating	Sunlight	Humidity
Caution	Caution	Risk of inflammation	Avoid direct impact.	Not applicable

10.5 Incompatible materials:

Acids	Water	Combustion-promoting materials	Flammable substances	Features
Avoid strong acids	Not applicable	Avoid direct impact.	Not applicable	Avoid strong bases or alkalis.

10.6 Dangerous decomposition products:

See sections 10.3, 10.4 and 10.5 for specific degradation products. Depending on the degradation conditions, complex mixtures of chemical substances can be released during degradation: carbon dioxide (CO₂), carbon monoxide and other organic compounds.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on the hazard classes within the meaning of Regulation (EC) No. 1272/2008:

Contains glycols, which are potentially harmful to health, which is why it is recommended not to inhale the vapors for long periods of time.

Dangerous health effects:

Repeated, long-term exposure at concentrations higher than those set by the professional exposure limits may cause damage to health, depending on the type of exposure:

A- Intake (acute effect):

- Acute toxicity: Based on the available data, the classification criteria are not met. However, it contains substances that are classified as dangerous if ingested. For more information, see section 3.
- Corrosive/irritant effect: Taking a significant dose may cause irritation of the throat, abdominal pain, nausea, and vomiting.

B- Inhalation (acute effect):

- Acute toxicity: Exposure to high concentrations can lead to central nervous system depression and cause headache, dizziness, nausea, vomiting, confusion and, in severe cases, loss of consciousness.
- Corrosive/irritating effect: Causes irritation of the respiratory tract, which is usually reversible and remains confined to the upper respiratory tract.

C- Contact with skin and eyes (acute effect):

- Contact with the skin: Leads to inflammation of the skin after contact.
- Contact with eyes: Leads to eye injuries after contact.

D- Carcinogenic effects, mutational effects and harmful effects on reproduction:

- Carcinogenicity: Contact with this product may cause cancer. For more information on potential health effects, see Section 2. IARC: Chloroalkanes, C14-17, (2B); 4,4'-methylene diphenyl diisocyanate, isomers and homologues (3)
- Mutagenicity: Based on the available data, the classification criteria are not met as it does not contain any substances classified as hazardous in terms of this effect. For more information, see Section 3.
- Toxicity to reproductive organs: May harm infants via breast milk E-sensitization effects:
- Respiratory: Prolonged contact can result in specific airway hypersensitivity.
- Skin: Prolonged contact can result in allergic skin reactions.

F- Specific Target Organ Toxicity (STOT)-Single Exposure:

Causes irritation of the respiratory tract, which is usually reversible and remains confined to the upper respiratory tract.

G- Specific target organ toxicity (S TOT) exposure repeated:

- Specific Target Organ Toxicity (S TOT) Exposure Repeated: Exposure at high concentrations may result in central nervous system depression and may cause headache, dizziness, nausea, vomiting, confusion, and, in severe cases, loss of consciousness.
- Skin: Based on the available data, the classification criteria are not met. However, it contains substances that are classified as dangerous due to repeated exposure. For more information, see Section 3.

H- Aspiration Hazard:

Based on the available data, the classification criteria are not met, as it does not contain any substances classified as hazardous in terms of this effect. For more information, see Section 3.

Other information:

Not relevant

Specific toxicological information of the substances:

Identification	Acute toxicity		Genus
Ethandiol CAS: 107-21-1 EC: 203-473-3	LD50 oral	500 mg/kg	
	LD50 cutaneous	>3500 mg/kg	Rabbit
	LC50 when inhaling haze	>20 mg/L (4 h)	
Reaction products of phosphoryl trichloride and 2-methyloxirane CAS: 1244733-77-4 EC: 807-935-0	LD50 oral	632 mg/kg	Rat
	LD50 cutaneous	>2000 mg/kg	Rat
	LC50 when inhaling haze	>7 mg/L (4 h)	Rat
4,4'-Methylene diphenyl diisocyanate, isomers and homologues CAS: 9016-87-9 EC: 618-498-9	LD50 oral	>2000 mg/kg	Rat
	LD50 cutaneous	>9400 mg/kg	Rabbit
	LC50 when inhaling haze	11 mg/L	
Isobutane CAS: 75-28-5 EC: 200-857-2	LD50 oral	>2000 mg/kg	
	LD50 cutaneous	>2000 mg/kg	
	LC50 when inhaling gases	>20000 mg/L	
Propane CAS: 74-98-6 EC: 200-827-9	LD50 oral	>2000 mg/kg	
	LD50 cutaneous	>2000 mg/kg	
	LC50 when inhaling gases	>20000 mg/L	

Identification	Acute toxicity		Genus
Dimethyl Ether CAS: 115-10-6 EC: 204-065-8	LD50 oral	>2000 mg/kg	
	LD50 cutaneous	>2000 mg/kg	
	LC50 when inhaling gases	164000 ppm (4 h)	Rat

11.2 Information on other hazards:

Endocrine-disrupting properties

The product does not meet the criteria for its endocrine disrupting properties.

Other information

Not relevant

SECTION 12: ENVIRONMENTAL CLAIMS

12.1 Toxicity:

Acute toxicity:

Identification	Concentration	Art	Genus
Reaction products of phosphoryl trichloride and 2-methyloxirane CAS: 1244733-77-4 EC: 807-935-0	LC50 100 mg/L (96 h)	Danio rerio	Fish
	EC50 131 mg/L (48 h)	Daphnia magna	Crustacean
	EC50 82 mg/L (72 h)	Pseudokirchneriella subcapitata	Algae
Ethandiol CAS: 107-21-1 EC: 203-473-3	LC50 53000 mg/L (96 h)	Pimephales promelas	Fish
	EC50 51000 mg/L (48 h)	Daphnia magna	Crustacean
	EC50 24000 mg/L (168 h)	Selenastrum capricornutum	Algae

Long-term toxicity:

Identification	Concentration	Art	Genus
Reaction products of phosphoryl trichloride and 2-methyloxirane CAS: 1244733-77-4 EC: 807-935-0	NOEC Not relevant		
	NOEC 32 mg/L	Daphnia magna	Crustacean

12.2 Persistence and degradability:

Identification	Degradability	Biodegradability	
Reaction products of phosphoryl trichloride and 2-methyloxirane CAS: 1244733-77-4 EC: 807-935-0	BOD5	Not relevant	Concentration 20 mg/L
	COD	Not relevant	Period 28 days
	BOD/COD	Not relevant	% Biodegradable 14 %
Ethandiol CAS: 107-21-1 EC: 203-473-3	BOD5	0.47 g O ₂ /g	Concentration 100 mg/L
	COD	1.29 g O ₂ /g	Period 14 days
	BOD/COD	0,36	% Biodegradable 90 %

12.3 Bioaccumulation potential:

Substance-specific information:

Identification	Potential of biological accumulation	
Reaction products of phosphoryl trichloride and 2-methyloxirane CAS: 1244733-77-4 EC: 807-935-0	FBK	8
	POW Protocol	3,17
	Potential	Low
Isobutane CAS: 75-28-5 EC: 200-857-2	FBK	27
	POW Protocol	2,76
	Potential	Low

Identification	Potential of biological accumulation	
Propane CAS: 74-98-6 EC: 200-827-9	FBK	13
	POW Protocol	2,86
	Potential	Low
Ethandiol CAS: 107-21-1 EC: 203-473-3	FBK	10
	POW Protocol	-1,36
	Potential	Low

12.4 Mobility in the ground:

Identification	Absorption/Desorption		Volatility	
Reaction products of phosphoryl trichloride and 2-methyloxirane CAS: 1244733-77-4 EC: 807-935-0	Koc	324,2	Henry	6E-3 Pa·m ³ /mol
	Conclusion	Moderate	Dry soil	Not relevant
	σ	Not relevant	Moist soil	Not relevant
Dimethyl Ether CAS: 115-10-6 EC: 204-065-8	Koc	Not relevant	Henry	Not relevant
	Conclusion	Not relevant	Dry soil	Not relevant
	σ	1.136E-2 N/m (25 °C)	Moist soil	Not relevant
Isobutane CAS: 75-28-5 EC: 200-857-2	Koc	35	Henry	120576.75 Pa·m ³ /mol
	Conclusion	Very high	Dry soil	Yes
	σ	9.84E-3 N/m (25 °C)	Moist soil	Yes
Propane CAS: 74-98-6 EC: 200-827-9	Koc	460	Henry	71636,78 Pa·m ³ /mol
	Conclusion	Moderate	Dry soil	Yes
	σ	7.02E-3 N/m (25 °C)	Moist soil	Yes
Ethandiol CAS: 107-21-1 EC: 203-473-3	Koc	0	Henry	1.327E-1 Pa·m ³ /mol
	Conclusion	Very high	Dry soil	Not relevant
	σ	4.989E-2 N/m (25 °C)	Moist soil	Not relevant

12.5 PBT and vPvB assessment results:

The product does not meet the PBT/vPvB criteria.

12.6 Endocrine-disrupting properties:

The product does not meet the criteria for its endocrine disrupting properties.

12.7 Other harmful effects:

Not described

SECTION 13: DISPOSAL INSTRUCTIONS

13.1 Waste treatment process:

Code	Description	Type of waste (Regulation (EU) No. 1357/2014)
16 05 04*	gases containing hazardous substances in pressure vessels (including halons)	Dangerous

Type of waste (Regulation (EU) No 1357/2014):

HP3 flammable, HP14 ecotoxic, HP5 specific target organ toxicity (STOT)/aspiration hazard, HP6 acute toxicity, HP7 carcinogenic, HP13 sensitizing, HP4 irritant — skin irritation and eye damage

Waste management (disposal and recycling):

disposal by the authorised waste disposal company with regard to the recovery and disposal operations set out in Annexes 1 and 2 (Directive 2008/98/EC). According to codes 15 01 (2014/955/EC), if the container has been in direct contact with the product, it must be treated in the same way as the product itself, otherwise as if there were no dangerous residues. Do not let it get into the sewer system. See section 6.2.

Decrees regarding waste disposal:

According to Annex II of Regulation (EC) No. 1907/2006 (REACH), Community or national regulations regarding waste recycling must be complied with.

Community legislation: Directive 2008/98/EC, 2014/955/EC, Regulation (EU) No 1357/2014

National provisions: Act on the Reorganisation of Circular Economy and Waste Law. of 24 February 2012.

SECTION 14: TRANSPORT DETAILS

Transport of dangerous goods:

According to ADR 2023, RID 2023:



14.1 UN number or ID number:	UN1950
14.2 Proper UN shipping designation: Transport hazard	COMPRESSED GAS PACKS
14.3 classes:	2
Labels:	2.1
14.4 Packaging group:	N/A
14.5 Environmental hazards:	No
14.6 Special precautions for the user	
Special Provisions: Tunnel	190, 327, 344, 625
Restriction Code:	D
Physicochemical properties:	see section 9
Limited quantities:	
Bulk cargo transport by sea	1 L
14.7 according to IMO instruments:	Not relevant

Transportation of dangerous goods by sea:

According to IMDG 41-22:



14.1 UN number or ID number:	UN1950
14.2 Proper UN shipping designation: Transport hazard	COMPRESSED GAS PACKS
14.3 classes:	2
Labels:	2.1
14.4 Packing group: Marine	N/A
14.5 Special precautions for the user	No
14.6 pollutant:	
Special provisions: EMS	63, 959, 190, 277, 327, 344
codes:	F-D, S-U
Physical-chemical	see section 9
Features: Restricted	
Quantities: Segregation	1 L
Group:	Not relevant

Air transport of dangerous goods:

According to IATA/ICAO 2025:



14.1 UN number or ID number:	UN1950
14.2 Proper UN shipping designation: Transport hazard	COMPRESSED GAS PACKS
14.3 classes:	2
Labels:	2.1
14.4 Packaging group:	N/A
14.5 Environmental hazards:	No
14.6 Special precautions for the user	
Physical-chemical properties:	see section 9

SECTION 15: LEGISLATION

15.1 Safety, health and environmental protection rules/specific legislation for the substance or mixture:

- Article 95, REGULATION (EU) No 528/2012: Not relevant
- Class I organic substances according to point 5.2.5 of TA Luft (2021): *octamethylcyclotetrasiloxane (556-67-2)*
- Substances pending authorisation in Regulation (CE) 1907/2006 (REACH): *Chloroalkanes, C14-17, (85535-85-9; Decamethylcyclopentasiloxane (541-02-6; Dodecamethylcyclohexasiloxane (540-97-6); Octamethylcyclotetrasiloxane (556-67-2)*
- Substances included in REACH Annex XIV (Authorisation List) and expiry date: Not relevant
- Regulation (EC) 2024/590 on ozone-depleting substances: Not relevant
- Regulation (EU) 2019/1021 on persistent organic pollutants: Not relevant
- REGULATION (EU) No 649/2012 on the export and import of dangerous chemical substances: Not relevant

Seveso III:

Section	Description	Requirements for low-class establishments	Requirements for high-end establishments
P3a	FLAMMABLE AEROSOLS	150	500

Restrictions on the distribution and use of certain substances and hazardous mixtures (Annex XVII REACH, etc...):

Do not use:

- in decorative objects intended for the production of light or colour effects (by phase change), e.g. in mood lamps and ashtrays,
- in jokes;
- in games for one or more participants or in products intended for use as such, including for decoration.

Contains 4,4'-methylene diphenyl diisocyanate, isomers and homologues in quantities greater than 0.1% by weight. This product will not be sold for sale to the general public after 27 December 2010, except in the event that the packaging contains protective gloves that meet the requirements set out in Regulation (EU) 2016/425.

Contains diisocyanates in quantities higher than 0.1% by weight. 1. Shall not be used industrially or commercially after 24 August 2023, either as a substance or as an ingredient in other substances or mixtures, unless: (a) the concentration of diisocyanates, individually and in combination, is less than 0.1% by weight, or (b) the employer or self-employed person shall ensure that industrial or commercial users have successfully completed training on the safe use of diisocyanates prior to the use of the substance(s) or mixture(s).

2. Shall not be placed on the market after 24 February 2022 as a substance or as an ingredient in other substances or mixtures for industrial or commercial use, unless:

- a) the concentration of diisocyanates, individually and in combination, is less than 0.1% by weight, or
- b) the supplier shall ensure that the recipient of the substance(s) or mixture(s) is aware of the requirements set out in point (b) of paragraph 1 and that the following statement is clearly displayed on the packaging from the other information on the label: from 24 August 2023, appropriate training shall be provided prior to industrial or commercial use.

3. For the purposes of this entry, the term "industrial or professional user" means any employee or self-employed person who handles or supervises the handling of diisocyanates as substances or as an ingredient in other substances or mixtures for industrial and commercial use.

4. The training referred to in paragraph 1(b) shall include guidance on how to control exposure at the workplace to diisocyanates through skin contact and inhalation

this shall not affect national occupational exposure limits or other appropriate risk management measures at national level. This training is carried out by an expert in the field of occupational safety and health who has acquired his or her knowledge through appropriate training. The training must cover at least the following:

- a) the training elements referred to in paragraph 5(a) for all industrial and commercial uses;
- b) the training components referred to in points (a) and (b) of paragraph 5 for the following uses:
 - Handling open mixtures at room temperature (including in foam tunnels)
 - Spraying in a ventilated spray booth
 - Applying with a roller
 - Apply with a brush
 - Application by dipping and pouring
 - mechanical post-treatment (e.g. cutting) of cooled products that have not been completely dried
 - Cleaning and waste disposal
 - any other use in which there is similar exposure through skin contact and/or inhalation
- c) the training components referred to in points (a), (b) and (c) of paragraph 5 for the following uses:
 - Handling of incompletely dried products (e.g. freshly dried, still warm)
 - Foundry Applications
 - Maintenance and repair work that requires access to equipment
 - Open handling of hot or hot formulations (> 45 °C)
 - Spraying in the open air, with limited or exclusively natural ventilation (even in large industrial work halls) and spraying with high energy (e.g. foam, elastomers)
 - and any other use that results in similar exposure through skin contact and/or inhalation.

5. Training components:

- a) General training including online training on:
 - Chemical properties of diisocyanates
 - Toxicity (including acute toxicity)

- Exposure to diisocyanates
- Occupational exposure limits
- Causes of sensitization
- Smell as an indicator of danger
- Risk relevance of volatility
- Viscosity, temperature and molecular weight of diisocyanates
- personal hygiene
- required personal protective equipment, including practical instructions on its proper use and limits
- Risk of exposure through skin contact and inhalation
- Risk related to the application process used
- Skin protection and inhalation protection measures
- Ventilation
- Cleaning, leakage, maintenance
- Disposal of empty packaging
- Protection of bystanders
- Recognition of the essential handling stages
- specific national code systems (if any)
- safety-promoting behaviour
- Certificates or documented proof of successful completion of a training course
- b) Advanced training including online training on:
 - other behavioural aspects
 - Maintenance
- c) Advanced training including online training on:
 - any other certification required for the specific use
 - Spraying outside a spray booth
 - Open handling of hot or warm formulations (> 45 °C)
 - Certificates or documented proof of successful completion of a training course

6. The training should comply with the rules of the Member State in which the industrial or professional user(s) operates. Member States may implement or continue to apply their own national requirements for the use of the substance(s) or mixture(s), provided that the minimum requirements set out in paragraphs 4 and 5 are met.

7. The supplier referred to in paragraph 2(b) shall ensure that training materials and training in accordance with paragraphs 4 and 5 are made available to the customer in the official language(s) of the Member State(s) to which the substance(s) or mixture(s) are supplied. The specifics of the delivered products, including composition, packaging and design, are taken into account in the training.

8. The employer or self-employed person shall document the successful completion of the training provided for in paragraphs 4 and 5. The training must be repeated at least every five years.

9. The reports to be submitted by the Member States pursuant to Article 117(1) shall include, inter alia, the following information:

- a) All training requirements and other risk management measures in place regarding industrial and commercial uses of diisocyanates provided for by national legislation
- b) the number of reported and recognised cases of occupational asthma and occupational respiratory and skin diseases associated with diisocyanates
- c) national exposure limits for diisocyanates, if available
- d) Information on enforcement measures related to this restriction.

10. This restriction shall be without prejudice to other Union legislation on the safety and health of workers at work.

Special provisions regarding the protection of persons and the environment:

It is recommended that the information in this safety data sheet be used as input of data collected in a local risk assessment in order to take the necessary measures to prevent hazards to the management, use, storage and disposal of this product.

WGK (water hazard classes):

3

LGK - bearing class (TRGS 510):

2B

Other legislation:

Chemicals Act in the version published on 28 August 2013 (Federal Law Gazette I pp. 3498, 3991), which was last amended by Article 115 of the Act of 10 August 2021 (Federal Law Gazette I p. 3436).

Ordinance on Costs for Official Acts of the Federal Authorities under the Chemicals Act (ChemicalsKostenverordnungChemKostV).

General Administrative Regulation for the Implementation of the Assessment pursuant to Section 12 (2) Sentence 1 of the Chemicals Act (ChemVwV Evaluation) of 11 September 1997.

Hazardous Substances Ordinance (GefStoffV) of 26 November 2010 (Federal Law Gazette I pp. 1643, 1644), which was last amended by Article 2 of the Ordinance of 21 July 2021 (Federal Law Gazette I p. 3115).

Chemicals Prohibition Ordinance (ChemVerbotsV) of 20 January 2017 (Federal Law Gazette I p. 94; 2018 I p. 1389), which was last amended by Article 300 of the Ordinance of 19 June 2020 (Federal Law Gazette I p. 1328).

Poison Information Ordinance (ChemGiftInfoV) in the version published on 31 July 1996 (Federal Law Gazette I p. 1198), which was last amended by Article 4 of the Act of 18 July 2017 (Federal Law Gazette I p. 2774).

General Administrative Regulation on the Procedure for Official Monitoring of Compliance with the Principles of Good Laboratory Practice (ChemVwVGLP) of 15 May 1997, amended by Art. 1 Amendment Ordinance of 16 November 2011 (GMBI p. 967).

Chemical Sanctions Ordinance (ChemSanktionsV) in the version published on 10 May 2016 (Federal Law Gazette I p. 1175). Chemicals Ozone Layer Ordinance (ChemOzonSchichtV) in the version published on 15 February 2012 (Federal Law Gazette I p. 409), which was last amended by Article 298 of the Ordinance of 19 June 2020 (Federal Law Gazette I p. 1328).

Circular Economy Act (KrWG) of 24 February 2012 (Federal Law Gazette I p. 212), which was last amended by Article 5 of the Act of 2 March 2023 (Federal Law Gazette 2023 I No. 56).

Council Directive 75/324/EEC of 20 May 1975 on the approximation of the laws of the Member States relating to aerosol packaging

Commission Directive 94/1/EC of 6 January 1994 adapting to technical progress Council Directive 75/324/EEC on the approximation of the laws of the Member States relating to aerosol packaging

Commission Directive 2008/47/EC of 8 April 2008 amending, for the purposes of adapting to technical progress, Council Directive 75/324/EEC on the approximation of the laws of the Member States relating to aerosol packaging

Commission Directive 2013/10/EU of 19 March 2013 amending Council Directive 75/324/EEC on the approximation of the Member States' legislation on aerosol packaging in order to adapt their labelling requirements to the Regulation (EC) No 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances, mixtures and on the maximum permissible pressure of aerosol packs and adapting the labelling requirements to Regulation (EC) No 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures

15.2 Chemical safety assessment:

The supplier has not carried out a chemical safety assessment.

SECTION 16: OTHER INFORMATION

Legislation applicable to safety data sheets:

This safety data sheet has been developed in accordance with the ANNEX II guidance for the preparation of safety data sheets of Regulation (EC) No 1907/2006 (COMMISSION REGULATION (EU) 2020/878)

Changes compared to the previous safety data sheet that affect risk control measures :

Regulation No 1272/2008 (CLP) (SECTION 2, SECTION 16):

- Hazard warnings

Information on the basic physical and chemical properties (SECTION 9):

- Flash point

Texts of the legally treated sentences in section 2:

H222: Extremely flammable aerosol.

H332: Harmful by inhalation. H315: Causes skin irritation.

H319: Causes severe eye irritation.

H334: May cause allergy, asthma-like symptoms or breathing difficulties if inhaled.

H317: May cause allergic skin reactions.

H351: May probably cause cancer.

H362: May harm infants through breast milk.

H335: May irritate the respiratory tract.

H373: May damage organs with prolonged or repeated exposure.

H413: May be harmful to aquatic organisms, with long-term effects.

H229: Container is pressurized: May burst when heated.

SAFETY DATA SHEET

(in accordance with 1907/2006/EC, Article 31)

BSP24

Revised on: 23.02.2026

Version 1.0



Print date: 23.02.2026

Texts of the legally treated sentences in section 3:

The sentences given do not refer to the product itself, but are for informational purposes only and refer to the individual ingredients set out in Section 3

Regulation No. 1272/2008 (CLP):

Acute Tox. 4: H302 - Harmful if swallowed.

Acute Tox. 4: H332 - Harmful by inhalation.

Aquatic Acute 1: H400 - Very toxic to aquatic organisms.

Aquatic Chronic 1: H410 - Very toxic to aquatic organisms with long-term effects.

Aquatic Chronic 3: H412 - Harmful to aquatic organisms, with long-term effects.

Carc. 2: H351 - Probably causes cancer.

Eye Irrit. 2: H319 - Causes severe eye irritation.

Flam. Gas 1A: H220 - Extremely flammable gas.

Flam. Liq. 3: H226 - Flammable liquid and vapour.

Lact.: H362 - May harm infants through breast milk.

Press. Gas (Liq.): H280 - Contains gas under pressure, can explode when heated.

Press. Gas: H280 - Contains gas under pressure, can explode when heated.

Repr. 2: H361f - May probably affect fertility.

Resp. Sens. 1: H334 - May cause allergy, asthma-like symptoms or breathing difficulties if inhaled.

Skin Irrit. 2: H315 - Causes skin irritation.

Skin Sens. 1: H317 - May cause allergic skin reactions.

STOT RE 2: H373 - May damage organs with prolonged or repeated exposure (oral).

STOT RE 2: H373 - May damage organs with prolonged or repeated exposure.

STOT SE 3: H335 - May irritate the respiratory tract.

Advice regarding training:

A minimum training in occupational risk prevention is recommended for the personnel who will handle this product in order to facilitate the understanding and interpretation of this safety data sheet as well as the labelling of the product. **Main literature sources:**

<http://echa.europa.eu>

<http://eur-lex.europa.eu>

Abbreviations and acronyms:

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

BCF: Bioconcentration factor

BOD5: Biological oxygen demand in 5 days

COD: chemical oxygen demand

DNEL: Inferred Non-Effect Concentration.

EC50: 50% Effect Concentration

IMDG: International Maritime Code for Dangerous Goods

IARC: International Agency for Research on Cancer

IATA: International Air Transport Association

ICAO: International Civil Aviation Organization

Koc: Distribution coefficient of organic carbon

LC50: lethal concentration 50

LD50: lethal dose 50

LogPOW: Octanol-water-partiticoefficient

PBT: Persistent, bioaccumulative and toxic

PNEC: Predicted concentration at which no effect occurs

Non-class: Unclassified

UFI: unique recipe identifier

vPvB: very persistent and very bioaccumulative WGK: water hazard class

*** Changes taking into account the previous version*

The information contained in this safety data sheet is based on sources, technical knowledge and legislation in force at European and national level, although the accuracy of the same cannot be guaranteed. This information cannot be considered a guarantee of product characteristics. It is simply a description of the security requirements. We have no knowledge of the working methods and conditions of the users of this product, which is why it is ultimately the user's responsibility to take the necessary measures to comply with the legal requirements regarding the handling, storage, use and disposal of chemical products. The information in this safety data sheet refers exclusively to this product, which may not be used for purposes other than those specified.