



ENDURECEDOR MAREPOX
Code: 0039



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

1.1	PRODUCT IDENTIFIER: ENDURECEDOR MAREPOX Code: 0039
1.2	RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST: Intended uses (main technical functions): [] Industrial [X] Professional Hardener: Sectors of use: Professional uses (SU22). Uses advised against: This product is not recommended for any use or sector of use (industrial, professional or consume) other than those previously listed as 'Intended or identified uses'. For professional use only. Restrictions on manufacture, placing on market and use, according to Annex XVII of Regulation (EC) No. 1907/2006: Contains CMR substances, categories 1A or 1B: Restricted to professional users. Forbidden to the general public. The restrictions do not apply to storage, keeping, treatment, filling into containers, or transfer from one container to another of the substances for export. See entry 28 and/or 29 and/or 30 in the Annex of the Regulation (EC) No. 552/2009~276/2010.
1.3	DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET: PINTURAS ISAVAL, S.L. c/Velluters, Parcela 2-14 - P.I.Casanova - E-46394 - Ribarroja d Turia (Valencia) ESPAÑA Phone: +34 96 1640001 - Fax: +34 96 1640002 E-mail address of the person responsible for the Safety Data Sheet: e-mail: atencioncliente@isavales
1.4	EMERGENCY TELEPHONE NUMBER: +34 96 1640001 (8:00-18:00 h.) (working hours)

SECTION 2 : HAZARDS IDENTIFICATION

2.1

CLASSIFICATION OF THE SUBSTANCE OR MIXTURE:

Classification in accordance with Regulation (EU) No. 1272/2008~1221/2015 (CLP):
DANGER: Flam. Liq. 3:H226 | Acute Tox. (inh.) 3:H331 | Acute Tox. (skin) 4:H312 | Skin Corr. 1B:H314 | Skin Sens. 1:H317 | Repr. 1B:H360F | STOT SE (init.) 3:H335 | STOT RE 2:H373 | Aquatic Acute 1:H400 | Aquatic Chronic 3:H412 | EUH066

Danger class	Classification of the mixture	Cat.	Routes of exposure	Target organs	Effects
Physicochemical: 	Flam. Liq. 3:H226	Cat.3	-	-	-
Human health: 	Acute Tox. (inh.) 3:H331	Cat.3	Inhalation	-	Toxic
	Acute Tox. (skin) 4:H312	Cat.4	Skin	-	Harmful
	Skin Corr. 1B:H314	Cat.1B	Skin, Eyes	Skin, Eyes	Burns
	Skin Sens. 1:H317	Cat.1	Skin	Skin	Allergy
	Repr. 1B:H360F	Cat.1B	-	Reproductive system	Fertility
Environment: 	STOT SE (init.) 3:H335	Cat.3	Inhalation	Respiratory tract	Irritation
	STOT RE 2:H373i	Cat.2	Inhalation	Systemic	Damage
	Aquatic Acute 1:H400	Cat.1	-	-	-
	Aquatic Chronic 3:H412	Cat.3	-	-	-
	EUH066	-	Skin	Skin	Dryness, Cracking

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. 1272/2008~1221/2015 (CLP)

Hazard statements:

H226

Flammable liquid and vapour.

H360F

May damage fertility.

H331

Toxic if inhaled.

H373i

May cause damage to organs through prolonged or repeated exposure if inhaled.

H312

Harmful in contact with skin.

H314

Causes severe skin burns and eye damage.

H335

May cause respiratory irritation.

H317

May cause an allergic skin reaction.

H400

Very toxic to aquatic life.

H412

Harmful to aquatic life with long lasting effects.

Precautionary statements:

P102-P405

Keep out of reach of children. Store locked up.

P201-P202-P405

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Store locked up.

P210

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P260c

Do not breathe vapours.

P271

Use only outdoors or in a well-ventilated area.

P280F

Wear protective gloves, clothing and eye protection. In case of inadequate ventilation wear respiratory protection.

P363

Wash contaminated clothing before reuse.

P301+P330+P331-P310

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor.

P303+P361+P353-P352-P312

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash with plenty of soap and water. Call a POISON CENTER or doctor if you feel unwell.

P305+P351+P338-P310

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P273-P391-P501a

Immediately call a POISON CENTER or doctor. Avoid release to the environment. Collect spillage. Dispose of contents/container in accordance with local regulations.



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Supplementary statements:

EUC028

Restricted to professional users.

EUH208

Contains m-phenylenebis(methylamine). May produce an allergic reaction.

Substances that contribute to classification:

Xylene (mixture of isomers)

Diethylenetriamine

3-aminomethyl-3,5,5-trimethylcyclohexylamine

4,4'-isopropylidenediphenol

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: Prolonged exposure to vapours may produce transient drowsiness.

Other negative environmental effects: Does not contain substances that fulfil the PBT/vPvB criteria.

SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

3.1

SUBSTANCES:

Not applicable (mixture).

3.2

MIXTURES:

This product is a mixture.

Chemical description:

Solution of fatty acids c18-tpa/teta-epoxy aduct.

HAZARDOUS INGREDIENTS:

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



50 < 60 %

Xylene (mixture of isomers)

CAS: 1330-20-7 , EC: 215-535-7

REACH: 01-2119488216-32

Index No. 601-022-00-9

CLP: Danger: Flam. Liq. 3:H226 | Acute Tox. (inh.) 4:H332 | Acute Tox. (skin) 4:H312 | Skin Irrit. 2:H315 | Eye Irrit. 2:H319 | STOT SE (irrit.) 3:H335 | STOT RE 2:H373 | Asp. Tox. 1:H304

< REACH



20 < 25 %

Fatty acids, C18-unsatd

CAS: 106906-26-7 , EC: 500-296-6

Autoclassified

CLP: Warning: Aquatic Acute 1:H400



5 < 10 %

Diethylenetriamine

CAS: 111-40-0 , EC: 203-865-4

REACH: 01-2119473793-27

Index No. 612-058-00-X

CLP: Danger: Acute Tox. (inh.) 2:H330 | Acute Tox. (skin) 4:H312 | Acute Tox. (oral) 4:H302 | Skin Corr. 1B:H314 | Eye Dam. 1:H318 | Skin Sens. 1:H317 | STOT SE (irrit.) 3:H335

< REACH



5 < 10 %

Butan-1-ol

CAS: 71-36-3 , EC: 200-751-6

REACH: 01-2119484630-38

Index No. 603-004-00-6

CLP: Danger: Flam. Liq. 3:H226 | Acute Tox. (oral) 4:H302 | Skin Irrit. 2:H315 | Eye Dam. 1:H318 | STOT SE (irrit.) 3:H335 | STOT SE (narcosis) 3:H336

< REACH / ATP01



2,5 < 5 %

Benzyl alcohol

CAS: 100-51-6 , EC: 202-859-9

REACH: 01-2119492630-38

Index No. 603-057-00-5

CLP: Warning: Acute Tox. (inh.) 4:H332 | Acute Tox. (oral) 4:H302 | Eye Irrit. 2:H319

< REACH



2,5 < 5 %

3-aminomethyl-3,5,5-trimethylcyclohexylamine

CAS: 2855-13-2 , EC: 220-666-8

Index No. 612-067-00-9

CLP: Danger: Acute Tox. (skin) 4:H312 | Acute Tox. (oral) 4:H302 | Skin Corr. 1B:H314 | Eye Dam. 1:H318 | Skin Sens. 1A:H317 | Aquatic Chronic 3:H412

< Autoclassified



1 < 2 %

4,4'-isopropylidenediphenol

CAS: 80-05-7 , EC: 201-245-8

Index No. 604-030-00-0

CLP: Danger: Eye Dam. 1:H318 | Skin Sens. 1:H317 | Repr. 1B:H360F | STOT SE (irrit.) 3:H335 | Aquatic Chronic 2:H411

< Autoclassified



1 < 2 %

m-phenylenebis(methylamine)

CAS: 1477-55-0 , EC: 216-032-5

Autoclassified

CLP: Danger: Acute Tox. (inh.) 4:H332 | Acute Tox. (oral) 4:H302 | Skin Corr. 1B:H314 | Skin Sens. 1B:H317 | Aquatic Chronic 3:H412 | EUH071

< REACH



< 1 %

2,4,6-tris(dimethylaminomethyl)phenol

CAS: 90-72-2 , EC: 202-013-9

Index No. 603-069-00-0

CLP: Danger: Skin Corr. 1C:H314 | Eye Dam. 1:H318 | Skin Sens. 1B:H317

< Autoclassified



< 0,5 %

N-(3-(trimethoxysilyl)propyl)ethylenediamine

CAS: 1760-24-3 , EC: 217-164-6

Autoclassified

CLP: Danger: Eye Dam. 1:H318 | Skin Sens. 1B:H317

< REACH

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.



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**SUBSTANCES OF VERY HIGH CONCERN (SVHC):**

List updated by ECHA on 07/07/2017.

[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:](#)

4,4'-isopropylidenediphenol, ReprCat.1B (Article 57c), Decision: ED/01/2017, Endocrine disrupting properties having probable serious effects to human health (Article 57f), Decision: ED/30/2017 and Endocrine disrupting properties having probable serious effects to environment (Article 57f), Decision: ED/01/2018.

PERSISTENT, BIOACCUMULABLE AND TOXIC PBT, OR VERY PERSISTENT AND VERY BIOACCUMULABLE VPvB SUBSTANCES:

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

SECTION 4 : FIRST AID MEASURES**4.1 DESCRIPTION OF FIRST-AID MEASURES:**

In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). 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.

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 burning sensation, coughing, breathlessness and sore throat.

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, burns and pain. 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. In the case of skin reddening or rashes, contact a doctor immediately.

Eyes:

Contact with the eyes produces redness, pain, serious burns and loss of vision.

Remove contact lenses. Rinse eyes copiously by irrigation with plenty of clean, fresh water for at least 15 minutes, holding the eyelids apart, until the irritation is reduced. Call a physician immediately.

Ingestion:

If swallowed, causes severe burns on the lips, mouth, throat and oesophagus, with gastric disorders and abdominal pain.

If swallowed, seek immediate medical attention. Drink large quantities of water. Do not induce vomiting, due to the risk of perforation. 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:](#) Treatment should be directed at the control of symptoms and the clinical condition of the patient.[Antidotes and contraindications:](#) Specific antidote not known.**SECTION 5 : FIRE-FIGHTING MEASURES****5.1 EXTINGUISHING MEDIA:**

Extinguishing powder or CO₂. In the case of more important fires, also alcohol resistant foam and water spray/mist. Do not use for extinguishing: direct water jet. Direct water jet may not be effective to extinguish the fire, since the fire may spread.

5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE:

Fire can produce a dense black smoke. As consequence of combustion or thermal decomposition, hazardous products may be produced: carbon monoxide, carbon dioxide, nitrogen oxides. 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.). Clean preferably with a biodegradable detergent. 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.



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SECTION 7 : HANDLING AND STORAGE

- 7.1 PRECAUTIONS FOR SAFE HANDLING:
Comply with the existing legislation on health and safety at work.
General recommendations:
Handle with care, avoiding any discharge. 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.
- | | | | |
|--|---|--------------------------|--------------|
| - Flash point | : | 31* °C | CLP 2.6.4.3. |
| - Upper/lower flammability or explosive limits | : | 1.2* - 7.9 % Volume 25°C | |
- Recommendations for the prevention of toxicological risks:
Pregnant women should not be employed in any process in which this product is 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:
Product dangerous to the environment. 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 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. In order to avoid leakages, the containers, after use, should be closed carefully and placed in a vertical position. Due to its corrosive properties, extreme precaution in the selection of materials for pumps, packages and lines should be taken. The floor must be waterproof and corrosion resistant, with a canal system allowing the liquid to be channelled towards a neutralising pit. The electrical equipment must be made of non-corrodible materials. For more information, see section 10.
- | | | |
|-----------------------------|---|--|
| <u>Class of storage</u> | : | According to current legislation. |
| <u>Temperature interval</u> | : | min: 5. °C, max: 40. °C (recommended). |
- Incompatible materials:
Keep away from oxidizing agents, from strongly alkaline and strongly acid materials.
- Type of packaging:
According to current legislation.
- Limit quantity (Seveso III): Directive 2012/18/EU:
Not applicable (product for professional use).



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- 7.3 **SPECIFIC END USES:**
For the use of this product do not exist particular recommendations apart from that already indicated.

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 assessing 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 (TLV)

AGCIIH 2015	Year	TLV-TWA		TLV-STEL		Remarks
		ppm	mg/m3	ppm	mg/m3	
Xylene	1996	100.	434.	150.	651.	A4 , BEI
Diethylenetriamine	1977	1.0	4.2	-	-	Skin
Butan-1-ol	1998	20.	61.	-	-	
m-phenylenebis(methylamine)	1977	-	-	-	0.10 C	Internal value A3 , Skin , BEI

TLV - Threshold Limit Value, TWA - Time Weighted Average, STEL - Short Term Exposure Limit.
C - Ceiling value: The concentration that should not be exceeded during any part of the working exposure.
Skin - Danger of cutaneous absorption.
A3 - Carcinogenic in animals.
A4 - Non classified as carcinogenic in humans.
BEI - Biological exposure index (biological monitoring).

Dermal (Vd): Means that, in exposures to this substance, the contribution by the cutaneous route, including the mucous membranes and eyes, may result significant for the overall body content if no measures are taken to prevent absorption. There are some chemicals for which dermal absorption, both in liquid and vapour phases, can be very high, and this route of entry may be or equal or greater importance even that inhalation pathway. In these situations, the use of a biological control is essential in order to quantify the overall amount of contaminant absorbed.

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:

- Xylenes (technical or commercial grade) (2011): Biological determinant: methylhippuric acids in urine, BEI: 1.5 g/g creatinine, Sampling time: end of shift (2).
- (2) When the end of the exposition not coincide with the end of the working day, the sample will be taken as soon as possible after the real exposition ceases.

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		
		(a)	(c)		(a)	(c)		(a)	(c)
Xylene (mixture of isomers)	289.	(a)	77.0 (c)	s/r	(a)	180. (c)	-	(a)	- (c)
Diethylenetriamine	92.1	(a)	15.4 (c)	-	(a)	11.4 (c)	-	(a)	- (c)
Butan-1-ol	-	(a)	310. (c)	-	(a)	- (c)	-	(a)	- (c)
Benzyl alcohol	450.	(a)	90.0 (c)	47.0	(a)	9.50 (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		
		(a)	(c)		(a)	(c)		(a)	(c)
Xylene (mixture of isomers)	289.	(a)	s/r (c)	s/r	(a)	s/r (c)	-	(a)	- (c)
Diethylenetriamine	2.60	(a)	0.870 (c)	-	(a)	1.10 (c)	-	(a)	- (c)
Butan-1-ol	-	(a)	310. (c)	-	(a)	- (c)	-	(a)	- (c)
Benzyl alcohol	-	(a)	- (c)	-	(a)	- (c)	-	(a)	- (c)

Derived no-effect level, general population:

Not applicable (product for professional 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).



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PREDICTED NO-EFFECT CONCENTRATION (PNEC):

Predicted no-effect concentration, aquatic organisms:

- Fresh water, marine water and intermittent release:

Xylene (mixture of isomers)

Diethylenetriamine

Butan-1-ol

Benzyl alcohol

PNEC Fresh water

mg/l

0.327

0.560

0.0820

1.00

PNEC Marine

mg/l

0.327

0.0560

0.00820

0.100

PNEC Intermittent

mg/l

0.327

0.320

2.25

2.30

- Wastewater treatment plants (STP) and sediments in fresh- and marine water:

Xylene (mixture of isomers)

Diethylenetriamine

Butan-1-ol

Benzyl alcohol

PNEC STP

mg/l

6.58

6.00

2476.

39.0

PNEC Sediments

mg/kg dw/d

12.5

1072.

0.178

5.27

PNEC Sediments

mg/kg dw/d

12.5

107.

0.0178

0.527

Predicted no-effect concentration, terrestrial organisms:

- Air, soil and effects for predators and humans:

Xylene (mixture of isomers)

Diethylenetriamine

Butan-1-ol

Benzyl alcohol

PNEC Air

mg/m3

-

-

-

-

PNEC Soil

mg/kg dw/d

2.31

214.

0.0150

0.456

PNEC Oral

mg/kg dw/d

-

n/b

-

n/b

(-) - PNEC not available (without data of registration REACH).

n/b - PNEC not derived (not bioaccumulative potential).



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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: Install water taps, sources or eyewash bottles with clean water close to the working area.

Protection of hands and skin: 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: Directive 89/686/EEC~96/58/EC:

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:

A-type filter mask (brown) for gases and vapours of organic compounds with a boiling point higher than 65°C (EN14387). Class 1: low capacity up to 1000 ppm, Class 2: medium capacity up to 5000 ppm, Class 3: high capacity up to 10000 ppm. 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. The respiratory equipment with filters does not work satisfactorily when the air contains high concentrations of vapour or oxygen content less than 18% in volume. In presence of high concentrations of vapour, use independent breathing apparatus.

Safety goggles:

Safety goggles for chemicals, with suitable lateral protection (EN166). Clean daily and disinfect at regular intervals in accordance with the instructions of the manufacturer.

Face shield:

Face shield against liquid splashes (EN166), advisable when there is a risk of spillage, diffusion or atomization of the liquid.

Gloves:

Solvent-resistant gloves (EN374). Neoprene rubber gloves (EN374).

Boots:

Neoprene rubber boots (EN347).

Apron:

No.

Clothing:

Clothing resistant to corrosive products will have to be worn.

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: Very toxic to aquatic organisms. May cause long-term adverse effects on the aquatic environment. 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.



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SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES

9.1	INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES : <u>Appearance</u> - Physical state : Liquid. - Colour : Colourless. - Odour : Characteristic - Odour threshold : Not available (mixture). <u>pH-value</u> - pH : Alkaline <u>Change of state</u> - Melting point : Not applicable (mixture). - Initial boiling point : 117.7* °C at 760 mmHg <u>Density</u> - Vapour density : 3.57* at 20°C 1 atm. Relative air - Relative density : 0.908* at 20/4°C Relative water <u>Stability</u> - Decomposition temperature : Not available (technical impossibility to obtain the data). <u>Viscosity:</u> - Dynamic viscosity : 333. cps 20°C - Kinematic viscosity : 120. mm2/s at 40°C - Viscosity (flow time) : 100. sec.FC4 20°C <u>Volatility:</u> - Evaporation rate : 62.8* nBuAc=100 25°C Relative - Vapour pressure : 5.5* mmHg at 20°C - Vapour pressure : 3.7* kPa at 50°C <u>Solubility(ies)</u> - Solubility in water: : Not miscible - Liposolubility : Not available (mixture untested). - Partition coefficient: n-octanol/water : Not applicable (mixture). <u>Flammability:</u> - Flash point : 31* °C - Upper/lower flammability or explosive limits : 1.2* - 7.9 % Volume 25°C - Autoignition temperature : Not available <u>Explosive properties:</u> Vapours can form explosive mixtures with air and are able to flame up or explode in presence of an ignition source. <u>Oxidizing properties:</u> Not classified as oxidizing product. *Estimated values based on the substances composing the mixture.		
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9.2	<u>OTHER INFORMATION:</u> - Solids : 26.4 % Volume - VOC (supply) : 615.5 g/l 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.
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SECTION 10 : STABILITY AND REACTIVITY

10.1	<u>REACTIVITY:</u> <u>Corrosivity to metals:</u> Not available. <u>Pyrophorical properties:</u> It is not pyrophoric.
10.2	<u>CHEMICAL STABILITY:</u> Stable under recommended storage and handling conditions.
10.3	<u>POSSIBILITY OF HAZARDOUS REACTIONS:</u> Possible dangerous reaction with reducing agents, oxidizing agents, acids, alkalis, metals, peroxides.
10.4	<u>CONDITIONS TO AVOID:</u> <u>Heat:</u> Keep away from sources of heat. <u>Light:</u> If possible, avoid direct contact with sunlight. <u>Air:</u> The product is not affected by exposure to air, but should not be left the containers open. <u>Humidity:</u> Avoid extreme humidity conditions. <u>Pressure:</u> Not relevant. <u>Shock:</u> 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	<u>INCOMPATIBLE MATERIALS:</u> Keep away from oxidizing agents, from strongly alkaline and strongly acid materials.
10.6	<u>HAZARDOUS DECOMPOSITION PRODUCTS:</u> As consequence of thermal decomposition, hazardous products may be produced: nitrogen oxides.



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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. 1272/2008~1221/2015 (CLP).

11.1

INFORMATION ON TOXICOLOGICAL EFFECTS:

ACUTE TOXICITY:

Dose and lethal concentrations

for individual ingredients :

Xylene (mixture of isomers)

Diethylenetriamine

Butan-1-ol

Benzyl alcohol

3-aminomethyl-3,5,5-trimethylcyclohexylamine

4,4'-isopropylidenediphenol

m-phenylenebis(methylamine)

2,4,6-tris(dimethylaminomethyl)phenol

N-(3-(trimethoxysilyl)propyl)ethylenediamine

LD50 (OECD 401)

mg/kg bw oral

4300. Rat

1080. Rat

790. Rat

1620. Rat

1030. Rat

3250. Rat

930. Rat

2169. Rat

7460. Rat

LD50 (OECD 402)

mg/kg bw cutaneous

1700. Rabbit

1090. Rabbit

3430. Rabbit

> 2000. Rabbit

> 2000. Rabbit

3000. Rabbit

3100. Rabbit

> 2000. Rat

16000. Rat

LC50 (OECD 403)

mg/m3-4h inhalation

> 22080. Rat

> 24665. Rat

> 8800. Rat

> 5010. Rat

> 1340. Rat

No observed adverse effect level

Not available

Lowest observed adverse effect level

Not available

INFORMATION ON LIKELY ROUTES OF EXPOSURE: Acute toxicity:

Routes of exposure	Acute toxicity	Cat.	Main effects, acute and/or delayed
<u>Inhalation:</u> 	ATE : 4777. mg/m3	Cat.3	TOXIC: Toxic if inhaled vapours.
<u>Skin:</u> 	ATE : 1716. mg/kg bw	Cat.4	HARMFUL: Harmful in contact with skin.
<u>Eyes:</u> Not classified	Not available	-	Not classified as a product with acute toxicity by eye contact (lack of data).
<u>Ingestion:</u> Not classified	ATE > 2000 mg/kg bw	-	Not classified as a product with acute toxicity if swallowed (based on available data, the classification criteria are not met).

CORROSION / IRRITATION / SENSITISATION :

Danger class	Target organs	Cat.	Main effects, acute and/or delayed
<u>Respiratory corrosion/irritation:</u> 	Respiratory tract 	Cat.3	IRRITANT: May cause respiratory irritation.
<u>Skin corrosion/irritation:</u> 	Skin 	Cat.1B	CORROSIVE: Causes severe skin burns.
<u>Serious eye damage/irritation:</u> 	Eyes 	Cat.1	DAMAGE: Causes serious eye damage.
<u>Respiratory sensitisation:</u> Not classified	-	-	Not classified as a product sensitising by inhalation (based on available data, the classification criteria are not met).
<u>Skin sensitisation:</u> 	Skin 	Cat.1	SENSITISING: May cause an allergic skin reaction.

ASPIRATION HAZARD:

Danger class	Target organs	Cat.	Main effects, acute and/or delayed
<u>Aspiration hazard:</u> Not classified	-	-	Not classified as a product hazardous by aspiration (based on available data, the classification criteria are not met).



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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
<u>Systemic:</u> 	RE	Systemic 	Cat.2	HARMFUL: May cause damage to organs through prolonged or repeated exposure if inhaled.
<u>Cutaneous:</u>	RE	Skin 	-	DEFATTENING: Repeated exposure may cause skin dryness or cracking.

CMR EFFECTS:

Carcinogenic effects: It is not considered as a carcinogenic product.

Genotoxicity: It is not considered as a mutagenic product.

Toxicity for reproduction:

This preparation contains the following ingredients which can be toxic for human reproduction:

4,4'-isopropylidenediphenol (Cat.1B)

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: Harmful by inhalation. Harmful in contact with skin. Harmful if swallowed. Causes burns to the skin or eyes by direct contact or to the digestive tract if swallowed. The mists of fine particles are skin and respiratory tract irritants. 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. May cause sensitization by skin contact. If swallowed, may cause irritation of the throat and other effects may be the same as described in the exposure to vapours.

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.

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: Diethylenetriamine, m-phenylenebis(methylamine).

Basic toxicokinetics: Not available.

ADDITIONAL INFORMATION:

Causes burns to the skin or eyes by direct contact or to the digestive tract if swallowed. The mists of fine particles are skin and respiratory tract irritants.

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. 1272/2008~1221/2015 (CLP).

12.1	<u>TOXICITY:</u>			
	<u>Acute toxicity in aquatic environment</u> for individual ingredients : Xylene (mixture of isomers) Diethylenetriamine Butan-1-ol Benzyl alcohol 3-aminomethyl-3,5,5-trimethylcyclohexylamine 4,4'-isopropylidenediphenol m-phenylenebis(methylamine) 2,4,6-tris(dimethylaminomethyl)phenol N-(3-(trimethoxysilyl)propyl)ethylenediamine	<u>LC50</u> (OECD 203) mg/l-96hours > 14. Fishes 430. Fishes 1376. Fishes 460. Fishes 110. Fishes > 11. Fishes > 88. Fishes 180. Fishes 168. Fishes	<u>EC50</u> (OECD 202) mg/l-48hours > 16. Daphnia > 16. Daphnia 1328. Daphnia 230. Daphnia > 23. Daphnia > 10. Daphnia > 15. Daphnia 250. Daphnia > 87. Daphnia	<u>EC50</u> (OECD 201) mg/l-72hours > 10. Algae 1164. Algae 500. Algae 770. Algae > 37. Algae > 1.4 Algae > 20. Algae > 84. Algae > 11. Algae
	<u>No observed effect concentration</u> Diethylenetriamine Butan-1-ol m-phenylenebis(methylamine)	<u>NOEC</u> (OECD 210) mg/l-28days > 10. Fishes	<u>NOEC</u> (OECD 211) mg/l-21days 5.6 Daphnia 4.1 Daphnia 4.7 Daphnia	<u>NOEC</u> (OECD 201) mg/l-72hours 11. Algae
	<u>Lowest observed effect concentration</u> Not available			
12.2	<u>PERSISTENCE AND DEGRADABILITY:</u> Not available.			
	<u>Aerobic biodegradation</u> for individual ingredients : Xylene (mixture of isomers) Fatty acids C18-TEPA/TETA-epoxy adduct Diethylenetriamine Butan-1-ol Benzyl alcohol 3-aminomethyl-3,5,5-trimethylcyclohexylamine 4,4'-isopropylidenediphenol m-phenylenebis(methylamine) 2,4,6-tris(dimethylaminomethyl)phenol N-(3-(trimethoxysilyl)propyl)ethylenediamine	<u>DQO</u> mgO2/g 2620. 2590. 2515. 1260. 2390.	<u>%DBO/DQO</u> 5 days 14 days 28 days ~ 52. ~ 81. ~ 88. ~ 68. ~ 92. ~ 99. ~ 62. ~ 86. ~ 95. 8. 63. 89. 8. 29. 49. ~ 4. ~ 39.	<u>Biodegradability</u> Easy Not available Easy Easy Easy Not easy Easy Not easy Not easy Not easy

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



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12.3 BIOACCUMULATIVE POTENTIAL:

Not available.

Bioaccumulation

for individual ingredients :

Xylene (mixture of isomers)

Fatty acids C18-TEPA/TETA-epoxy adduct

Diethylenetriamine

Butan-1-ol

Benzyl alcohol

3-aminomethyl-3,5,5-trimethylcyclohexylamine

4,4'-isopropylidenediphenol

m-phenylenebis(methylamine)

2,4,6-tris(dimethylaminomethyl)phenol

N-(3-(trimethoxysilyl)propyl)ethylenediamine

log Pow

3.16

-1.30

0.880

1.10

0.990

3.32

0.180

0.770

-1.67

BCF

L/kg

57. (calculated)

3.2 (calculated)

3.2 (calculated)

1.4 (calculated)

8.4 (calculated)

70. (calculated)

3.2 (calculated)

3.2 (calculated)

3.2 (calculated)

Potential

Not available

Not available

Not available

Not available

Not available

Not available

Not available

Not available

Not available

Not available

12.4 MOBILITY IN SOIL:

Not available.

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

Does not contain substances that fulfill the PBT/VPvB criteria.

12.6 OTHER ADVERSE EFFECTS:

Ozone depletion potential: Not available.

Photochemical ozone creation potential: Not available.

Earth global warming potential: In case of fire or incineration liberates CO₂.

Endocrine disrupting 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. This material and its container must be disposed in a safe way. 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.

Disposal of empty containers: Directive 94/62/EC~2005/20/EC, 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 emptying 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.



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SECTION 14 : TRANSPORT INFORMATION

14.1 UN NUMBER: 3469

14.2 UN PROPER SHIPPING NAME:
PAINT, FLAMMABLE, CORROSIVE

14.3 TRANSPORT HAZARD CLASS(ES) AND PACKING GROUP:

14.4

Transport by road (ADR 2017) and
Transport by rail (RID 2017):

- Class: 3
- Packing group: III
- Classification code: FC
- Tunnel restriction code: (D/E)
- Transport category: 3, max. ADR 1.1.3.6. 1000 L
- Limited quantities: 5 L (see total exemptions ADR 3.4)
- Transport document: Consignment paper
- Instructions in writing: ADR 5.4.3.4

Transport by sea (IMDG 37-14):

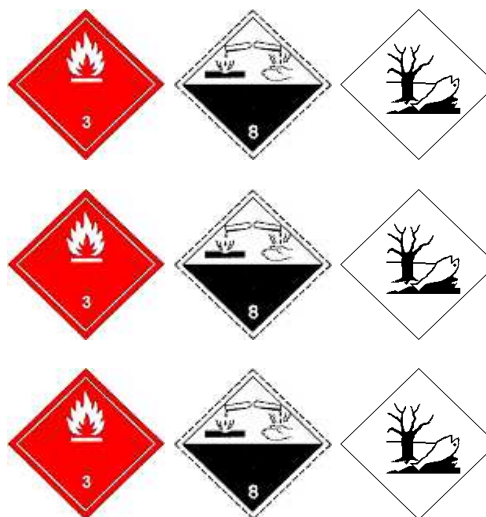
- Class: 3
- Packing group: III
- Emergency Sheet (EmS): F+ S-C
- First Aid Guide (MFAG): 760*
- Marine pollutant: Yes.
- Transport document: Shipping Bill of lading.

Transport by air (ICAO/IATA 2017):

- Class: 3
- Packing group: III
- Transport document: Air Bill of lading.

Transport by inland waterways (ADN):

Not available.



14.5 ENVIRONMENTAL HAZARDS:
Classified as hazardous for the environment.

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. Keep separated from foodstuffs.

14.7 TRANSPORT IN BULK ACCORDING TO ANNEX II OF MARPOL 73/78 AND THE IBC CODE:
Not applicable.

SECTION 15 : REGULATORY INFORMATION

15.1 EU SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC:

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 use).

Child safety protection: Not applicable (product for professional use).

OTHER REGULATIONS:

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.



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SECTION 16 : OTHER INFORMATION

TEXT OF THE PHRASES AND NOTES REFERENCED IN SECTIONS 2 AND/OR 3:Hazard statements according the Regulation (EU) No. 1272/2008~1221/2015 (CLP), Annex III:

H226 Flammable liquid and vapour. H302 Harmful if swallowed. H304 May be fatal if swallowed and enters airways. H312 Harmful in contact with skin. H314 Causes severe skin burns and eye damage. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H319 Causes serious eye irritation. H330 Fatal if inhaled. H332 Harmful if inhaled. H335 May cause respiratory irritation. H336 May cause drowsiness or dizziness. H400 Very toxic to aquatic life. H411 Toxic to aquatic life with long lasting effects. H412 Harmful to aquatic life with long lasting effects. EUH071 Corrosive to the respiratory tract. H360F May damage fertility. H373i May cause damage to organs through prolonged or repeated exposure if inhaled.

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, (ACGIH, 2015).
- European agreement on the international carriage of dangerous goods by road, (ADR 2017).
- International Maritime Dangerous Goods Code IMDG including Amendment 37-14 (IMO, 2014).

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 regulation on Classification, Labelling and 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).
- LD50: Lethal dose, 50 percent.
- LC50: Lethal concentration, 50 percent.
- UN: United Nations Organisation.
- ADR: European agreement concerning the international carriage of dangerous goods by road.
- RID: Regulations concerning the international transport of dangerous 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. 2015/830.

HISTORIC:Date of compilation:

Version: 1

22/03/2018

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 conditions are 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.