

**rangers**  
**HARDENER 2K PROTECTIVE POLYURETHANE COATING**

Date of compilation: 20/02/2018

Version: 1

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

- 1.1 Product identifier:** rangers  
HARDENER 2K PROTECTIVE POLYURETHANE COATING
- 1.2 Relevant identified uses of the substance or mixture and uses advised against:**  
Relevant uses: Car repair. For professional user only.  
Uses advised against: All uses not specified in this section or in section 7.3
- 1.3 Details of the supplier of the safety data sheet:**  
Troton Sp. z o.o.  
Ząbrowo 14A  
78-120 Gościno - Zachodniopomorskie - Polska  
Phone.: +48 94 35 123 94 - Fax: +48 94 35 126 22  
troton@troton.com.pl  
www.troton.pl
- 1.4 Emergency telephone number:** ( 8am-4pm)+48 094 35 123 94; 112

**SECTION 2: HAZARDS IDENTIFICATION**

- 2.1 Classification of the substance or mixture:**  
**CLP Regulation (EC) No 1272/2008:**  
Classification of this product has been carried out in accordance with CLP Regulation (EC) No 1272/2008.  
Acute Tox. 4: Acute inhalation toxicity, Category 4, H332  
Eye Irrit. 2: Eye irritation, Category 2, H319  
Flam. Liq. 3: Flammable liquids, Category 3, H226  
Skin Irrit. 2: Skin irritation, Category 2, H315  
Skin Sens. 1: Sensitisation, skin, Category 1, H317  
STOT RE 2: Specific target organ toxicity if swallowed, repeated exposure, Category 2, H373  
STOT SE 3: Respiratory tract toxicity, single exposure, Category 3, H335

**2.2 Label elements:**

**CLP Regulation (EC) No 1272/2008:**

**Warning**



**Hazard statements:**

Acute Tox. 4: H332 - Harmful if inhaled  
Eye Irrit. 2: H319 - Causes serious eye irritation  
Flam. Liq. 3: H226 - Flammable liquid and vapour  
Skin Irrit. 2: H315 - Causes skin irritation  
Skin Sens. 1: H317 - May cause an allergic skin reaction  
STOT RE 2: H373 - May cause damage to organs through prolonged or repeated exposure (Oral)  
STOT SE 3: H335 - May cause respiratory irritation

**Precautionary statements:**

P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking  
P280: Wear protective gloves/protective clothing/eye protection/face protection  
P302+P352: IF ON SKIN: Wash with plenty of water  
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing  
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P403+P233: Store in a well-ventilated place. Keep container tightly closed  
P501: Dispose of contents/container in accordance with regulations on hazardous waste or packaging and packaging waste respectively

**Supplementary information:**

EUH204: Contains isocyanates. May produce an allergic reaction

**Substances that contribute to the classification**

Hexamethylene diisocyanate, oligomers; Xylene; Ethylbenzene; Hexamethylene-di-isocyanate

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**SECTION 2: HAZARDS IDENTIFICATION (continued)****2.3 Other hazards:**

Product fails to meet PBT/vPvB criteria

**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS****3.1 Substance:**

Non-applicable

**3.2 Mixture:****Chemical description:** Mixture composed of chemical products**Components:**

In accordance with Annex II of Regulation (EC) No 1907/2006 (point 3), the product contains:

Identification	Chemical name/Classification		Concentration
CAS: 28182-81-2 EC: 931-274-8 Index: Non-applicable REACH: 01-2119485796-17-XXXX	<b>Hexamethylene diisocyanate, oligomers<sup>(1)</sup></b> Regulation 1272/2008	Self-classified Acute Tox. 4: H332; Skin Sens. 1: H317; STOT SE 3: H335 - Warning	25 - <50 %
CAS: 1330-20-7 EC: 215-535-7 Index: 601-022-00-9 REACH: 01-2119488216-32-XXXX	<b>Xylene<sup>(1)</sup></b> Regulation 1272/2008	Self-classified Acute Tox. 4: H312+H332; Asp. Tox. 1: H304; Eye Irrit. 2: H319; Flam. Liq. 3: H226; Skin Irrit. 2: H315; STOT RE 2: H373; STOT SE 3: H335 - Danger	25 - <50 %
CAS: 108-65-6 EC: 203-603-9 Index: 607-195-00-7 REACH: 01-2119475791-29-XXXX	<b>2-methoxy-1-methylethyl acetate<sup>(2)</sup></b> Regulation 1272/2008	ATP ATP01 Flam. Liq. 3: H226 - Warning	5 - <10 %
CAS: 100-41-4 EC: 202-849-4 Index: 601-023-00-4 REACH: 01-2119489370-35-XXXX	<b>Ethylbenzene<sup>(1)</sup></b> Regulation 1272/2008	ATP ATP06 Acute Tox. 4: H332; Asp. Tox. 1: H304; Flam. Liq. 2: H225; STOT RE 2: H373 - Danger	1 - <2,5 %
CAS: 822-06-0 EC: 212-485-8 Index: 615-011-00-1 REACH: 01-2119457571-37-XXXX	<b>Hexamethylene-di-isocyanate<sup>(1)</sup></b> Regulation 1272/2008	ATP CLP00 Acute Tox. 3: H331; Eye Irrit. 2: H319; Resp. Sens. 1: H334; Skin Irrit. 2: H315; Skin Sens. 1: H317; STOT SE 3: H335 - Danger	<1 %

<sup>(1)</sup> Substances presenting a health or environmental hazard which meet criteria laid down in Regulation (EU) No. 2015/830<sup>(2)</sup> Substance with a Union workplace exposure limit

To obtain more information on the hazards of the substances consult sections 11, 12 and 16.

**SECTION 4: FIRST AID MEASURES****4.1 Description of first aid measures:**

The symptoms resulting from intoxication can appear after exposure, therefore, in case of doubt, seek medical attention for direct exposure to the chemical product or persistent discomfort, showing the SDS of this product.

**By inhalation:**

Remove the person affected from the area of exposure, provide with fresh air and keep at rest. In serious cases such as cardiorespiratory failure, artificial resuscitation techniques will be necessary (mouth to mouth resuscitation, cardiac massage, oxygen supply, etc.) requiring immediate medical assistance.

**By skin contact:**

Remove contaminated clothing and footwear, rinse skin or shower the person affected if appropriate with plenty of cold water and neutral soap. In serious cases see a doctor. If the product causes burns or freezing, clothing should not be removed as this could worsen the injury caused if it is stuck to the skin. If blisters form on the skin, these should never be burst as this will increase the risk of infection.

**By eye contact:**

Rinse eyes thoroughly with lukewarm water for at least 15 minutes. Do not allow the person affected to rub or close their eyes. If the injured person uses contact lenses, these should be removed unless they are stuck to the eyes, in which case this could cause further damage. In all cases, after cleaning, a doctor should be consulted as quickly as possible with the SDS of the product.

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**SECTION 4: FIRST AID MEASURES (continued)****By ingestion/aspiration:**

Do not induce vomiting, but if it does happen keep the head down to avoid aspiration. Keep the person affected at rest. Rinse out the mouth and throat, as they may have been affected during ingestion.

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

Acute and delayed effects are indicated in sections 2 and 11.

**4.3 Indication of any immediate medical attention and special treatment needed:**

Non-applicable

**SECTION 5: FIREFIGHTING MEASURES****5.1 Extinguishing media:**

If possible use polyvalent powder fire extinguishers (ABC powder), alternatively use foam or carbon dioxide extinguishers (CO<sub>2</sub>). IT IS RECOMMENDED NOT to use full jet water as an extinguishing agent.

**5.2 Special hazards arising from the substance or mixture:**

As a result of combustion or thermal decomposition reactive sub-products are created that can become highly toxic and, consequently, can present a serious health risk.

**5.3 Advice for firefighters:**

Depending on the magnitude of the fire it may be necessary to use full protective clothing and self-contained breathing apparatus (SCBA). Minimum emergency facilities and equipment should be available (fire blankets, portable first aid kit,...) in accordance with Directive 89/654/EC.

**Additional provisions:**

Act in accordance with the Internal Emergency Plan and the Information Sheets on actions to take after an accident or other emergencies. Eliminate all sources of ignition. In case of fire, cool the storage containers and tanks for products susceptible to combustion, explosion or BLEVE as a result of high temperatures. Avoid spillage of the products used to extinguish the fire into an aqueous medium.

**SECTION 6: ACCIDENTAL RELEASE MEASURES****6.1 Personal precautions, protective equipment and emergency procedures:**

Isolate leaks provided that there is no additional risk for the people performing this task. Evacuate the area and keep out those without protection. Personal protection equipment must be used against potential contact with the spilt product (See section 8). Above all prevent the formation of any vapour-air flammable mixtures, through either ventilation or the use of an inert medium. Destroy any source of ignition. Eliminate electrostatic charges by interconnecting all the conductive surfaces on which static electricity could form, and also ensuring that all surfaces are connected to the ground.

**6.2 Environmental precautions:**

This product is not classified as hazardous to the environment. Keep product away from drains, surface and underground water.

**6.3 Methods and material for containment and cleaning up:**

It is recommended:

Absorb the spillage using sand or inert absorbent and move it to a safe place. Do not absorb in sawdust or other combustible absorbents. For any concern related to disposal consult section 13.

**6.4 Reference to other sections:**

See sections 8 and 13.

**SECTION 7: HANDLING AND STORAGE****7.1 Precautions for safe handling:**

A.- Precautions for safe manipulation

Comply with the current legislation concerning the prevention of industrial risks. Keep containers hermetically sealed. Control spills and residues, destroying them with safe methods (section 6). Avoid leakages from the container. Maintain order and cleanliness where dangerous products are used.

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

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**SECTION 7: HANDLING AND STORAGE (continued)**

Transfer in well ventilated areas, preferably through localized extraction. Fully control sources of ignition (mobile phones, sparks,...) and ventilate during cleaning operations. Avoid the existence of dangerous atmospheres inside containers, applying inertization systems where possible. Transfer at a slow speed to avoid the creation of electrostatic charges. Against the possibility of electrostatic charges: ensure a perfect equipotential connection, always use groundings, do not wear work clothes made of acrylic fibres, preferably wearing cotton clothing and conductive footwear. Comply with the essential security requirements for equipment and systems defined in Directive 2014/34/EC (ATEX 100) and with the minimum requirements for protecting the security and health of workers under the selection criteria of Directive 1999/92/EC (ATEX 137). Consult section 10 for conditions and materials that should be avoided.

C.- Technical recommendations to prevent ergonomic and toxicological risks

Do not eat or drink during the process, washing hands afterwards with suitable cleaning products.

D.- Technical recommendations to prevent environmental risks

It is recommended to have absorbent material available at close proximity to the product (See subsection 6.3)

**7.2 Conditions for safe storage, including any incompatibilities:**

A.- Technical measures for storage

Minimum Temp.: 10 °C

Maximum Temp.: 25 °C

Maximum time: 18 Months

B.- General conditions for storage

Avoid sources of heat, radiation, static electricity and contact with food. For additional information see subsection 10.5

**7.3 Specific end use(s):**

Except for the instructions already specified it is not necessary to provide any special recommendation regarding the uses of this product.

**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION****8.1 Control parameters:**

Substances whose occupational exposure limits have to be monitored in the workplace

Identification	Environmental limits		
	IOELV (8h)	50 ppm	221 mg/m <sup>3</sup>
Xylene CAS: 1330-20-7 EC: 215-535-7	IOELV (STEL)	100 ppm	442 mg/m <sup>3</sup>
2-methoxy-1-methylethyl acetate CAS: 108-65-6 EC: 203-603-9	IOELV (8h)	50 ppm	275 mg/m <sup>3</sup>
	IOELV (STEL)	100 ppm	550 mg/m <sup>3</sup>
Ethylbenzene CAS: 100-41-4 EC: 202-849-4	IOELV (8h)	100 ppm	442 mg/m <sup>3</sup>
	IOELV (STEL)	200 ppm	884 mg/m <sup>3</sup>

**DNEL (Workers):**

Identification		Short exposure		Long exposure	
		Systemic	Local	Systemic	Local
Hexamethylene diisocyanate, oligomers CAS: 28182-81-2 EC: 931-274-8	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Dermal	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Inhalation	Non-applicable	1 mg/m <sup>3</sup>	Non-applicable	0,5 mg/m <sup>3</sup>
Xylene CAS: 1330-20-7 EC: 215-535-7	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Dermal	Non-applicable	Non-applicable	180 mg/kg	Non-applicable
	Inhalation	289 mg/m <sup>3</sup>	289 mg/m <sup>3</sup>	77 mg/m <sup>3</sup>	Non-applicable
2-methoxy-1-methylethyl acetate CAS: 108-65-6 EC: 203-603-9	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Dermal	Non-applicable	Non-applicable	153,5 mg/kg	Non-applicable
	Inhalation	Non-applicable	Non-applicable	275 mg/m <sup>3</sup>	Non-applicable
Ethylbenzene CAS: 100-41-4 EC: 202-849-4	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Dermal	Non-applicable	Non-applicable	180 mg/kg	Non-applicable
	Inhalation	Non-applicable	293 mg/m <sup>3</sup>	77 mg/m <sup>3</sup>	Non-applicable

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**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)**

Identification		Short exposure		Long exposure	
		Systemic	Local	Systemic	Local
Hexamethylene-di-isocyanate CAS: 822-06-0 EC: 212-485-8	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Dermal	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Inhalation	0,07 mg/m <sup>3</sup>	0,07 mg/m <sup>3</sup>	0,035 mg/m <sup>3</sup>	0,035 mg/m <sup>3</sup>

**DNEL (General population):**

Identification		Short exposure		Long exposure	
		Systemic	Local	Systemic	Local
Xylene CAS: 1330-20-7 EC: 215-535-7	Oral	Non-applicable	Non-applicable	1,6 mg/kg	Non-applicable
	Dermal	Non-applicable	Non-applicable	108 mg/kg	Non-applicable
	Inhalation	Non-applicable	Non-applicable	14,8 mg/m <sup>3</sup>	Non-applicable
2-methoxy-1-methylethyl acetate CAS: 108-65-6 EC: 203-603-9	Oral	Non-applicable	Non-applicable	1,67 mg/kg	Non-applicable
	Dermal	Non-applicable	Non-applicable	54,8 mg/kg	Non-applicable
	Inhalation	Non-applicable	Non-applicable	33 mg/m <sup>3</sup>	Non-applicable
Ethylbenzene CAS: 100-41-4 EC: 202-849-4	Oral	Non-applicable	Non-applicable	1,6 mg/kg	Non-applicable
	Dermal	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Inhalation	Non-applicable	Non-applicable	15 mg/m <sup>3</sup>	Non-applicable

**PNEC:**

Identification					
Hexamethylene diisocyanate, oligomers CAS: 28182-81-2 EC: 931-274-8	STP	38,3 mg/L	Fresh water	0,127 mg/L	
	Soil	53182 mg/kg	Marine water	0,0127 mg/L	
	Intermittent	1,27 mg/L	Sediment (Fresh water)	266700 mg/kg	
	Oral	Non-applicable	Sediment (Marine water)	26670 mg/kg	
Xylene CAS: 1330-20-7 EC: 215-535-7	STP	6,58 mg/L	Fresh water	0,327 mg/L	
	Soil	2,31 mg/kg	Marine water	0,327 mg/L	
	Intermittent	0,327 mg/L	Sediment (Fresh water)	12,46 mg/kg	
	Oral	Non-applicable	Sediment (Marine water)	12,46 mg/kg	
2-methoxy-1-methylethyl acetate CAS: 108-65-6 EC: 203-603-9	STP	100 mg/L	Fresh water	0,635 mg/L	
	Soil	0,29 mg/kg	Marine water	0,0635 mg/L	
	Intermittent	6,35 mg/L	Sediment (Fresh water)	3,29 mg/kg	
	Oral	Non-applicable	Sediment (Marine water)	0,329 mg/kg	
Ethylbenzene CAS: 100-41-4 EC: 202-849-4	STP	9,6 mg/L	Fresh water	0,1 mg/L	
	Soil	2,68 mg/kg	Marine water	0,01 mg/L	
	Intermittent	0,1 mg/L	Sediment (Fresh water)	13,7 mg/kg	
	Oral	20 g/kg	Sediment (Marine water)	1,37 mg/kg	
Hexamethylene-di-isocyanate CAS: 822-06-0 EC: 212-485-8	STP	8,42 mg/L	Fresh water	0,0774 mg/L	
	Soil	0,0026 mg/kg	Marine water	0,00774 mg/L	
	Intermittent	0,774 mg/L	Sediment (Fresh water)	0,01334 mg/kg	
	Oral	Non-applicable	Sediment (Marine water)	0,001344 mg/kg	

**8.2 Exposure controls:****A.- General security and hygiene measures in the work place**

As a preventative measure it is recommended to use basic Personal Protective Equipment, with the corresponding <<CE marking>> in accordance with Directive 89/686/EC. For more information on Personal Protective Equipment (storage, use, cleaning, maintenance, class of protection,...) consult the information leaflet provided by the manufacturer. For more information see subsection 7.1.

All information contained herein is a recommendation which needs some specification from the labour risk prevention services as it is not known whether the company has additional measures at its disposal.



**B.- Respiratory protection**

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**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)**



Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory respiratory tract protection	Filter mask for gases and vapours		EN 405:2001+A1:2009	Replace when there is a taste or smell of the contaminant inside the face mask. If the contaminant comes with warnings it is recommended to use isolation equipment.

C.- Specific protection for the hands





Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory hand protection	Protective gloves against minor risks			Replace gloves in case of any sign of damage. For prolonged periods of exposure to the product for professional users/industrials, we recommend using CE III gloves in line with standards EN 420:2003+A1:2009 and EN ISO 374-1:2016

"As the product is a mixture of several substances, the resistance of the glove material can not be predicted in advance with total reliability and has therefore to be checked prior to the application"



D.- Ocular and facial protection

Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory face protection	Panoramic glasses against splash/projections.		EN 166:2001 EN ISO 4007:2018	Clean daily and disinfect periodically according to the manufacturer's instructions. Use if there is a risk of splashing.

E.- Body protection

Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory complete body protection	Antistatic and fireproof protective clothing		EN 1149-1:2006 EN 1149-2:1997 EN 1149-3:2004 EN 168:2001 EN ISO 14116:2015 EN 1149-5:2018	Limited protection against flames.
 Mandatory foot protection	Safety footwear with antistatic and heat resistant properties		EN ISO 13287:2012 EN ISO 20345:2011	Replace boots at any sign of deterioration.

F.- Additional emergency measures

Emergency measure	Standards	Emergency measure	Standards
 Emergency shower	ANSI Z358-1 ISO 3864-1:2011, ISO 3864-4:2011	 Eyewash stations	DIN 12 899 ISO 3864-1:2011, ISO 3864-4:2011

**Environmental exposure controls:**

In accordance with the community legislation for the protection of the environment it is recommended to avoid environmental spillage of both the product and its container. For additional information see subsection 7.1.D

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

**9.1 Information on basic physical and chemical properties:**

For complete information see the product datasheet.

**Appearance:**

Physical state at 20 °C: Liquid

Appearance: Fluid

Colour: Colourless

\*Not relevant due to the nature of the product, not providing information property of its hazards.

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### SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES (continued)

Odour:	Characteristic
Odour threshold:	Non-applicable *
<b>Volatility:</b>	
Boiling point at atmospheric pressure:	139 °C
Vapour pressure at 20 °C:	696 Pa
Vapour pressure at 50 °C:	3859,79 Pa (3,86 kPa)
Evaporation rate at 20 °C:	Non-applicable *
<b>Product description:</b>	
Density at 20 °C:	1000 kg/m <sup>3</sup>
Relative density at 20 °C:	Non-applicable *
Dynamic viscosity at 20 °C:	3000 cP
Kinematic viscosity at 20 °C:	3026,42 cSt
Kinematic viscosity at 40 °C:	Non-applicable *
Concentration:	Non-applicable *
pH:	Non-applicable *
Vapour density at 20 °C:	Non-applicable *
Partition coefficient n-octanol/water 20 °C:	Non-applicable *
Solubility in water at 20 °C:	Non-applicable *
Solubility properties:	Non-applicable *
Decomposition temperature:	Non-applicable *
Melting point/freezing point:	Non-applicable *
Explosive properties:	Non-applicable *
Oxidising properties:	Non-applicable *
<b>Flammability:</b>	
Flash Point:	28 °C
Flammability (solid, gas):	Non-applicable *
Autoignition temperature:	315 °C
Lower flammability limit:	Not available
Upper flammability limit:	Not available
<b>Explosive:</b>	
Lower explosive limit:	Non-applicable *
Upper explosive limit:	Non-applicable *
<b>9.2 Other information:</b>	
Surface tension at 20 °C:	Non-applicable *
Refraction index:	Non-applicable *

\*Not relevant due to the nature of the product, not providing information property of its hazards.

### SECTION 10: STABILITY AND REACTIVITY

**10.1 Reactivity:**

No hazardous reactions are expected because the product is stable under recommended storage conditions. See section 7.

**10.2 Chemical stability:**

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

**10.3 Possibility of hazardous reactions:**

Under the specified conditions, hazardous reactions that lead to excessive temperatures or pressure are not expected.



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**SECTION 10: STABILITY AND REACTIVITY (continued)****10.4 Conditions to avoid:**

Applicable for handling and storage at room temperature:

Shock and friction	Contact with air	Increase in temperature	Sunlight	Humidity
Not applicable	Not applicable	Risk of combustion	Avoid direct impact	Not applicable

**10.5 Incompatible materials:**

Acids	Water	Oxidising materials	Combustible materials	Others
Avoid strong acids	Not applicable	Avoid direct impact	Not applicable	Avoid alkalis or strong bases

**10.6 Hazardous decomposition products:**

See subsection 10.3, 10.4 and 10.5 to find out the specific decomposition products. Depending on the decomposition conditions, complex mixtures of chemical substances can be released: carbon dioxide (CO<sub>2</sub>), carbon monoxide and other organic compounds.

**SECTION 11: TOXICOLOGICAL INFORMATION****11.1 Information on toxicological effects:**

The experimental information related to the toxicological properties of the product itself is not available

**Dangerous health implications:**

In case of exposure that is repetitive, prolonged or at concentrations higher than the recommended occupational exposure limits, adverse effects on health may result, depending on the means of exposure:

## A- Ingestion (acute effect):

- Acute toxicity : Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for consumption. For more information see section 3.
- Corrosivity/Irritability: The consumption of a considerable dose can cause irritation in the throat, abdominal pain, nausea and vomiting.

## B- Inhalation (acute effect):

- Acute toxicity : Exposure in high concentration can interfere with the central nervous system causing headache, dizziness, vertigo, nausea, vomiting, confusion, and in serious cases, loss of consciousness.
- Corrosivity/Irritability: Causes irritation in respiratory passages, which is normally reversible and limited to the upper respiratory passages.

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

- Contact with the skin: Produces skin inflammation.
- Contact with the eyes: Produces eye damage after contact.

## D- CMR effects (carcinogenicity, mutagenicity and toxicity to reproduction):

- Carcinogenicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for the effects mentioned. For more information see section 3.  
IARC: Xylene (3); Ethylbenzene (2B)
- Mutagenicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.
- Reproductive toxicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.

## E- Sensitizing effects:

- Respiratory: Based on available data, the classification criteria are not met. However, it contains substances classified as dangerous with sensitising effects. For more information see section 3.
- Cutaneous: Prolonged contact with the skin can result in episodes of allergic contact dermatitis.

## F- Specific target organ toxicity (STOT) - single exposure:

Causes irritation in respiratory passages, which is normally reversible and limited to the upper respiratory passages.

## G- Specific target organ toxicity (STOT)-repeated exposure:

- Specific target organ toxicity (STOT)-repeated exposure: Exposure in high concentration can interfere with the central nervous system causing headache, dizziness, vertigo, nausea, vomiting, confusion, and in serious cases, loss of consciousness.
- Skin: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.

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**SECTION 11: TOXICOLOGICAL INFORMATION (continued)**

H- Aspiration hazard:

Based on available data, the classification criteria are not met. However, it does contain substances classified as dangerous for this effect. For more information see section 3.

**Other information:**

Non-applicable

**Specific toxicology information on the substances:**

Identification	Acute toxicity		Genus
Xylene CAS: 1330-20-7 EC: 215-535-7	LD50 oral	2100 mg/kg	Rat
	LD50 dermal	1100 mg/kg (ATEi)	Rat
	LC50 inhalation	11 mg/L (4 h) (ATEi)	
Hexamethylene diisocyanate, oligomers CAS: 28182-81-2 EC: 931-274-8	LD50 oral	5100 mg/kg	Rat
	LD50 dermal	>2000 mg/kg	
	LC50 inhalation	11 mg/L (4 h) (ATEi)	
2-methoxy-1-methylethyl acetate CAS: 108-65-6 EC: 203-603-9	LD50 oral	8532 mg/kg	Rat
	LD50 dermal	5100 mg/kg	Rat
	LC50 inhalation	30 mg/L (4 h)	Rat
Ethylbenzene CAS: 100-41-4 EC: 202-849-4	LD50 oral	3500 mg/kg	Rat
	LD50 dermal	15354 mg/kg	Rabbit
	LC50 inhalation	17,2 mg/L (4 h)	Rat
Hexamethylene-di-isocyanate CAS: 822-06-0 EC: 212-485-8	LD50 oral	>2000 mg/kg	
	LD50 dermal	>2000 mg/kg	
	LC50 inhalation	3 mg/L (4 h) (ATEi)	Rat

**SECTION 12: ECOLOGICAL INFORMATION**

The experimental information related to the eco-toxicological properties of the product itself is not available

**12.1 Toxicity:**

Identification	Acute toxicity		Species	Genus
Hexamethylene diisocyanate, oligomers CAS: 28182-81-2 EC: 931-274-8	LC50	Non-applicable		
	EC50	Non-applicable		
	EC50	1000 mg/L (72 h)	Scenedesmus subspicatus	Algae
Xylene CAS: 1330-20-7 EC: 215-535-7	LC50	13.5 mg/L (96 h)	Oncorhynchus mykiss	Fish
	EC50	3.4 mg/L (48 h)	Ceriodaphnia dubia	Crustacean
	EC50	10 mg/L (72 h)	Skeletonema costatum	Algae
2-methoxy-1-methylethyl acetate CAS: 108-65-6 EC: 203-603-9	LC50	161 mg/L (96 h)	Pimephales promelas	Fish
	EC50	481 mg/L (48 h)	Daphnia sp.	Crustacean
	EC50	Non-applicable		
Ethylbenzene CAS: 100-41-4 EC: 202-849-4	LC50	42.3 mg/L (96 h)	Pimephales promelas	Fish
	EC50	75 mg/L (48 h)	Daphnia magna	Crustacean
	EC50	63 mg/L (3 h)	Chlorella vulgaris	Algae

**12.2 Persistence and degradability:**

Identification	Degradability		Biodegradability	
Xylene CAS: 1330-20-7 EC: 215-535-7	BOD5	Non-applicable	Concentration	Non-applicable
	COD	Non-applicable	Period	28 days
	BOD5/COD	Non-applicable	% Biodegradable	88 %
2-methoxy-1-methylethyl acetate CAS: 108-65-6 EC: 203-603-9	BOD5	Non-applicable	Concentration	785 mg/L
	COD	Non-applicable	Period	8 days
	BOD5/COD	Non-applicable	% Biodegradable	100 %
Ethylbenzene CAS: 100-41-4 EC: 202-849-4	BOD5	Non-applicable	Concentration	100 mg/L
	COD	Non-applicable	Period	14 days
	BOD5/COD	Non-applicable	% Biodegradable	90 %

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**SECTION 12: ECOLOGICAL INFORMATION (continued)**

Identification	Degradability		Biodegradability	
	Hexamethylene-di-isocyanate CAS: 822-06-0 EC: 212-485-8	BOD5	Non-applicable	Concentration
	COD	Non-applicable	Period	28 days
	BOD5/COD	Non-applicable	% Biodegradable	28 %

**12.3 Bioaccumulative potential:**

Identification	Bioaccumulation potential	
	Xylene CAS: 1330-20-7 EC: 215-535-7	BCF
Pow Log		2.77
Potential		Low
2-methoxy-1-methylethyl acetate CAS: 108-65-6 EC: 203-603-9	BCF	1
	Pow Log	0.43
	Potential	Low
Ethylbenzene CAS: 100-41-4 EC: 202-849-4	BCF	1
	Pow Log	3.15
	Potential	Low

**12.4 Mobility in soil:**

Identification	Absorption/desorption		Volatility	
	Xylene CAS: 1330-20-7 EC: 215-535-7	Koc	202	Henry
Conclusion		Moderate	Dry soil	Yes
Surface tension		Non-applicable	Moist soil	Yes
Ethylbenzene CAS: 100-41-4 EC: 202-849-4	Koc	520	Henry	798,44 Pa·m <sup>3</sup> /mol
	Conclusion	Moderate	Dry soil	Yes
	Surface tension	2,859E-2 N/m (25 °C)	Moist soil	Yes

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

Product fails to meet PBT/vPvB criteria

**12.6 Other adverse effects:**

Not described

**SECTION 13: DISPOSAL CONSIDERATIONS****13.1 Waste treatment methods:**

Code	Description	Waste class (Regulation (EU) No 1357/2014)
	It is not possible to assign a specific code, as it depends on the intended use by the user	Dangerous

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

HP3 Flammable, HP5 Specific Target Organ Toxicity (STOT)/Aspiration Toxicity, HP6 Acute Toxicity, HP13 Sensitising, HP4 Irritant — skin irritation and eye damage

**Waste management (disposal and evaluation):**

Consult the authorized waste service manager on the assessment and disposal operations in accordance with Annex 1 and Annex 2 (Directive 2008/98/EC). As under 15 01 (2014/955/EC) of the code and in case the container has been in direct contact with the product, it will be processed the same way as the actual product. Otherwise, it will be processed as non-dangerous residue. We do not recommended disposal down the drain. See paragraph 6.2.

**Regulations related to waste management:**

In accordance with Annex II of Regulation (EC) No 1907/2006 (REACH) the community or state provisions related to waste management are stated

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

**SECTION 14: TRANSPORT INFORMATION****Transport of dangerous goods by land:**

With regard to ADR 2019 and RID 2019:

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**SECTION 14: TRANSPORT INFORMATION (continued)**

- 14.1 UN number:** UN1263  
**14.2 UN proper shipping name:** PAINT RELATED MATERIAL  
**14.3 Transport hazard class(es):** 3  
 Labels: 3  
**14.4 Packing group:** III  
**14.5 Environmental hazards:** No  
**14.6 Special precautions for user**  
 Special regulations: 163, 367, 650  
 Tunnel restriction code: D/E  
 Physico-Chemical properties: see section 9  
 Limited quantities: 5 L  
**14.7 Transport in bulk according to Annex II of Marpol and the IBC Code:** Non-applicable

**Transport of dangerous goods by sea:**

With regard to IMDG 38-16:



- 14.1 UN number:** UN1263  
**14.2 UN proper shipping name:** PAINT RELATED MATERIAL  
**14.3 Transport hazard class(es):** 3  
 Labels: 3  
**14.4 Packing group:** III  
**14.5 Environmental hazards:** No  
**14.6 Special precautions for user**  
 Special regulations: 163, 223, 367, 955  
 EmS Codes: F-E, S-E  
 Physico-Chemical properties: see section 9  
 Limited quantities: 5 L  
 Segregation group: Non-applicable  
**14.7 Transport in bulk according to Annex II of Marpol and the IBC Code:** Non-applicable

**Transport of dangerous goods by air:**

With regard to IATA/ICAO 2019:



- 14.1 UN number:** UN1263  
**14.2 UN proper shipping name:** PAINT RELATED MATERIAL  
**14.3 Transport hazard class(es):** 3  
 Labels: 3  
**14.4 Packing group:** III  
**14.5 Environmental hazards:** No  
**14.6 Special precautions for user**  
 Physico-Chemical properties: see section 9  
**14.7 Transport in bulk according to Annex II of Marpol and the IBC Code:** Non-applicable

**SECTION 15: REGULATORY INFORMATION****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:**

Candidate substances for authorisation under the Regulation (EC) No 1907/2006 (REACH): Non-applicable  
 Substances included in Annex XIV of REACH ("Authorisation List") and sunset date: Non-applicable  
 Regulation (EC) No 1005/2009, about substances that deplete the ozone layer: Non-applicable  
 Article 95, REGULATION (EU) No 528/2012: Non-applicable  
 REGULATION (EU) No 649/2012, in relation to the import and export of hazardous chemical products: Non-applicable

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**SECTION 15: REGULATORY INFORMATION (continued)****Seveso III:**

Section	Description	Lower-tier requirements	Upper-tier requirements
P5c		5000	50000

**Limitations to commercialisation and the use of certain dangerous substances and mixtures (Annex XVII REACH, etc ....):**

Non-applicable

**Specific provisions in terms of protecting people or the environment:**

It is recommended to use the information included in this safety data sheet as a basis for conducting workplace-specific risk assessments in order to establish the necessary risk prevention measures for the handling, use, storage and disposal of this product.

**Other legislation:**

The product could be affected by sectorial legislation

**15.2 Chemical safety assessment:**

The supplier has not carried out evaluation of chemical safety.

**SECTION 16: OTHER INFORMATION****Legislation related to safety data sheets:**

This safety data sheet has been designed in accordance with ANNEX II-Guide to the compilation of safety data sheets of Regulation (EC) No 1907/2006 (Regulation (EC) No 2015/830)

**Modifications related to the previous Safety Data Sheet which concerns the ways of managing risks.:**

Non-applicable

**Texts of the legislative phrases mentioned in section 2:**

H315: Causes skin irritation

H335: May cause respiratory irritation

H373: May cause damage to organs through prolonged or repeated exposure (Oral)

H317: May cause an allergic skin reaction

H332: Harmful if inhaled

H226: Flammable liquid and vapour

H319: Causes serious eye irritation

**Texts of the legislative phrases mentioned in section 3:**

The phrases indicated do not refer to the product itself; they are present merely for informative purposes and refer to the individual components which appear in section 3

**CLP Regulation (EC) No 1272/2008:**

Acute Tox. 3: H331 - Toxic if inhaled

Acute Tox. 4: H312+H332 - Harmful in contact with skin or if inhaled

Acute Tox. 4: H332 - Harmful if inhaled

Asp. Tox. 1: H304 - May be fatal if swallowed and enters airways

Eye Irrit. 2: H319 - Causes serious eye irritation

Flam. Liq. 2: H225 - Highly flammable liquid and vapour

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

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

Skin Irrit. 2: H315 - Causes skin irritation

Skin Sens. 1: H317 - May cause an allergic skin reaction

STOT RE 2: H373 - May cause damage to organs through prolonged or repeated exposure

STOT RE 2: H373 - May cause damage to organs through prolonged or repeated exposure (Oral)

STOT SE 3: H335 - May cause respiratory irritation

**Classification procedure:**

Skin Irrit. 2: Calculation method

STOT SE 3: Calculation method

STOT RE 2: Calculation method

Skin Sens. 1: Calculation method

Acute Tox. 4: Calculation method

Flam. Liq. 3: Calculation method (2.6.4.3)

Eye Irrit. 2: Calculation method

**Advice related to training:**

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**SECTION 16: OTHER INFORMATION (continued)**

Minimal training is recommended in order to prevent industrial risks for staff using this product and to facilitate their comprehension and interpretation of this safety data sheet, as well as the label on the product.

**Principal bibliographical 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

IMDG: International maritime dangerous goods code

IATA: International Air Transport Association

ICAO: International Civil Aviation Organisation

COD: Chemical Oxygen Demand

BOD5: 5-day biochemical oxygen demand

BCF: Bioconcentration factor

LD50: Lethal Dose 50

LC50: Lethal Concentration 50

EC50: Effective concentration 50

Log-POW: Octanol-water partition coefficient

Koc: Partition coefficient of organic carbon

The information contained in this safety data sheet is based on sources, technical knowledge and current legislation at European and state level, without being able to guarantee its accuracy. This information cannot be considered a guarantee of the properties of the product, it is simply a description of the security requirements. The occupational methodology and conditions for users of this product are not within our awareness or control, and it is ultimately the responsibility of the user to take the necessary measures to obtain the legal requirements concerning the manipulation, storage, use and disposal of chemical products. The information on this safety data sheet only refers to this product, which should not be used for needs other than those specified.

- END OF SAFETY DATA SHEET -