HE TOP HARDENER STANDARD

Code : 5009-001132

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

1.1 PRODUCT IDENTIFIER:

HE TOP HARDENER STANDARD

Code : 5009-001132 UFI: VEGR-05P5-5N7M-5QSY

1.2 RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST:

Intended uses (main technical functions): [X] Industrial [X] Professional [ ] Consumers

Catalyst.

Sectors of use:

Professional uses (SU22).

Types of PCN use:

Other products for chemical or technical processes.

Uses advised against:

This product is not recommended for any use or sector of use (industrial, professional or consumer) other than those previously listed as "Intended or identified uses".

Restrictions on manufacture, placing on market and use, according to Annex XVII of Regulation (EC) No. 1907/2006:

Not restricted.

1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET:

CAR REPAIR SYSTEM S.A.

Pol.Ind. 2 de Octubre, c/ José Muñoz 6 - 18320 Santa Fe - Granada ESPAÑA

Phone number: (+34) 95 8431792 - www.carrepairsystem.eu

- E-mail address of the person responsible for the Safety Data Sheet:

info@carrepairsystem.eu

1.4 EMERGENCY TELEPHONE NUMBER:

(+34) 95 8431792 L-J 8:30-14 / 15-18 h. V 8:30-14:30 h.

NPIS National Poisons Information Service (NPIS) - In England, Wales or Scotland: dial 111 - In N Ireland: contact your local GP or pharmacist during normal hours.

SECTION 2 : HAZARDS IDENTIFICATION

2.1 #CLASSIFICATION OF THE SUBSTANCE OR MIXTURE:

Classification of mixtures is carried out in accordance with the following principles: a) when data (tests) for the classification of mixtures are available, generally is carried out based on these data, b) in the absence of data (tests) for mixtures are generally used interpolation or extrapolation methods of assessing the risk, using the available data for mixtures similarly classified, and c) in the absence of tests and information which would allow to apply interpolation or extrapolation techniques, methods are used to classify risk assessment based on the data of the individual components in the mixture.

Classification in accordance with Regulation (EU) No. 1272/2008~2022/692 (CLP):

DANGER:Flam. Liq. 2:H225|Acute Tox. (inh.) 4:H332|Skin Irrit. 2:H315|Eye Irrit. 2:H319|Skin Sens. 1:H317|Repr. 2:H361d|STOT SE (irrit.) 3:H335|STOT SE (narcosis) 3:H336|STOT RE 2:H373|Asp. Tox. 1:H304|Aquatic Chronic 3:H412

Danger class	Classification of the mixture	Cat.	Routes of exposure	Target organs	Effects
Physicochemical:	Flam. Liq. 2:H225 c)	Cat.2	-	-	-
Human health:	Acute Tox. (inh.) 4:H332 c)	Cat.4	Inhalation	-	Harmful
	Skin Irrit. 2:H315 c)	Cat.2	Skin	Skin	Irritation
	Eye Irrit. 2:H319 c)	Cat.2	Eyes	Eyes	Irritation
	Skin Sens. 1:H317 c)	Cat.1	Skin	Skin	Allergy
	Repr. 2:H361d c)	Cat.2	-	Reproductive	Foetus
	STOT SE (irrit.) 3:H335 c)	Cat.3	Inhalation	system	Irritation
	STOT SE (narcosis) 3:H336 c)	Cat.3	Inhalation	Respiratory tract	Narcosis
	STOT RE 2:H373 c)	Cat.2	Inhalation	CNS	Damage
	Asp. Tox. 1:H304 c)	Cat.1	Ingestion+Aspiration	Hearing system Lungs	Dead
Environment:	Aquatic Chronic 3:H412 c)	Cat.3	-	-	-

Full text of hazard statements mentioned is indicated in section 16.

Note: When in section 3 a range of percentages is used, the health and environmental hazards describe the effects of the highest concentration of each component, but below the maximum value.

2.2 #LABEL ELEMENTS:

This product is labelled with the signal word DANGER in accordance with Regulation (EU) No. 1272/2008~2022/692 (CLP).

#- Hazard statements:

H225	Highly flammable liquid and vapour.
H361d	Suspected of damage the unborn child.
H373	May cause damage to hearing organs through prolonged or repeated exposure if inhaled.
H332	Harmful if inhaled.
H304	May be fatal if swallowed and enters airways.
H319	Causes serious eye irritation.

H335	May cause respiratory irritation.
H315	Causes skin irritation.
H336	May cause drowsiness or dizziness.
H317	May cause an allergic skin reaction.
H412	Harmful to aquatic life with long lasting effects.

- Precautionary statements:

P202	Do not handle until all safety precautions have been read and understood.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P370+P378	In case of fire: Use alcohol-resistant foam to extinguish.
P280	Wear protective gloves, clothing and eye protection.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor.
P331	Do NOT induce vomiting.
P403+P235	Store in a well-ventilated place. Keep cool.

- Supplementary statements:

EUH204 Contains isocyanates. May produce an allergic reaction.

- Substances that contribute to classification:

HDI oligomers, isocyanurate
Isobutyl acetate
Xylene (mixture of isomers)
Tosil-isocyanate

Other sensitizing components:

Tosil-isocyanate

2.3 OTHER HAZARDS:

Hazards which do not result in classification but which may contribute to the overall hazards of the mixture:

- Other physicochemical hazards:

Vapours may form with air a mixture potentially flammable or explosive.

- Other adverse human health effects:

People with hypersensitive respiratory tract (by instance, asthma or chronical bronchitis) should not handle this product.

- Other negative environmental effects:

Does not contain substances that fulfil the PBT/vPvB criteria.

Endocrine disrupting properties:

This product contains, in a concentration equal to or greater than 0.1% by weight, substances that are under evaluation due to their possible endocrine disrupting properties: 2,6-di-tert-butyl-p-cresol.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 SUBSTANCES:

Not applicable (mixture).

3.2 MIXTURES:

This product is a mixture.

Chemical description:

Hardener

HAZARDOUS INGREDIENTS:

Substances taking part in a percentage higher than the exemption limit:

50 < C < 60 %	HDI oligomers, isocyanurate CAS: 28182-81-2, EC: 931-274-8, REACH: 01-2119485796-17 CLP: Warning: Acute Tox. (inh.) 4:H332 (ATE=11000 mg/m3) | Skin Sens. 1:H317 | STOT SE (irrit.) 3:H335	REACH	
20 < C < 25 %	Isobutyl acetate CAS: 110-19-0, EC: 203-745-1, REACH: 01-2119488971-22 CLP: Danger: Flam. Liq. 2:H225 | STOT SE (narcosis) 3:H336 | EUH066	REACH	
15 < C < 20 %	Xylene (mixture of isomers) CAS: 1330-20-7, EC: 215-535-7, REACH: 01-2119488216-32 CLP: Danger: Flam. Liq. 3:H226 | Acute Tox. (inh.) 4:H332 (ATE=11000 mg/m3) | Acute Tox. (skin) 4:H312 (ATE=1700 mg/kg) | Skin Irrit. 2:H315 | Eye Irrit. 2:H319 | STOT SE (irrit.) 3:H335 | STOT RE 2:H373 | Asp. Tox. 1:H304 | Aquatic Chronic 3:H412	REACH	
2,5 < C < 5 %	5-methylhexan-2-one CAS: 110-12-3, EC: 203-737-8, REACH: 01-2119472300-51 CLP: Warning: Flam. Liq. 3:H226 | Acute Tox. (inh.) 4:H332 (ATE=1500 mg/m3)	CLP00	
0,1 < C < 0,2 %	Tosil-isocyanate CAS: 4083-64-1, EC: 223-810-8, REACH: 01-2119980050-47 CLP: Danger: Skin Irrit. 2:H315 | Eye Irrit. 2:H319 | Resp. Sens. 1:H334 | STOT SE (irrit.) 3:H335 | EUH014	CLP00	Skin Irrit. 2, H315: C ≥5 % Eye Irrit. 2, H319: C ≥5 % STOT SE (irrit.) 3, H335: C ≥5 %

0,1 < C < 0,2 %	2,6-di-tert-butyl-p-cresol CAS: 128-37-0, EC: 204-881-4, REACH: 01-2119565113-46 CLP: Warning: Aquatic Acute 1:H400 (M=1) | Aquatic Chronic 1:H410 (M=1)	Notified

Impurities:
Does not contain other components or impurities which will influence the classification of the product.
Stabilizers:
None.
Reference to other sections:
For more information on hazardous ingredients, see sections 8, 11, 12 and 16.
SUBSTANCES OF VERY HIGH CONCERN (SVHC):
List updated by ECHA on 27/06/2024.
Substances SVHC subject to authorisation, included in Annex XIV of Regulation (EC) no. 1907/2006:
None.
Substances SVHC candidate to be included in Annex XIV of Regulation (EC) no. 1907/2006:
None.
PERSISTENT, BIOACCUMULABLE AND TOXIC PBT, OR VERY PERSISTENT AND VERY BIOACCUMULABLE VPVB SUBSTANCES:
Does not contain substances that fulfil the PBT/vPvB criteria.
POP substances included in the (EU) REGULATION 2019/1021~2020/784 on persistent organic pollutants:
None.

SECTION 4: FIRST AID MEASURES

4.1 DESCRIPTION OF FIRST AID MEASURES:

Symptoms may occur after exposure, so that in case of direct exposure to the product, when in doubt, or when symptoms persist, seek medical attention.Never give anything by mouth to an unconscious person.Lifeguards should pay attention to self-protection and use the recommended protective equipment if there is a possibility of exposure.Wear protective gloves when administering first aid.It can be dangerous to the person giving artificial respiration by mouth-to-mouth (the kiss of life).

Route of exposure	Symptoms and effects, acute and delayed	Description of first-aid measures
Inhalation:	Inhalation of solvent vapours may produce headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, unconsciousness.Inhalation produces irritation to mucus, coughing and breathlessness.	Remove the patient out of the contaminated area into the fresh air.If breathing is irregular or stops, administer artificial respiration.If the person is unconscious, place in appropriate recovery position.Keep the patient warm and at rest until medical attention arrives.
Skin:	Skin contact causes redness.Prolonged contact may cause skin dryness.	Remove immediately contaminated clothing.Wash thoroughly the affected area with plenty of cold or lukewarm water and neutral soap, or use a suitable skin cleanser.Do not use solvents or thinners.
Eyes:	Contact with the eyes produces redness and pain.	Remove contact lenses.Rinse eyes copiously by irrigation with plenty of clean, fresh water, holding the eyelids apart.Call a physician immediately.
Ingestion:	If swallowed, may cause irritation of the throat, abdominal pain, drowsiness, nausea, vomiting and diarrhoea.	Do not induce vomiting, due to the risk of aspiration.Keep the patient at rest.

4.2 MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED:

The main symptoms and effects are indicated in sections 4.1 and 11.1

4.3 INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED:

Notes to physician:
The product inhaled during vomiting could cause lung damage. Thus, emesis should not be induced, neither mechanically nor pharmacologically.In the case of ingestion, empty the stomach with caution.
Antidotes and contraindications:
Specific antidote not known.In the case of a pneumonia by chemical agents, must be considered a therapy with antibiotics and corticosteroids.

SECTION 5: FIREFIGHTING MEASURES

5.1 EXTINGUISHING MEDIA:

Extinguishing powder or CO2.

5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE:

As consequence of combustion or thermal decomposition, hazardous products may be produced: carbon monoxide, Carbon dioxide, nitrogen oxides, isocyanate vapors, traces of hydrocyanic acid.Exposure to combustion or decomposition products may be a hazard to health.

5.3 ADVICE FOR FIREFIGHTERS:

Special protective equipment:

Depending on magnitude of fire, heat-proof protective clothing may be required, appropriate independent breathing apparatus, gloves, protective glasses or face masks and boots.If the fire-proof protective equipment is not available or is not being used, combat fire from a sheltered position or from a safe distance.The standard EN469 provides a basic level of protection for chemical incidents.

Other recommendations:

Cool with water the tanks, cisterns or containers close to sources of heat or fire.Bear in mind the direction of the wind.Do not allow fire-fighting residue to enter drains, sewers or water courses.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES:

Eliminate possible sources of ignition and when appropriate, ventilate the area. Do not smoke.Avoid direct contact with this product.Avoid breathing vapours.Keep people without protection in opposition to the wind direction.

6.2 ENVIRONMENTAL PRECAUTIONS:

Avoid contamination of drains, surface or subterranean water and soil.In the case of large scale spills or when the product contaminates lakes, rivers or sewages, inform the appropriate authorities in accordance with local regulations.

6.3 METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP:

Contain and mop up spills with non-combustible absorbent materials (earth, sand, vermiculite, diatomaceous earth, etc..). The contaminated area should be cleaned up immediately with a suitable decontaminant. One possible (flammable) decontaminant comprises: water, ethanol or isopropanol and concentrated ammonia solution (d=0,880) = 45/50/5 parts by volume. Another possible (non-flammable) decontaminant is made up of water and sodium carbonate = 95/5 parts by weight. Add the same decontaminant to any residues and allow to stand for several days in an un-sealed container until no further reaction occurs. Keep the remains in a closed container.

6.4 REFERENCE TO OTHER SECTIONS:

For contact information in case of emergency, see section 1.
For information on safe handling, see section 7.
For exposure controls and personal protection measures, see section 8.
For waste disposal, follow the recommendations in section 13.

SECTION 7: HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING:

Comply with the existing legislation on health and safety at work.

- General recommendations:

Avoid any type of leakage or escape.Keep the container tightly closed.

- Recommendations for the prevention of fire and explosion risks:

Vapours are heavier than air, may spread along floors to a considerable distance, can form explosive mixtures with air and are able to reach distant ignition sources and flame up or explode.Due to its flammability, this material should only be used in areas from which all naked lights and other sources of ignition have been excluded and away from other heat or electrical sources.Switch mobile phones off and do not smoke.No tools with a potential for sparks should be used.

Flashpoint	22 ºC (Pensky-Martens)	CLP 2.6.4.3.
Autoignition temperature:	460 ºC	
Lower/upper flammability or explosive limits:	1,3 - 10,5 % Volume 25ºC	
Ventilation requirement:	84 m3/l	Air/Preparation

- Recommendations for the prevention of toxicological risks:

People with a history of asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which isocyanate containing products are used.Do not eat, drink or smoke while handling.After handling, wash hands with soap and water. For exposure controls and personal protection measures, see section 8.

- Recommendations for the prevention of environmental contamination:

Avoid any spillage in the environment.Pay special attention to the cleaning water. In the case of accidental spillage, follow the instructions indicated in section 6.

7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES:

Forbid the entry to unauthorized persons. Keep away from food, drink and animal foodstuffs. Keep out of reach of children. This product should be stored isolated from heat and electrical sources. Do not smoke in storage area. If possible, avoid direct contact with sunlight. Avoid extreme humidity conditions. Precautions should be taken to minimise exposure to atmospheric humidity or water, as carbon dioxide may be formed which, in closed containers can result in pressurisation. Care should be taken when re-opening partly used containers. Due to the sensitivity to humidity of the isocyanates, this product should be kept in the original container, or under pressure of dried nitrogen, for example. Keep container in a well-ventilated place. In order to avoid leakages, the containers, after use, should be closed carefully and placed in a vertical position. For more information, see section 10.

- Class of store:

According to current legislation.

- Maximum storage period:

12 Months.

- Temperature interval:

min:5 ºC, max:20 ºC (recommended).

- Incompatible materials:

Keep away from oxidizing agents, acids, alkalis, water, amines, alcohols.Clean the application equipment with a compatible solvent.

- Type of packaging:

According to current legislation.

- Limit quantity (Seveso III): Directive 2012/18/EU:

- Named dangerous substances/mixtures:None
- Hazard categories and lower-/upperthreshold quantities in tonnes (t):

· Physical hazards:Highly flammable liquid and vapour. (P5c) (5000t/50000t).
· Health hazards:Not applicable
· Environmental hazards:Not applicable
· Other hazards:Not applicable
- Threshold quantity for the application of lower-tier requirements:5000 tons
- Threshold quantity for the application of upper-tier requirements:50000 tons

- Remarks:
The qualifying quantities set out above relate to each establishment. The quantities to be considered for the application of the relevant Articles are the maximum quantities which are present or are likely to be present at any one time. Dangerous substances present at an establishment only in quantities equal to or less than 2 % of the relevant qualifying quantity shall be ignored for the purposes of calculating the total quantity present, if their location within an establishment is such that it cannot act as an initiator of a major accident elsewhere at that establishment. For more details, see note 4 of Annex I of the Seveso Directive.

7.3 SPECIFIC END USE(S):

For the use of this product particular recommendations apart from that already indicated are not available.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 CONTROL PARAMETERS:

If a product contains ingredients with exposure limits, may be necessary a personnel monitoring, work place or biological, to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to EN689, EN14042 and EN482 standard concerning methods for assesing the exposure by inhalation to chemical agents, and exposure to chemical and biological agents. Reference should be also made to national guidance documents for methods for the determination of dangerous substances.

- OCCUPATIONAL EXPOSURE LIMIT VALUES (WEL)

EH40/2005 WELs (United Kingdom) 2018	Year	WEL-TWA		WEL-STEL		Remarks
		ppm	mg/m3	ppm	mg/m3	
Isobutyl acetate	2015	50	237	150	713	
Xylene (mixture of isomers)	1996	100	434	150	651	BMGV, A4
5-methylhexan-2-one	2013	20	93,4	50	234	
2,6-di-tert-butyl-p-cresol	2001	0,2	2	-	-	A4, FIV

WEL - Workplace Exposure Limit, TWA - Time Weighted Average (8 hours), STEL - Short Term Exposure Limit (15 min).
BMGV - Biological monitoring guidance value. BMGVs are non-statutory and any biological monitoring undertaken in association with a guidance value needs to be conducted on a voluntary basis (ie with the fully informed consent of all concerned).
A4 - Non classified as carcinogenic in humans.

- Inhalable fraction and vapour (IFV):
IFV notation indicates those chemical agents that may occur in the workplace, both as particulate matter and as vapour, so that the two phases can coexist, both contributing to exposure. This situation can occur mainly in the following cases: a) When the agent in question has an ´intermediate´ value of the vapour pressure (in these cases it is taking into account the relationship between its concentration in air saturated vapour and the value of TWA, and the note is assigned, generally, when the ratio between the two quantities is between 0.1 and 10), b) Because of the form of use of the chemical agent (e.g. spraying), c) In the processes involving large temperature changes that may affect the physical state of the chemical agent, and d) In the processes in which a significant fraction of vapour can be dissolved or adsorbed onto particles of other substances, like what happens with water soluble agents in high humidity environments. For more information, see C.Perez and S.C.Soderholm. Some chemicals requiring special consideration when deciding whether to sample the particle, vapor or both phases of an atmosphere. Appl. Occup. Environ. Hyg. 6 (10), 859-864. 1991).

- BIOLOGICAL LIMIT VALUES:

Biological monitoring can be a very useful complementary technique to air monitoring when air sampling techniques alone may not give a reliable indication of exposure. Biological monitoring is the measurement and assessment of hazardous substances or their metabolites in tissues, secretions, excreta or expired air, or any combination of these, in exposed workers. Measurements reflect absorption of a substance by all routes. Biological monitoring may be particularly useful in circumstances where there is likely to be significant skin absorption and/or gastrointestinal tract uptake following ingestion, where control of exposure depends on respiratory protective equipment, where there is a reasonably well-defined relationship between biological monitoring and effect, or where it gives information on accumulated dose and target organ body burden which is related to toxicity.
This preparation contains the following substances that have established a biological limit value:
-
-

- DERIVED NO-EFFECT LEVEL (DNEL):

Derived no-effect level (DNEL) is a level of exposure that is considered safe, derived from toxicity data according to specific guidances included in REACH. DNEL values may differ from a occupational exposure limit (OEL) for the same chemical. OEL values may come recommended by a particular company, a government regulatory agency or an organization of experts. Although considered protective of health, the OEL values are derived by a process different of REACH.

- DERIVED NO-EFFECT LEVEL, WORKERS:- Systemic effects, acute and chronic:	DNEL Inhalation mg/m3	DNEL Cutaneous mg/kg bw/d	DNEL Oral mg/kg bw/d

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Xylene (mixture of isomers)	289 (a)	77 (c)	s/r (a)	180 (c)	- (a)	- (c)
HDI oligomers, isocyanurate	s/r (a)	s/r (c)	s/r (a)	s/r (c)	- (a)	- (c)
2,6-di-tert-butyl-p-cresol	- (a)	1,76 (c)	s/r (a)	0,5 (c)	- (a)	- (c)
5-methylhexan-2-one	818 (a)	95 (c)	s/r (a)	8 (c)	- (a)	- (c)
Tosil-isocyanate	s/r (a)	3,24 (c)	s/r (a)	0,92 (c)	- (a)	- (c)
Isobutyl acetate	600 (a)	300 (c)	10 (a)	10 (c)	- (a)	- (c)

- DERIVED NO-EFFECT LEVEL, WORKERS:- Local effects, acute and chronic:	DNEL Inhalation mg/m3		DNEL Cutaneous mg/cm2		DNEL Eyes mg/cm2	
Xylene (mixture of isomers)	289 (a)	s/r (c)	s/r (a)	s/r (c)	- (a)	- (c)
HDI oligomers, isocyanurate	1 (a)	0,5 (c)	a/r (a)	a/r (c)	s/r (a)	- (c)
2,6-di-tert-butyl-p-cresol	- (a)	- (c)	s/r (a)	s/r (c)	s/r (a)	- (c)
5-methylhexan-2-one	s/r (a)	s/r (c)	s/r (a)	s/r (c)	s/r (a)	- (c)
Tosil-isocyanate	m/r (a)	a/r (c)	m/r (a)	s/r (c)	m/r (a)	- (c)
Isobutyl acetate	600 (a)	300 (c)	s/r (a)	s/r (c)	s/r (a)	- (c)

- Derived no-effect level, general population:

Not applicable (product for professional or industrial use).

(a) - Acute, short-term exposure, (c) - Chronic, long-term or repeated exposure.
(-) - DNEL not available (without data of registration REACH).
s/r - DNEL not derived (not identified hazard).
m/r - DNEL not derived (medium hazard).
a/r - DNEL not derived (high hazard).

- PREDICTED NO-EFFECT CONCENTRATION (PNEC):

- PREDICTED NO-EFFECT CONCENTRATION, AQUATIC ORGANISMS:- Fresh water, marine water and intermittent release:	PNEC Fresh water mg/l	PNEC Marine mg/l	PNEC Intermittent mg/l
Xylene (mixture of isomers)	0.327	0.327	0.327
HDI oligomers, isocyanurate	0.127	0.0127	1.27
2,6-di-tert-butyl-p-cresol	0.000199	1.99E-05	0.00199
5-methylhexan-2-one	0.1	0.01	1
Tosil-isocyanate	0.03	0.003	0.3
Isobutyl acetate	0.17	0.017	0.34

- WASTEWATER TREATMENT PLANTS (STP) AND SEDIMENTS IN FRESH- AND MARINE WATER:	PNEC STP mg/l	PNEC Sediments mg/kg dw/d	PNEC Sediments mg/kg dw/d
Xylene (mixture of isomers)	6.58	12.46	12.46
HDI oligomers, isocyanurate	38.3	266700	26670
2,6-di-tert-butyl-p-cresol	0.017	0.4582	0.04582
5-methylhexan-2-one	100	1.12	0.112
Tosil-isocyanate	0.4	0.172	0.0172
Isobutyl acetate	200	0.877	0.0877

- PREDICTED NO-EFFECT CONCENTRATION, TERRESTRIAL ORGANISMS:- Air, soil and effects for predators and humans:	PNEC Air mg/m3	PNEC Soil mg/kg dw/d	PNEC Oral mg/kg dw/d
Xylene (mixture of isomers)	-	2.31	-
HDI oligomers, isocyanurate	s/r	53182	n/b
2,6-di-tert-butyl-p-cresol	s/r	0.0539	16.67
5-methylhexan-2-one	-	0.166	n/b
Tosil-isocyanate	s/r	0.0168	n/b
Isobutyl acetate	s/r	0.0755	n/b

(-) - PNEC not available (without data of registration REACH).
n/b - PNEC not derived (not bioaccumulative potential).
s/r - PNEC not derived (not identified hazard).

8.2 EXPOSURE CONTROLS:

ENGINEERING MEASURES:

Provide adequate ventilation.Where reasonably practicable, this should be achieved by the use of local exhaust ventilation and good general extraction.If these measures are not sufficient to maintain concentrations of particulates and vapours below the Occupational Exposure Limits, suitable respiratory protection must be worn.

- Protection of respiratory system:

Avoid the inhalation of vapours.

- Protection of eyes and face:

It is recommended to install water taps, sources or eyewash bottles with clean water close to the working area.

- Protection of hands and skin:

It is recommended to install water taps or sources with clean water close to the working area.Barrier creams may help to protect the exposed areas of the skin.Barrier creams should not be applied once exposure has occurred.

OCCUPATIONAL EXPOSURE CONTROLS: REGULATION (EU) NO. 2016/425:

As a general measure on prevention and safety in the work place, we recommend the use of a basic personal protection equipment (PPE), with the corresponding marking. For more information on personal protective equipment (storage, use, cleaning, maintenance, type and characteristics of the PPE, protection class, marking, category, CEN norm, etc..), you should consult the informative brochures provided by the manufacturers of PPE.

Mask: ✓	For short periods of work, you can consider the utilisation of a combination mask with gas and particle filters, type A2-P2 (EN14387/EN143).In order to obtain a suitable protection level, the filter class must be selected depending on the type and concentration of the contaminating agents present, in accordance with the specifications supplied by the filter producers.If the working area is insufficiently ventilated, or when operators, whether spraying or not, are inside the spraybooth,
Safety goggles: ✓	Safety goggles designed to protect against liquid splashes, with suitable lateral protection (EN166).Clean daily and disinfect at regular intervals in accordance with the instructions of the manufacturer.
Face shield:	No.
Gloves: ✓	Gloves resistant against chemicals (EN374).When repeated or prolonged contact with the product is expected, gloves of protection level 5 or higher should be used, with a breakthrough time of >240 min.When short contact with the product is expected, use gloves with a protection level 2 or higher should be used, with a breakthrough time >30 min.The breakthrough time of the selected glove material should be in accordance with the pretended period of use.There are several factors (for example, temperature), they do in practice the period of use of a protective gloves resistant against chemicals is clearly lower than the established standard EN374.Due to the wide variety of circumstances and possibilities, the instructions/specifications provided by the glove supplier should be taken into account.Use the proper technique of removing gloves (without touching glove´s outer surface) to avoid contact of the product with the skin.The gloves should be immediately replaced when any sign of degradation is noted.
Boots:	No.
Apron:	No.
Clothing:	No.

- Thermal hazards:

Not applicable (the product is handled at room temperature).

ENVIRONMENTAL EXPOSURE CONTROLS:

Avoid any spillage in the environment. Avoid any release into the atmosphere.

- Spills on the soil:

Prevent contamination of soil.

- Spills in water:

Do not allow to escape into drains, sewers or water courses.

-Water Management Act:

This product does not contain any substance included in the list of priority substances in the field of water policy under Directive 2000/60/EC~2013/39/EU.

- Emissions to the atmosphere:

Because of volatility, emissions to the atmosphere while handling and use may result. Avoid any release into the atmosphere.

HE TOP HARDENER STANDARD
Code : 5009-001132

Version: 5 **Revision: 31/12/2024** Previous revision: 22/11/2024 Date of printing: 31/12/2024

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES:

Appearance		
Physical state:	Liquid	
Colour:	Colourless	
Odour:	Characteristic	
Odour threshold:	Not available (mixture).	
Change of state		
Freezing point:	Not available (mixture).	
Initial boiling point:	117 ºC at 760 mmHg	
- Flammability:		
Flashpoint	22 ºC (Pensky-Martens)	CLP 2.6.4.3.
Lower/upper flammability or explosive limits:	1,30 - 10,50 % Volume 25ºC	
Autoignition temperature:	460 ºC	
Stability		
Decomposition temperature:	Not available (technical impossibility to obtain the data).	
pH-value		
pH:	Not applicable (non-aqueous media).	
- Viscosity:		
Dynamic viscosity:	Not available.	
Kinematic viscosity:	Less than 20.5 mm2/s at 40ºC	
- Solubility(ies):		
Solubility in water	Not applicable	
Liposolubility:	Not applicable (inorganic product).	
Partition coefficient: n-octanol/water:	Not available.	
- Volatility:		
Vapour pressure:	Not available.	
Vapour pressure:	6,338* kPa at 50ºC	
Evaporation rate:	Not available (lack of data).	
Density		
Relative density:	1,000 at 20/4ºC	Relative water
Relative vapour density:	3,91* at 20ºC 1 atm.	Relative air
Particle characteristics		
Particle size:	Not applicable.	

- Explosive properties:

Vapours can form explosive mixtures with air and are able to flame up or explode in presence of an ignition source.

- Oxidizing properties:

Not classified as oxidizing product.

*Estimated values based on the substances composing the mixture.

9.2 OTHER INFORMATION:

Information regarding physical hazard classes

Flammable liquids: Combustibility:	Theoretical.	
Other security features:		
Heat of combustion:	5998 Kcal/kg	
VOC (supply):	44,8 % Weight	
VOC (supply):	448,0 g/l	
Nonvolatile:	55,85 * % Weight	1h. 60ºC

The values indicated do not always coincide with product specifications. The data for the product specifications can be found in the corresponding technical data sheet. For additional information concerning physical and chemical properties related to safety and environment, see sections 7 and 12.

CAR REPAIR SYSTEM

HE TOP HARDENER STANDARD

Code : 5009-001132

Version: 5 **Revision: 31/12/2024** Previous revision: 22/11/2024 Date of printing: 31/12/2024

SECTION 10: STABILITY AND REACTIVITY

10.1 REACTIVITY:

- Corrosivity to metals:

It is not corrosive to metals.

- Pyrophorical properties:

It is not pyrophoric.

10.2 CHEMICAL STABILITY:

Stable under recommended storage and handling conditions.

10.3 POSSIBILITY OF HAZARDOUS REACTIONS:

Possible dangerous reaction with oxidizing agents, acids, alkalis, water, amines, alcohols.Reacts violently with water.Exothermic reaction with amines and alcohols. Reacts with water under evolution of CO2.

10.4 CONDITIONS TO AVOID:

- Heat:

Keep away from sources of heat.

- Light:

If possible, avoid direct contact with sunlight.

- Air:

The product is not affected by exposure to air, but should not be left the containers open.

- Humidity:

Avoid humidity.Not applicable (the product is handled at room temperature).

- Pressure:

Not relevant.

- Shock:

The product is not sensitive to shocks, but as a recommendation of a general nature should be avoided bumps and rough handling to avoid dents and breakage of packaging, especially when the product is handled in large quantities, and during loading and download operations.

10.5 INCOMPATIBLE MATERIALS:

Keep away from oxidizing agents, acids, alkalis, water, amines, alcohols.Clean the application equipment with a compatible solvent.

10.6 HAZARDOUS DECOMPOSITION PRODUCTS:

As consequence of thermal decomposition, hazardous products may be produced, including isocyanates.

SECTION 11: TOXICOLOGICAL INFORMATION

No experimental toxicological data on the preparation is available. The toxicological classification for these mixture has been carried out by using the conventional calculation method of the Regulation (EU) No. 1272/2008~2022/692 (CLP).

11.1 INFORMATION ON HAZARD CLASSES AS DEFINED IN REGULATION (EC) NO 1272/2008 :

ACUTE TOXICITY:

Dose and lethal concentrations for individual ingredients:	DL50 (OECD401) mg/kg bw Oral	DL50 (OECD402) mg/kg bw Cutaneous	CL50 (OECD403) mg/m3·4h Inhalation
Xylene (mixture of isomers)	4300 Rat	1700 Rabbit	> 22080 Rat
HDI oligomers, isocyanurate	2500 Rat	> 2000 Rat	> 390 Rat
2,6-di-tert-butyl-p-cresol	6000 Rat	> 2000 Rat	
5-methylhexan-2-one	5657 Rat	> 10000 Rabbit	
Tosil-isocyanate	2330 Rat	> 2000 Rat	
Isobutyl acetate	13413 Rat	17400 Rabbit	> 30000 Rat

Estimates of acute toxicity (ATE) for individual ingredients:	ATE mg/kg bw Oral	ATE mg/kg bw Cutaneous	ATE mg/m3·4h Inhalation
Xylene (mixture of isomers)	-	*1700	11000 Vapours
HDI oligomers, isocyanurate	-	-	11000 Vapours
5-methylhexan-2-one	-	-	*1500
Isobutyl acetate	-	-	30000 Vapours

(*) - Point estimates of acute toxicity corresponding to the classification category (see GHS/CLP Table 3.1.2). These values are designed to be used in the calculation of the ATE for classification of a mixture based on its components and do not represent test results.
(-) - The components that are assumed to have no acute toxicity at the upper threshold of category 4 for the corresponding exposure route are ignored.

- No observed adverse effect level	NOAEL Oral mg/kg bw/d	NOAEL Cutaneous mg/kg bw/d	NOAEC Inhalation mg/m3
2,6-di-tert-butyl-p-cresol	25 Rat		
Isobutyl acetate	495 Rat		2410 Rat

- Lowest observed adverse effect level	LOAEL Oral mg/kg bw/d	LOAEL Cutaneous mg/kg bw/d	LOAEC Inhalation mg/m3
Isobutyl acetate			2410 Rat

INFORMATION ON LIKELY ROUTES OF EXPOSURE: ACUTE TOXICITY:

Routes of exposure	Acute toxicity	Cat.	Main effects, acute and/or delayed	Criteria

Inhalation: Not classified	ATE > 20000 mg/m3	-	Not classified as a product with acute toxicity if inhaled (based on available data, the classification criteria are not met).	GHS/CLP 3.1.3.6.
Skin: Not classified	ATE > 5000 mg/kg bw	-	Not classified as a product with acute toxicity in contact with skin (based on available data, the classification criteria are not met).	GHS/CLP 3.1.3.6.
Eyes: Not classified	Not available.	-	Not classified as a product with acute toxicity by eye contact (lack of data).	GHS/CLP 1.2.5.
Ingestion: Not classified	ATE > 5000 mg/kg bw	-	Not classified as a product with acute toxicity if swallowed (based on available data, the classification criteria are not met).	GHS/CLP 3.1.3.6.

GHS/CLP 3.1.3.6: Classification of mixtures based on ingredients of the mixture (additivity formula).

CORROSION / IRRITATION / SENSITISATION :

Danger class	Target organs	Cat.	Main effects, acute and/or delayed	Criteria
- Respiratory corrosion/irritation:	Respiratory tract	Cat.3	IRRITANT: May cause respiratory irritation.	GHS/CLP 1.2.6. 3.8.3.4.
- Skin corrosion/irritation:	Skin	Cat.2	IRRITANT: Causes skin irritation.	GHS/CLP 3.2.3.3.
- Serious eye damage/irritation:	Eyes	Cat.2	IRRITANT: Causes serious eye irritation.	GHS/CLP 3.3.3.3.
- Respiratory sensitisation: Not classified	-	-	Not classified as a product sensitising by inhalation (based on available data, the classification criteria are not met).	GHS/CLP 3.4.3.3.
- Skin sensitisation:	Skin	Cat.1	SENSITISING: May cause an allergic skin reaction.	GHS/CLP 3.4.3.3.

GHS/CLP 3.2.3.3: Classification of the mixture when data are available for all components or only for some components.
GHS/CLP 3.3.3.3: Classification of the mixture when data are available for all components or only for some components.
GHS/CLP 3.4.3.3: Classification of the mixture when data are available for all components or only for some components.
GHS/CLP 3.8.3.4: Classification of the mixture when data are available for all components or only for some components.

- ASPIRATION HAZARD:

Danger class	Target organs	Cat.	Main effects, acute and/or delayed	Criteria
- Aspiration hazard:	Lungs	Cat.1	HAZARD OF ASPIRATION: May be fatal if swallowed and enters airways.	GHS/CLP 3.10.3.3.

GHS/CLP 3.10.3.3: Classification of the mixture when data are available for all components or only for some components.

SPECIFIC TARGET ORGANS TOXICITY (STOT): Single exposure (SE) and/or Repeated exposure (RE):

Effects	SE/RE	Target organs	Cat.	Main effects, acute and/or delayed	Criteria
- Neurological:	RE	Hearing system	Cat.2	NEUROTOXIC: May cause damage to hearing organs through prolonged or repeated exposure if inhaled (loss of audition).	GHS/CLP 3.8.3.4
- Respiratory effects:	SE	Respiratory tract	Cat.3	IRRITANT: May cause respiratory irritation.	GHS/CLP 3.8.3.4
- Neurological:	SE	CNS	Cat.3	NARCOSIS: May cause drowsiness or dizziness if inhaled.	GHS/CLP 3.8.3.4.

GHS/CLP 3.8.3.4: Classification of the mixture when data are available for all components or only for some components.

CMR EFFECTS:

- Carcinogenic effects:

It is not considered as a carcinogenic product.

- Genotoxicity:

It is not considered as a mutagenic product.

- Toxicity for reproduction:

Does not harm fertility.Does not harm the unborn child.

- Effects via lactation:

Not classified as a hazardous product for children breast-fed.

DELAYED AND IMMEDIATE EFFECTS AS WELL AS CHRONIC EFFECTS FROM SHORT AND LONG-TERM EXPOSURE:

Routes of exposure

May be absorbed by inhalation of vapour, through the skin and by ingestion.

- Short-term exposure:

Exposure to solvent vapour concentrations in excess of the stated occupational exposure limit, may result in adverse health effects, such as mucous membrane and respiratory system irritation and adverse effects on kidneys, liver and central nervous system.Liquid splashes in the eyes may cause irritation and reversible damage.If swallowed, may cause irritation of the throat; other effects may be the same as described in the exposure to vapours. Causes skin irritation. May cause respiratory irritation. May cause drowsiness or dizziness.Very small amounts aspirated by the lungs may cause severe pulmonary damage, including death.

- Long-term or repeated exposure:

Repeated or prolonged contact may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption through the skin. May cause damage to hearing organs through prolonged or repeated exposure if inhaled.

INTERACTIVE EFFECTS:

Not available.

INFORMATION ABOUT TOXICOCINETICS, METABOLISM AND DISTRIBUTION:

- Dermal absorption:

This preparation contains the following substances for which dermal absorption can be very high: Xylene (mixture of isomers).

- Basic toxicokinetics:

Not available.

ADDITIONAL INFORMATION:

Based on the properties of the isocyanate content of this product and existing technical data of similar preparations,

11.2 INFORMATION ON OTHER HAZARDS:

Endocrine disrupting properties:

This product contains, in a concentration equal to or greater than 0.1% by weight, substances that are under evaluation due to their possible endocrine disrupting properties: 2,6-di-tert-butyl-p-cresol.

Other information:

No additional information available.

SECTION 12: ECOLOGICAL INFORMATION

No experimental ecotoxicological data on the preparation as such is available. The ecotoxicological classification for these mixture has been carried out by using the conventional calculation method of the Regulation (EU) No. 1272/2008~2022/692 (CLP).

12.1 TOXICITY:

- Acute toxicity in aquatic environment for individual ingredients	CL50 (OECD 203) mg/l·96hours	CE50 (OECD 202) mg/l·48hours	CE50 (OECD 201) mg/l·72hours
Xylene (mixture of isomers)	14 - Fishes	16 - Daphniae	10 - Algae
HDI oligomers, isocyanurate	100 - Fishes	100 - Daphniae	1000 - Algae
2,6-di-tert-butyl-p-cresol	0.2 - Fishes	0.48 - Daphniae	0.24 - Algae
5-methylhexan-2-one	159 - Fishes	100 - Daphniae	100 - Algae
Tosil-isocyanate	45 - Fishes	100 - Daphniae	
Isobutyl acetate	17 - Fishes	25 - Daphniae	397 - Algae

- No observed effect concentration	NOEC (OECD 210) mg/l · 28 days	NOEC (OECD 211) mg/l · 21 days	NOEC (OECD 201) mg/l · 72 hours
2,6-di-tert-butyl-p-cresol	0.053 - Fishes	0.069 - Daphniae	0.24 - Algae
Isobutyl acetate		23 - Daphniae	196 - Algae

- Lowest observed effect concentration

Not available

ASSESSMENT OF AQUATIC TOXICITY:

Aquatic toxicity	Cat.	Main hazards to the aquatic environment	Criteria
- Acute aquatic toxicity: Not classified	-	Not classified as a hazardous product with acute toxicity to aquatic life (based on available data, the classification criteria are not met).	GHS/CLP 4.1.3.5.5.3.
- Chronic aquatic toxicity:	Cat.3	HARMFUL: Harmful to aquatic life with long lasting effects.	GHS/CLP 4.1.3.5.5.4.

CLP 4.1.3.5.5.3: Classification of a mixture for acute hazards, based on summation of classified components.
CLP 4.1.3.5.5.4: Classification of a mixture for chronic (long term) hazards, based on summation of classified components.

12.2 PERSISTENCE AND DEGRADABILITY:

- Biodegradability:

Not available.

Aerobic biodegradation for individual ingredients	COD mgO2/g	%DBO/DQO 5 days 14 days 28 days	Biodegradabilidad
Xylene (mixture of isomers)	2620	52 81 88	Easy
HDI oligomers, isocyanurate		- - 1	Not easy
2,6-di-tert-butyl-p-cresol	2977	- - 4	Not easy
5-methylhexan-2-one	2802	- 61 67	Easy
Tosil-isocyanate		- - -	Easy
Isobutyl acetate	2204	60 79 -	Easy

Note: Biodegradability data correspond to an average of data from various bibliographic sources.

- Hydrolysis:

Not available.

- Photodegradability:

Not available.

12.3 BIOACCUMULATIVE POTENTIAL:

May bioaccumulate.

Bioaccumulation for individual ingredients	logPow	BCF L/kg	Potential
Xylene (mixture of isomers)	3.16	56.5 (calculated)	Low
HDI oligomers, isocyanurate	5.54	3.2 (calculated)	No bioaccumulable
2,6-di-tert-butyl-p-cresol	5.2	1277 (calculated)	Not available
5-methylhexan-2-one	1.72	8.1 (calculated)	No bioaccumulable
Tosil-isocyanate	2.34	16.3 (calculated)	Unlikely, low
Isobutyl acetate	2.3	15 (calculated)	No bioaccumulable

12.4 MOBILITY IN SOIL:

Not available

Mobility for individual ingredients	log Poc	Constant of Henry Pa·m3/mol 20ºC	Potential
Xylene (mixture of isomers)	2,25	660 (calculated)	Low
HDI oligomers, isocyanurate		0 (calculated)	No bioaccumulable
2,6-di-tert-butyl-p-cresol	4,36	318,9 (calculated)	Not available
5-methylhexan-2-one	2,16		No bioaccumulable
Tosil-isocyanate	2,38		Unlikely, low
Isobutyl acetate	1,19	41,6 (calculated)	No bioaccumulable

12.5 RESULTS OF PBT AND VPVB ASSESMENT:(Annex XIII of Regulation (EC) no. 1907/2006:)

Does not contain substances that fulfil the PBT/vPvB criteria.

12.6 ENDOCRINE DISRUPTING PROPERTIES:

This product contains, in a concentration equal to or greater than 0.1% by weight, substances that are under evaluation due to their possible endocrine disrupting properties: 2,6-di-tert-butyl-p-cresol.

12.7 OTHER ADVERSE EFFECTS:

- Ozone depletion potential:

Not available.

- Photochemical ozone creation potential:

Not available.

- Earth global warming potential:

Not available.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 WASTE TREATMENT METHODS:Directive 2008/98/EC~Regulation (EU) no. 1357/2014:

Take all necessary measures to prevent the production of waste whenever possible. Analyse possible methods for revaluation or recycling. Do not discharge into drains or the environment, dispose at an authorised waste collection point. Waste should be handled and disposed in accordance with current local and national regulations. For exposure controls and personal protection measures, see section 8.

LER code	Description	Type of waste
alcohol-resistant foam		Hazardous

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

HP 3 Flammable
HP 6 Acute toxicity
HP 4 Irritant — skin irritation and eye damage
HP 13 Sensitising
HP 10 Toxic for reproduction
HP 5 Specific Target Organ Toxicity (STOT)/Aspiration toxicity
HP 14 Ecotoxic

Disposal of empty containers:Directive 94/62/EC~2015/720/EU, Decision 2000/532/EC~2014/955/EU:

Emptied containers and packaging should be disposed in accordance with currently local and national regulations.The classification of packaging as hazardous waste will depend on the degree of empting of the same, being the holder of the residue responsible for their classification, in accordance with Chapter 15 01 of Decision 2000/532/EC, and forwarding to the appropriate final destination.With contaminated containers and packaging, adopt the same measures as for the product in itself.

Procedures for neutralising or destroying the product:

Controlled incineration in special facilities for chemical waste, in accordance with local regulations.

SECTION 14: TRANSPORT INFORMATION

14.1 UN NUMBER OR ID NUMBER:

1263

14.2 UN PROPER SHIPPING NAME:

PAINT

14.3 TRANSPORT HAZARD CLASS(ES):

Transport by road (ADR 2023) and
Transport by rail (RID 2023):

VP<110 kPa50ºC

- Class:	3
- Packing group:	II
- Classification code:	F1
- Tunnel restriction code:	(D/E)
- Transport category:	2, max. ADR 1.1.3.6. 333 L
- Limited quantities:	5 L (see total exemptions ADR 3.4)
- Transport document:	Consignment paper.
- Instructions in writing:	ADR 5.4.3.4
- Special provisions:	163;367;640D;650

Transport by sea (IMDG 41-22):

- Class:	3
- Packing group:	II
- Emergency Sheet (EmS):	F-E,S_E
- First Aid Guide (MFAG):	310,313
- Marine pollutant:	No.
- Transport document:	Conocimiento de embarque.

Transport by air (ICAO/IATA 2021):

- Class:	3
- Packing group:	II
- Transport document:	Conocimiento aéreo.

Transport by inland waterways (ADN):

Not available

14.4 PACKING GROUP:

See section 14.3

14.5 ENVIRONMENTAL HAZARDS:

Not applicable.

14.6 SPECIAL PRECAUTIONS FOR USER:

Ensure that persons transporting the product know what to do in case of accident or spill. Always transport in closed containers that are upright and secure. Ensure adequate ventilation.

14.7 MARITIME TRANSPORT IN BULK ACCORDING TO IMO INSTRUMENTS:

Not applicable.

SECTION 15: REGULATORY INFORMATION

15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE:

The regulations applicable to this product generally are listed throughout this Safety Data Sheet.

Restrictions on manufacture, placing on market and use:

See section 1.2

Tactile warning of danger:

Not applicable (product for professional or industrial use).

Child safety protection:

Not applicable (product for professional or industrial use).

OTHER REGULATIONS:

Not available.

Control of the risks inherent in major accidents (Seveso III):

See section 7.2

Other local legislations:

The receiver should verify the possible existence of local regulations applicable to the chemical.

15.2 CHEMICAL SAFETY ASSESSMENT:

A chemical safety assessment has not been carried out for this mixture.

SECTION 16 : OTHER INFORMATION

16.1 TEXT OF THE PHRASES AND NOTES REFERENCED IN SECTIONS 2 AND/OR 3:

Hazard statements according the Regulation (EU) No. 1272/2008~2022/692 (CLP), Annex III:

H225 Highly flammable liquid and vapour. H226 Flammable liquid and vapour. H304 May be fatal if swallowed and enters airways. H312 Harmful in contact with skin. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H319 Causes serious eye irritation. H332 Harmful if inhaled. H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. H335 May cause respiratory irritation. H336 May cause drowsiness or dizziness. H400 Very toxic to aquatic life. H410 Very toxic to aquatic life with long lasting effects. H412 Harmful to aquatic life with long lasting effects. EUH014 Reacts violently with water. EUH066 Repeated exposure may cause skin dryness or cracking. H361d Suspected of damage the unborn child. H373 May cause damage to hearing organs through prolonged or repeated exposure if inhaled.

Notes related to the identification, classification and labelling of the substances or mixtures:

Note C : Some organic substances may be marketed either in a specific isomeric form or as a mixture of several isomers. In this case the supplier must state on the label whether the substance is a specific isomer or a mixture of isomers.

EVALUATION OF THE INFORMATION ON THE DANGER OF MIXTURES:

See sections 9.1, 11.1 and 12.1.

ADVICES ON ANY TRAINING APPROPRIATE FOR WORKERS:

It is recommended for all staff that will handle this product to carry out a basic training in occupational risk and prevention, in order to provide understanding and interpretation of Safety Data Sheets and labelling of products as well.

MAIN LITERATURE REFERENCES AND SOURCES FOR DATA:

· European Chemicals Agency: ECHA, http://echa.europa.eu/
· Access to European Union Law, http://eur-lex.europa.eu/
· Industrial Solvents Handbook, Ibert Mellan (Noyes Data Co., 1970).
· Threshold Limit Values, (AGCIH, 2021).
· European agreement on the international carriage of dangerous goods by road, (ADR 2023).
· International Maritime Dangerous Goods Code IMDG including Amendment 41-22 (IMO, 2022).

ABBREVIATIONS AND ACRONYMS:

List of abbreviations and acronyms that can be used (but not necessarily used) in this Safety Data Sheet:

· REACH: Regulation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals.
· GHS: Globally Harmonized System of Classification and Labelling of Chemicals of the United Nations.
· CLP: European regularion on Classificatin, Labelling amd Packaging of substances and chemical mixtures.
· EINECS: European Inventory of Existing Commercial Chemical Substances.
· ELINCS: European List of Notified Chemical Substances.
· CAS: Chemical Abstracts Service (Division of the American Chemical Society).
· UVCB: Substances of Unknown or Variable composition, complex reaction products or biological materials.
· SVHC: Substances of Very High Concern.
· PBT: Persistent, bioaccumulable and toxic substances.
· vPvB: Very persistent and very bioaccumulable substances.
· VOC: Volatile Organic Compounds.
· DNEL: Derived No-Effect Level (REACH).
· PNEC: Predicted No-Effect Concentration (REACH).
· LC50: Lethal concentration, 50 percent.
· LD50: Lethal dose, 50 percent.
· UN: United Nations Organisation.
· ADR: European agreement concerning the international carriage of dangeous goods by road.
· RID: Regulations concerning the international transport of dangeous goods by rail.
· IMDG: International Maritime code for Dangerous Goods.
· IATA: International Air Transport Association.
· ICAO: International Civil Aviation Organization.

SAFETY DATA SHEET REGULATIONS:

Safety Data Sheet in accordance with Article 31 of Regulation (EC) No. 1907/2006 (REACH) and Annex of Regulation (EU) No. 2020/878.

HISTORIC: REVISION:

Version: 1 18/07/2023

Version: 2	05/06/2024
Version: 3	23/10/2024
Version: 4	22/11/2024
Version: 5	31/12/2024

Changes since previous Safety Data Sheet:

Legislative, contextual, numerical, methodological and normative changes since the previous version of the present Safety Data Sheet are identified by #.

The information of this Safety Data Sheet, is based on the present state of knowledge and on current UE and national laws, as the users'' working conditionsare beyond our knowledge and control. The product is not to be used for other purposes than those specified, without first obtaining written handling instruction. It is always the responsibility of the user to take all necessary steps in order to fulfil the demand laid down in the local rules and legislation.The information in this Safety Data Sheet is meant as a description of the safety requirements of the product and it is not to be considered as a guarantee of the product''s properties.

Safety Data Sheet (SDS) generated with the 6.0.0.185 version of the JMTCHEM software (www.jmtchemsolutions.com).