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SAFETY DATA SHEET

1. IDENTIFICATION OF THE PRODUCT

NAME OF THE PRODUCT Hardener HS Slow 2,5L (VOC)
REFERENCE 010005

2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

CLP Regulation (EC) No 1272/2008

Acute Tox. 4: Acute inhalation toxicity, Category 4, H332.
Aquatic Chronic 2: Hazardous to the aquatic environment, long-term hazard, Category 2, H411.
Flam. Liq. 3: Flammable liquids, Category 3, H226.
Skin Sens. 1: Sensitisation, skin, Category 1, H317.
STOT SE 3: Respiratory tract toxicity, single exposure, Category 3, H335.
STOT SE 3: Specific toxicity causing drowsiness and dizziness, single exposure, Category 3, H336.

2.2. Label elements

CLP Regulation (EC) No 1272/2008

Warning

Hazard statements

Acute Tox. 4: H332 - Harmful if inhaled.
Aquatic Chronic 2: H411 - Toxic to aquatic life with long lasting effects.
Flam. Liq. 3: H226 - Flammable liquid and vapour.
Skin Sens. 1: H317 - May cause an allergic skin reaction.
STOT SE 3: H335 - May cause respiratory irritation.
STOT SE 3: H336 - May cause drowsiness or dizziness.

Precautionary statements

P210:	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280:	Wear protective gloves/face protection/protective clothing/respiratory protection/protective footwear.
P302+P352:	IF ON SKIN: Wash with plenty of water.
P304+P340:	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P370+P378:	In case of fire: Use ABC powder extinguisher to extinguish.
P501:	Dispose of the contents/containers in accordance with the current legislation on waste treatment.

Supplementary information

EUH066: Repeated exposure may cause skin dryness or cracking.
EUH204: Contains isocyanates. May produce and allergic reaction.

Substances that contribute to the classification
Hexamethylene diisocyanate, oligomers (<0.1% O=C=N-R-N=C=O); Hydrocarbons, C9, aromatics; Xylene; Hexamethylene-di- isocyanate.

Additional Labelling
As from 24 August 2023 adequate training is required before industrial or professional use.

2.3. Other hazards
Product fails to meet PBT/vPvB criteria.
Endocrine-disrupting properties: The product fails to meet the criteria.

3. COMPOSITION/ INFORMATION ON INGREDIENTS

3.1. Substance
Non-applicable.

3.2. Mixture
Chemical description: Mixture composed of additives and resins in solvents.
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	**Hexamethylene diisocyanate, oligomers (<0.1% O=C=N-R-N=C=O)[1]** Self-classified Regulation 1272/2008 Acute Tox. 4: H332 Skin Sens. 1: H317 STOT SE 3: H335 - Warning	25 - <50%
CAS: 128601-23-0 EC: 918-668-5 Index: Non-applicable REACH: 01-2119455851-35-XXXX	**Hydrocarbons, C9, aromatics[1]** Self-classified Regulation 1272/2008 Aquatic Chronic 2: H411 Asp. Tox. 1: H304 Flam. Liq. 3: H226 STOT SE 3: H335 STOT SE 3: H336 EUH066 – Danger	25 - <50%
CAS: 1330-20-7 EC: 215-535-7 Index: 601-022-00-9 REACH: 01-2119488216-32-XXXX	**Xylene[1]** Self-classified Regulation 1272/2008 Acute Tox. 4: H312+H332 Aquatic Chronic 3: H412 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	5 - <10%
CAS: 108-65-6 EC: 203-603-9 Index: 607-195-00-7 REACH: 01-2119475791-29-XXXX	**2-methoxy-1-methylethyl acetate[2]** ATP ATP01 Regulation 1272/2008 Liq. Infl. 3: H226 – Warning	5 - <10%

CAS: 822-06-0 EC: 212-485-8 Index: 615-011-00-1 REACH: 01-2119457571-37-XXXX	**Hexamethylene-di-isocyanate[1]** ATP CLP00 Regulation 1272/2008 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	<0,2%

[1]Substances presenting a health or environmental hazard which meet criteria laid down in Regulation (EU) No.2020/878.
[2]Voluntarily-listed substance failing to meet any of the criteria set out in Regulation (EU) No.2020/878.

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

Other information

Identification	Specific concentration limit
Hexamethylene-di-isocyanate CAS: 822-06-0 EC: 212-485-8	% (w/w) >=0,5: Resp. Sens. 1 - H334 % (w/w) >=0,5: Skin Sens. 1 - H317

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.

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.

5. FIREFIGHTING MEASURES

5.1. Extinguishing media
Suitable extinguishing media
If possible use polyvalent powder fire extinguishers (ABC powder), alternatively use foam or carbon dioxide extinguishers (CO).

Unsuitable extinguishing media
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.

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures
For non-emergency personnel
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.

For emergency responders
Wear protective equipment. Keep unprotected persons away. See section 8.

6.2. Environmental precautions
Avoid at all cost any type of spillage into an aqueous medium. Contain the product absorbed appropriately in hermetically sealed containers. Notify the relevant authority in case of exposure to the general public or the environment.

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.

7. HANDLING AND STORAGE

7.1. Precautions for safe handling
Precautions for safe use
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.

Technical recommendations for the prevention of fires and explosions
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.

Technical recommendations on general occupational hygiene
Do not eat or drink during the process, washing hands afterwards with suitable cleaning products.

Technical recommendations to prevent environmental risks
Due to the danger of this product for the environment it is recommended to use it within an area containing contamination control barriers in case of spillage, as well as having absorbent material in close proximity.

7.2. Condition for safe storage, including any incompatibilities
Technical measures for storage

Minimum Temp.:	5ºC
Maximum Temp.:	30ºC
Maximum time:	12 Months

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.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters
Substances whose occupational exposure limits have to be monitored in the workplace (European OEL, not country-specific legislation):
Directive (EU) 2000/39, Directive 2004/37/EC, Directive (EU) 2006/15, Directive (EU) 2009/161, Directive (EU) 2017/164, Directive (EU) 2019/1831:

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Identification	Occupational exposure limits		
2-methoxy-1-methylethyl acetate CAS: 108-65-6 EC: 203-603-9	IOELV (8h)	50ppm	275mg/m³
	IOELV (STEL)	100ppm	550mg/m³
Xylene CAS: 1330-20-7 EC: 215-535-7	IOELV (8h)	50ppm	221mg/m³
	IOELV (STEL)	100ppm	442mg/m³

DNEL (Workers)

Identification		Short exposure		Long exposure	
		Systemic	Local	Systemic	Local
Hexamethylene diisocyanate, oligomers (<0.1% O=C=N- R-N=C=O) 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/m³	Non-applicable	0,5 mg/m³
Hydrocarbons, C9, aromatics CAS: 128601-23-0 EC: 918-668-5	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Dermal	Non-applicable	Non-applicable	25 mg/kg	Non-applicable
	Inhalation	Non-applicable	Non-applicable	150 mg/m³	Non-applicable
Xylene CAS: 1330-20-7 EC: 215-535-7	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Dermal	Non-applicable	Non-applicable	212 mg/kg	Non-applicable
	Inhalation	442 mg/m³	442 mg/m³	221 mg/m³	221 mg/m³
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	796 mg/kg	Non-applicable
	Inhalation	Non-applicable	550 mg/m³	275 mg/m³	Non-applicable
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	Non-applicable	0,07 mg/m³	Non-applicable	0,035 mg/m³

DNEL (General population)

Identification		Short exposure		Long exposure	
		Systemic	Local	Systemic	Local
Hydrocarbons, C9, aromatics CAS: 128601-23-0 EC: 918-668-5	Oral	Non-applicable	Non-applicable	11 mg/kg	Non-applicable
	Dermal	Non-applicable	Non-applicable	11 mg/kg	Non-applicable
	Inhalation	Non-applicable	Non-applicable	32 mg/m³	Non-applicable
Xylene CAS: 1330-20-7 EC: 215-535-7	Oral	Non-applicable	Non-applicable	12,5 mg/kg	Non-applicable
	Dermal	Non-applicable	Non-applicable	125 mg/kg	Non-applicable
	Inhalation	260 mg/m³	260 mg/m³	65,3 mg/m³	65,3 mg/m³
2-methoxy-1-methylethyl acetate CAS: 108-65-6 EC: 203-603-9	Oral	Non-applicable	Non-applicable	36 mg/kg	Non-applicable
	Dermal	Non-applicable	Non-applicable	320 mg/kg	Non-applicable
	Inhalation	Non-applicable	Non-applicable	33 mg/m³	33 mg/m³

PNEC

Identification				
Hexamethylene diisocyanate, oligomers (<0.1% O=C=N- R-N=C=O) CAS: 28182-81-2 EC: 931-274-8	STP	88 mg/L	Fresh water	0,127 mg/L
	Soil	53183 mg/kg	Marine water	0,013 mg/L
	Intermittent	1,27 mg/L	Sediment (Fresh water)	266701 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	0,064 mg/L
	Intermittent	6,35 mg/L	Sediment (Fresh water)	3,29 mg/kg
	Oral	Non-applicable	Sediment (Marine water)	0,329 mg/kg
Hexamethylene-di-isocyanate CAS: 822-06-0 EC: 212-485-8	STP	8,42 mg/L	Fresh water	Non-applicable
	Soil	Non-applicable	Marine water	Non-applicable
	Intermittent	Non-applicable	Sediment (Fresh water)	Non-applicable
	Oral	Non-applicable	Sediment (Marine water)	Non-applicable

8.2. Exposure controls

Individual protection measures, such as personal protective equipment

As a preventative measure it is recommended to use basic Personal Protective Equipment, with the corresponding <<CE marking>> in accordance with Regulation (EU) 2016/425. 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.

	**Respiratory protection** Mandatory respiratory tract protection. Filter mask for gases, vapours and particles. Replace when an increase in resistence to breathing is observed and/or a smell or taste of the contaminant is detected. EN 149:2001+A1:2009 EN 405:2002+A1:2010 EN ISO 136:1998 CE CAT III
	**Specific protection for the hands** Mandatory hand protection. Chemical protective gloves (Material: Linear low-density polyethylene (LLDPE), Breakthrough time: >480 min, Thickness: 0.062 mm). Replace the gloves at any sign of deterioration. EN ISO 21420:2020 CE CAT III As the product is a mixture of several substances, the resistance of the glove material can not be calculated in advance with total reliability and has therefore to be checked prior to the application.
	**Eye and face protection** Mandatory face protection. Face shield. Clean daily and disinfect periodically according to the manufacturer's instructions. Use if there is a risk of splashing. EN 166:2002 EN 167:2002 EN 168:2002 EN ISO 4007:2018 CE CAT II

	**Body protection** Mandatory complete body protection. Disposable clothing for protection against chemical risks, with antistatic and fireproof properties. For professional use only. Clean periodically according to the manufacturer's instructions. EN 1149-1,2,3 EN 13034:2005+A1:2009 EN ISO 13982-1:2004/A1:2010 EN ISO 6529:2013 EN ISO 6530:2005 EN ISO 13688:2013 EN 464:1994 CE CAT III
	**Body protection** Mandatory foot protection. Safety footwear for protection against chemical risk, with antistatic and heat resistant properties. Replace boots at any sign of deterioration. EN ISO 13287:2020 EN ISO 20345:2011 EN 13832-1:2019 CE CAT III
	**Additional emergency measures** Emergency shower. ANSI Z358-1 ISO 3864-1:2011, ISO 3864-4:2011
	**Additional emergency measures** 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.

Volatile organic compounds

With regard to Directive 2010/75/EU, this product has the following characteristics:

V.O.C. (Supply):	54,85% weight
V.O.C. density at 20ºC:	537,53 kg/m³ (537,53 g/L)
Average carbon number:	8,38
Average molecular weight:	119,28 g/mol

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 20ºC:	Liquid
Appearance:	Fluid
Colour:	Colourless
Odour:	Solvent
Odour Threshold:	Non-applicable*

Volatility	
Boiling point at atmospheric pressure:	156ºC
Vapour pressure at 20ºC:	352 Pa
Vapour pressure at 50ºC:	2077,59 Pa (2,08 kPa)
Evaporation rate at 20ºC:	Non-applicable*
Product description	
Density at 20ºC:	970 - 990 kg/m³
Relative density at 20ºC:	0,97 - 0,99
Dynamic viscosity at 20ºC:	45 - 27 cP
Kinematic viscosity at 20ºC:	37 mm²/s
Kinematic viscosity at 40ºC:	Non-applicable*
Concentration:	Non-applicable*
pH:	Non-applicable*
Vapour density at 20ºC:	Non-applicable*
Partition coefficient n-octanol/water 20ºC:	Non-applicable*
Solubility in water at 20ºC:	Non-applicable*
Solubility properties:	Immiscible
Decomposition temperatura:	Non-applicable*
Melting point/freezing point:	Non-applicable*
Flammability	
Flash Point:	38ºC
Flammability (solid, gas):	Non-applicable*
Autoignition temperatura:	315ºC
Lower flammability limit:	Not available
Upper flammability limit:	Not available
Particle characteristics	
Median equivalent diameter:	Non-applicable

9.2. Other information

Information with regard to physical hazard classes	
Explosive properties:	Non-applicable*
Oxidising properties:	Non-applicable*
Corrosive to metals:	Non-applicable*
Heat of combustion:	Non-applicable*
Aerosols-total percentage (by mass) of flammable components:	Non-applicable*
Other safety characteristics	
Surface tension at 20ºC:	Non-applicable*
Refraction index:	Non-applicable*

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

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.

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), carbon monoxide and other organic compounds.

11. TOXICOLOGICAL INFORMATION

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

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:

Ingestion (acute effect)

-Acute toxicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for consumption. For more information see section 3
-Corrosivity/Irritability: Based on available data, the classification criteria are not met. However, it does contain substances classified as hazardous for this effect. For more information see section 3.

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.

Contact with the skin and the eyes (acute effect)

-Contact with the skin: Based on available data, the classification criteria are not met. However, it contains substances classified as hazardous for skin contact. For more information see section 3.
-Contact with the eyes: Based on available data, the classification criteria are not met. However, it does contain substances classified as hazardous for this effect. For more information see section 3.

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 hazardous for the effects mentioned. For more information see section 3.
IARC: Xylene (3); Hydrocarbons, C9, aromatics (3)
-Mutagenicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous 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 hazardous for this effect. For more information see section 3.

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.
-Skin: Prolonged contact with the skin can result in episodes of allergic contact dermatitis.

Specific target organ toxicity (STOT) - single exposure
Causes irritation in respiratory passages, which is normally reversible and limited to the upper respiratory passages.

Specific target organ toxicity (STOT)-repeated exposure
-Specific target organ toxicity (STOT)-repeated exposure: Based on available data, the classification criteria are not met. However, it does contain substances classified as hazardous for this effect. For more information see section 3.
-Skin: Repeated exposure may cause skin dryness or cracking.

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

Other information
Non-applicable

Specific toxicology information on the substances

Identification	Acute toxicity		Genus
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 (4h)	Rat
Xylene CAS:1330-20-7 EC: 215-535-7	LD50 oral	2100 mg/Kg	Rat
	LD50 dermal	1100 mg/Kg	Rat
	LC50 inhalation	11 mg/L (ATEi)	
Hexamethylene diisocyanate, oligomers (<0.1% O=C=N-R-N=C=O) CAS: 28182-81-2 EC: 931-274-8	LD50 oral	2660 mg/Kg	Rat
	LD50 dermal	>2000 mg/kg	
	LC50 inhalation	11 mg/L (ATEi)	
Hydrocarbons, C9, aromatics CAS: 128601-23-0 EC: 918-668-5	LD50 oral	3492 mg/Kg	Rat
	LD50 dermal	3160 mg/Kg	Rabbit
	LC50 inhalation	6193 mg/L (4h)	Rat
Hexamethylene-di-isocyanate CAS:822-06-9 EC: 212-485-8	LD50 oral	>2000 mg/kg	
	LD50 dermal	>2000 mg/kg	
	LC50 inhalation	3 mg/L (ATEi)	

Acute Toxicity Estimate (ATE mix)

ATE mix		Ingredient(s) of unknown toxicity
Oral	>2000 mg/kg (Calculation method)	Non-applicable
Dermal	11111,11 mg/kg (Calculation method)	0%
Inhalation	19,84 mg/L (4h) (Calculation method)	0%

11.2 Information on other hazards
Endocrine disrupting properties
Endocrine-disrupting properties: The product fails to meet the criteria.

Other information
Non-applicable.

12. ECOLOGICAL INFORMATION

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

12.1. Toxicity

Acute toxicity

Identification	Acute Toxicity		Specie	Genus
Hexamethylene diisocyanate, oligomers (<0.1% O=C=N-R-N=C=O) CAS: 28182-81-2 EC: 931-274-8	LC50	Non-applicable		
	EC50	Non-applicable		
	EC50	1000 mg/L (72h)	Scenedesmus subspicatus	Algae
Hydrocarbons, C9 aromatics CAS: 128601-23-0 EC: 918-668-5	LC50	>1-10 (96h)		Fish
	EC50	>1-10 (48h)		Crustacean
	EC50	>1-10 (72h)		Algae
Xylene CAS:1330-20-7 EC: 215-535-7	LC50	>10-100 (96h)		Fish
	EC50	>10-100 (48h)		Crustacean
	EC50	>10-100 (72h)		Algae
2-methoxy-1-methylethyl acetate CAS: 108-65-6 EC: 203-603-9	LC50	161mg/L (96h)	Pimephales promelas	Fish
	EC50	481mg/L (48h)	Daphnia sp.	Crustacean
	EC50	Non-applicable		

Chronic toxicity

Identification	Acute Toxicity		Specie	Genus
2-methoxy-1-methylethyl acetate CAS: 108-65-6 EC: 203-603-9	NOEC	47,5 mg/L	Oryzias latipes	Fish
	NOEC	100 mg/L	Daphnia magna	Crustacean
Xylene CAS:1330-20-7 EC: 215-535-7	NOEC	1,3 mg/L	Oncorhynchus mykiss	Fish
	NOEC	1,17 mg/L	Ceriodaphnia dubia	Crustacean

12.2. Persistence and degradability

Substance-specific information

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	785mg/L
	COD	Non-applicable	Period	8 days
	BOD5/COD	Non-applicable	% Biodegradable	100%
Hexamethylene-di-isocyanate CAS: 822-06-0 EC: 212-485-8	BOD5	Non-applicable	Concentration	100mg/L
	COD	Non-applicable	Period	28 days
	BOD5/COD	Non-applicable	% Biodegradable	28%

12.3. Bioaccumulative potential

Substance-specific information

Identification	Bioaccumulation potential	
Xylene CAS:1330-20-7 EC: 215-535-7	BCF	9
	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

12.4. Mobility in soil

Identification	Absorption/desorption		Volatility	
Xylene CAS:1330-20-7 EC: 215-535-7	Koc	202	Henry	524,86 Pa·m³/mol
	Conclusion	Moderate	Dry soil	Yes
	Surface tension	Non-applicable	Moist soil	Yes

12.5. Results of PBT and vPvB assessment
Product fails to meet PBT/vPvB criteria.

12.6. Endocrine disrupting properties
Endocrine-disrupting properties: The product fails to meet the criteria.

12.7. Other adverse effects
Not described.

13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Code	Description	Waste class (Regulation (EU) No1357/2014)
08 01 11*	Waste paint and varnish containing organic solvents or other hazardous substances	Dangerous

Type of waste (Regulation (EU) No 1357/2014)
HP14 Ecotoxic, HP3 Flammable, HP5 Specific Target Organ Toxicity (STOT)/Aspiration Toxicity, HP6 Acute Toxicity, HP13 Sensitising.

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. Waste should not be disposed of to drains. 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) No1357/2014.

14. TRANSPORT INFORMATION

Transport of dangerous goods by land

With regard to ADR 2021 and RID 2021:

14.1. UN Number or ID 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:	Yes
14.6. Special precautions for user:	
Special regulations:	163, 367, 650
Tunnel restriction code:	D/E
Physico-Chemical properties:	See section 9
Limited quantities:	5L
14.7. Maritime transport in bulk according to IMO instruments:	Non-applicable

Transport of dangerous goods by sea

With regard to IMDG 40-20:

14.1. UN Number or ID 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. Marine pollutant:	Yes
14.6. Special precautions for user:	
Special regulations	163, 223, 955, 367
EmS Codes	F-E, S-E
Physico-Chemical properties	See section 9
Limited quantities	5L
Segregation group	Non-applicable
14.7. Maritime transport in bulk according to IMO instruments:	Non-applicable

Transport of dangerous goods by air

With regard to IATA/ICAO 2022:

14.1. UN Number or ID 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:	Yes
14.6. Special precautions for user:	
Physico-Chemical properties:	See section 9
14.7. Maritime transport in bulk according to IMO instruments:	Non-applicable

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) No1907/2006 (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.

Seveso III

Section	Description	Lower-tier requirements	Upper-tier requirements
P5c	FLAMMABLE LIQUIDS	5000	50000
E2	ENVIRONMENTAL HAZARDS	200	500

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

Shall not be used in:
-ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ashtrays,
-tricks and jokes,
-games for one or more participants, or any article intended to be used as such, even with ornamental aspects.
Contains more than 0.1% of Hexamethylene-di-isocyanate by weight.
1. Shall not be used as substances on their own, as a constituent in other substances or in mixtures for industrial and professional use(s) after 24 August 2023, unless: (a) the concentration of diisocyanates individually and in combination is less than 0,1 % by weight, or (b) the employer or self- employed ensures that industrial or professional user(s) 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 as substances on their own, as a constituent in other substances or in mixtures for industrial and professional use(s) after 24 February 2022, unless: (a) the concentration of diisocyanates individually and in combination is less than 0,1% by weight, or (b) the supplier ensures that the recipient of the substance(s) or mixture(s) is provided with information on the requirements referred to in point (b) of paragraph 1 and the following statement is placed on the packaging, in a manner that is visibly distinct from the rest of the label information: "As from 24 August 2023 adequate training is required before industrial or professional use".
3.For the purpose of this entry "industrial and professional user(s)" means any worker or self-employed worker handling diisocyanates on their own, as a constituent in other substances or in mixtures for industrial and professional use(s) or supervising these tasks.
4.The training referred to in point (b) of paragraph 1 shall include the instructions for the control of dermal and inhalation exposure to diisocyanates at the workplace without prejudice to any national occupational exposure limit value or other appropriate risk management measures at national level. Such training shall be conducted by an expert on occupational safety and health with competence acquired by relevant vocational training. That training shall cover as a minimum: (a) the training elements in point (a) of paragraph 5 for all industrial and professional use(s). (b) the training elements in points (a) and (b) of paragraph 5 for the following uses:
-handling open mixtures at ambient temperature (including foam tunnels)
-spraying in a ventilated booth
-application by roller
-application by brush
-application by dipping and pouring
-mechanical post treatment (e.g. cutting) of not fully cured articles which are not warm anymore
-cleaning and waste
-any other uses with similar exposure through the dermal and/or inhalation route
(c) the training elements in points (a), (b) and (c) of paragraph 5 for the following uses:
-handling incompletely cured articles (e.g. freshly cured, still warm)
-foundry applications
-maintenance and repair that needs access to equipment
-open handling of warm or hot formulations (>45°C)
-spraying in open air, with limited or only natural ventilation (includes large industry working halls) and spraying with high energy (e.g. foams, elastomers)

-and any other uses with similar exposure through the dermal and/or inhalation route.
5.Training elements: (a) general training, including on-line training, on:
-chemistry of diisocyanates
-toxicity hazards (including acute toxicity)
-exposure to diisocyanates
-occupational exposure limit values
-how sensitisation can develop
-odour as indication of hazard
-importance of volatility for risk
-viscosity, temperature, and molecular weight of diisocyanates
-personal hygiene
-personal protective equipment needed, including practical instructions for its correct use and its limitations
-risk of dermal contact and inhalation exposure
-risk in relation to application process used
-skin and inhalation protection scheme
-ventilation
-cleaning, leakages, maintenance
-discarding empty packaging
-protection of bystanders
-identification of critical handling stages
-specific national code systems (if applicable)
-behaviour-based safety
-certification or documented proof that training has been successfully completed
(b) intermediate level training, including on-line training, on:
-additional behaviour-based aspects
-maintenance
-management of change
-evaluation of existing safety instructions
-risk in relation to application process used
certification or documented proof that training has been successfully completed
(c) advanced training, including on-line training, on:
-any additional certification needed for the specific uses covered
-spraying outside a spraying booth
-open handling of hot or warm formulations (>45°C)
-certification or documented proof that training has been successfully completed
6.The training shall comply with the provisions set by the Member State in which the industrial or professional user(s) operate. Member States may implement or continue to apply their own national requirements for the use of the substance(s) or mixture (s), as long as the minimum requirements set out in paragraphs 4 and 5 are met.
7.The supplier referred to in point (b) of paragraph 2 shall ensure that the recipient is provided with training material and courses pursuant to paragraphs 4 and 5 in the official language(s) of the Member State(s) where the substance(s) or mixture(s) are supplied. The training shall take into consideration the specificity of the products supplied, including composition, packaging, and design.
8.The employer or self-employed shall document the successful completion of the training referred to in paragraphs 4 and 5. The training shall be renewed at least every five years.
9.Member States shall include in their reports pursuant to Article 117(1) the following information: (a)any established training requirements and other risk management measures related to the industrial and professional uses of diisocyanates foreseen in national law (b) the number of cases of reported and recognised occupational asthma and occupational respiratory and dermal diseases in relation to diisocyanates (c) national exposure limits for diisocyanates, if there are any (d) information about enforcement activities related to this restriction.
10.This restriction shall apply without prejudice to other Union legislation on the protection of safety and health of workers at the workplace.

Specific provisions in terms of protecting people or the environmental
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.

16. OTHER INFORMATION

Legislation related to safety data sheets
The SDS shall be supplied in an official language of the country where the product is placed on the market. This safety data sheet has been designed in accordance with ANNEX II-Guide to the compilation of safety data sheets of Regulation (EC) No1907/2006 (COMMISSION REGULATION (EU) 2020/878).

Modifications related to the previous Safety Data Sheet which concerns the ways of managing risks
COMPOSITION/INFORMATION ON INGREDIENTS (SECTION 3):
- Removed substances
  - 4-methylpentan-2-one (108-10-1)

Substances that contribute to the classification (SECTION 2):
- New declared substances
  - Hexamethylene-di-isocyanate (822-06-0)
- Removed substances
  - 4-methylpentan-2-one (108-10-1)

CLP Regulation (EC) No 1272/2008 (SECTION 2, SECTION 16):
- Hazard statements
- Precautionary statements

Information on basic physical and chemical properties (SECTION 9):
- Flash Point.

Text of the legislative phrases mentioned in section 2
H317: May cause an allergic skin reaction.
H335: May cause respiratory irritation.
H336: May cause drowsiness or dizziness.
H411: Toxic to aquatic life with long lasting effects.
H332: Harmful if inhaled.
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) No1272/2008
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.
Aquatic Chronic 2: H411 - Toxic to aquatic life with long lasting effects.
Aquatic Chronic 3: H412 - Harmful to aquatic life with long lasting effects.
Asp. Tox. 1: H304 - May be fatal if swallowed and enters airways.
Eye Irrit. 2: H319 - Causes serious eye irritation.

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 (Oral).
STOT SE 3: H335 - May cause respiratory irritation.
STOT SE 3: H336 - May cause drowsiness or dizziness.

Classification procedure
Skin Sens. 1: Calculation method.
STOT SE 3: Calculation method.
STOT SE 3: Calculation method.
Aquatic Chronic 2: Calculation method.
Acute Tox. 4: Calculation method.
Flam. Liq. 3: Calculation method (2.6.4.3).

Advice related to training
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 Organization.
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.
LogPOW: Octanol-water partition coefficient.
Koc: Partition coefficient of organic carbon.
UFI: unique formula identifier.
IARC: International Agency for Research on Cancer.