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### **Safety Data Sheet**

According to Annex II to REACH - Regulation 2015/830

#### SECTION 1. Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

**FLUIDO TRASPARENTE** Product name Chemical name and synonym Polyester resin in styrene

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Transparent polyester glue for stones.

Identified Uses	Industrial	Professional	Consumer
ADHESIVE SYSTEM/TREATMENT F	OR STONE		
SECTOR	-	$\checkmark$	-
1.3. Details of the supplier of the safet	y data sheet		
Name	Tenax Spa		
Full address	Via I Maggia 226		

Full address Via I Maggio, 226 37020 Volargne **District and Country** Italy

+39 045 6887593 Tel +39 045 6862456 Fax

e-mail address of the competent person

responsible for the Safety Data Sheet msds@tenax.it

#### 1.4. Emergency telephone number

For urgent inquiries refer to 800.883300 (24h) Centro Antiveleni (Bergamo)

0 800 314 7900 (Turkey) only, or +90 0312 433 70 01 Toxicology Department and

(VR)

**Poisons Centre** 

+98 21 6419306 / +98 21 6405569 **Poisons Information Centre (Tehran)** 

+91 484 4008056 Poison Control Centre (South India)

(011) 642 2417 / (011) 488 3108 **Anti-Poison Centre (Johannesburg)** 

#### SECTION 2. Hazards identification

#### 2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in (EC) Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of (EU) Regulation

Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Hazard classification and indication:

Flammable liquid, category 3	H226	Flammable liquid and vapour.
Reproductive toxicity, category 2	H361d	Suspected of damaging the unborn child.
Specific target organ toxicity - repeated exposure,	H372	Causes damage to organs through prolonged or repeated
category 1		exposure.
Eye irritation, category 2	H319	Causes serious eye irritation.
Skin irritation, category 2	H315	Causes skin irritation.
Specific target organ toxicity - single exposure,	H335	May cause respiratory irritation.
category 3		

#### 2.2. Label elements

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Hazard pictograms:







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#### SECTION 2. Hazards identification .../>>

Signal words: Danger

Hazard statements:

**H226** Flammable liquid and vapour.

**H361d** Suspected of damaging the unborn child.

H372 Causes damage to organs through prolonged or repeated exposure.

H319 Causes serious eye irritation.
H315 Causes skin irritation.

**H335** May cause respiratory irritation.

Precautionary statements:

P501 Dispose of contents / container according to applicable law.

P102 Keep out of reach of children.

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

**P280** Wear protective gloves/ protective clothing / eye protection / face protection.

P312 Call a POISON CENTRE / doctor / . . . if you feel unwell.

Contains: STYRENE

#### 2.3. Other hazards

On the basis of available data, the product does not contain any PBT or vPvB in percentage greater than 0,1%.

#### **SECTION 3. Composition/information on ingredients**

#### 3.2. Mixtures

Contains:

Identification x = Conc. % Classification 1272/2008 (CLP)

STYRENE

CAS 100-42-5 20 ≤ x < 30 Flam. Liq. 3 H226, Repr. 2 H361d, Acute Tox. 4 H332, STOT RE 1 H372,

Eye Irrit. 2 H319, Skin Irrit. 2 H315,

Classification note according to Annex VI to the CLP Regulation: D

EC 202-851-5 INDEX 601-026-00-0

Reg. no. 01-2119457861-32-0000 PARA-TOLUIDINE POLYETHOXYLATE

CAS 103671-44-9  $1 \le x < 3$  Acute Tox. 4 H302, Eye Dam. 1 H318

EC INDEX

The full wording of hazard (H) phrases is given in section 16 of the sheet.

### **SECTION 4. First aid measures**

#### 4.1. Description of first aid measures

EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. If problem persists, seek medical advice.

SKIN: Remove contaminated clothing. Wash immediately with plenty of water. If irritation persists, get medical advice/attention. Wash contaminated clothing before using it again.

INHALATION: Remove to open air. In the event of breathing difficulties, get medical advice/attention immediately.

INGESTION: Get medical advice/attention. Induce vomiting only if indicated by the doctor. Never give anything by mouth to an unconscious person, unless authorised by a doctor.

#### 4.2. Most important symptoms and effects, both acute and delayed

Specific information on symptoms and effects caused by the product are unknown.

#### 4.3. Indication of any immediate medical attention and special treatment needed

Information not available

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#### **SECTION 5. Firefighting measures**

#### 5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT

The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.

UNSUITABLE EXTINGUISHING EQUIPMENT

None in particular.

#### 5.2. Special hazards arising from the substance or mixture

#### HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

Do not breathe combustion products. The product is combustible and, when the powder is released into the air in sufficient concentrations and in the presence of a source of ignition, it can create explosive mixtures with air. Fires may start or get worse by leakage of the solid product from the container, when it reaches high temperatures or through contact with sources of ignition.

#### 5.3. Advice for firefighters

#### **GENERAL INFORMATION**

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

#### **SECTION 6. Accidental release measures**

#### 6.1. Personal precautions, protective equipment and emergency procedures

Block the leakage if there is no hazard.

Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

Send away individuals who are not suitably equipped. Use explosion-proof equipment. Eliminate all sources of ignition (cigarettes, flames, sparks, etc.) from the leakage site.

#### 6.2. Environmental precautions

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

#### 6.3. Methods and material for containment and cleaning up

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.

Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

#### 6.4. Reference to other sections

Any information on personal protection and disposal is given in sections 8 and 13.

#### **SECTION 7. Handling and storage**

#### 7.1. Precautions for safe handling

Keep away from heat, sparks and naked flames; do not smoke or use matches or lighters. Without adequate ventilation, vapours may accumulate at ground level and, if ignited, catch fire even at a distance, with the danger of backfire. Avoid bunching of electrostatic charges. Do not eat, drink or smoke during use. Remove any contaminated clothes and personal protective equipment before entering places in which people eat. Avoid leakage of the product into the environment.

#### 7.2. Conditions for safe storage, including any incompatibilities

Store only in the original container. Store in a well ventilated place, keep far away from sources of heat, naked flames and sparks and other sources of ignition. Keep containers away from any incompatible materials, see section 10 for details.

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#### SECTION 7. Handling and storage .../>>

#### 7.3. Specific end use(s)

Information not available

#### **SECTION 8. Exposure controls/personal protection**

#### 8.1. Control parameters

#### Regulatory References:

CZE	Česká Republika	Nařízení vlády č. 361/2007 Sb. kterým se stanoví podmínky ochrany zdraví při práci
DEU	Deutschland	TRGS 900 (Fassung 31.1.2018 ber.) - Liste der Arbeitsplatzgrenzwerte und Kurzzeitwerte
DNK	Danmark	Graensevaerdier per stoffer og materialer
ESP	España	INSHT - Límites de exposición profesional para agentes químicos en España 2017
FRA	France	JORF n°0109 du 10 mai 2012 page 8773 texte n° 102
GBR	United Kingdom	EH40/2005 Workplace exposure limits
GRC	Ελλάδα	ΕΦΗΜΕΡΙΣ ΤΗΣ ΚΥΒΕΡΝΗΣΕΩΣ -ΤΕΥΧΟΣ ΠΡΩΤΟ Αρ. Φύλλου 19 - 9 Φεβρουαρίου 2012
NLD	Nederland	Databank of the social and Economic Concil of Netherlands (SER) Values, AF 2011:18
NOR	Norge	Veiledning om Administrative normer for forurensning i arbeidsatmosfære
POL	Polska	ROZPORZĄDZENIE MINISTRA PRACY I POLITYKI SPOŁECZNEJ z dnia 7 czerwca 2017 r
SVN	Slovenija	Uradni list Republike Slovenije 04.06.2015 (1602) - Pravilnik o spremembah in dopolnitvah
		Pravilnika o varovanju delavcev pred tveganji zaradi izpostavljenosti kemičnim snovem pri delu
SWE	Sverige	Occupational Exposure Limit Values, AF 2011:18
		ACCIL 2019

TLV-ACGIH ACGIH 2018

				ST	YRENE				
hreshold Limit	Value								
Туре	Country	TWA/8h		STEL/15	min				
		mg/m3	ppm	mg/m3	ppm				
TLV	CZE	1000		400		SKIN			
AGW	DEU	86	20	172	40				
MAK	DEU	86	20	172	40				
TLV	DNK	105	25			SKIN			
VLA	ESP	86	20	172	40				
VLEP	FRA	215	50						
WEL	GBR	430	100	1080	250				
TLV	GRC	425	100	1050	250				
OEL	NLD	107							
TLV	NOR	105	25						
NDS	POL	50		100					
MV	SVN	86	20	344	80				
MAK	SWE	43	10	86	20	SKIN			
TLV-ACGIH		85	20	170	40				
redicted no-eff	ect concentra	ation - PNE	С						
Normal value	in fresh water						0,028	mg/l	
Normal value in marine water						0,0028	mg/l		
Normal value for fresh water sediment						0,614	mg/kg		
Normal value for marine water sediment					0,0614	mg/kg			
Normal value for water, intermittent release						0,04	mg/l		
Normal value of STP microorganisms						5	mg/l		
Normal value	for the terresti	ial compart	ment				0,2	mg/kg	
lealth - Derived	no-effect lev	el - DNEL /	DMEL						
Effects on consumers					Effects on we	orkers			
Route of expo	sure Acu	te Ac	ute	Chronic	Chronic	Acute	Acute	Chronic	Chronic
	loca	ıl sy:	stemic	local	systemic	local	systemic	local	systemic
Oral				VND	2,1		•		•
					mg/kg				
Inhalation	182	,75 17	4,25	VND	85	306	289	VND	10,6
	mg/	m3 mg	g/m3		mg/m3	mg/m3	mg/m3		mg/m3
Skin				VND	343	-		VND	406
					mg/kg				mg/kg

Legend:

(C) = CEILING; INHAL = Inhalable Fraction; RESP = Respirable Fraction; THORA = Thoracic Fraction. VND = hazard identified but no DNEL/PNEC available; NEA = no exposure expected; NPI = no hazard identified.

TLV of solvent mixture: 85 mg/m3

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#### SECTION 8. Exposure controls/personal protection

#### 8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.

When choosing personal protective equipment, ask your chemical substance supplier for advice.

Personal protective equipment must be CE marked, showing that it complies with applicable standards.

Provide an emergency shower with face and eye wash station.

Exposure levels must be kept as low as possible to avoid significant build-up in the organism. Manage personal protective equipment so as to quarantee maximum protection (e.g. reduction in replacement times).

#### HAND PROTECTION

Protect hands with category III work gloves (see standard EN 374).

The following should be considered when choosing work glove material: compatibility, degradation, failure time and permeability.

The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

Wear category III professional long-sleeved overalls and safety footwear (see Directive 89/686/EEC and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

Consider the appropriateness of providing antistatic clothing in the case of working environments in which there is a risk of explosion.

Appearance

Wear airtight protective goggles (see standard EN 166).

In the presence of risks of exposure to splashes or squirts during work, adequate mouth, nose and eye protection should be used to prevent accidental absorption.

#### RESPIRATORY PROTECTION

If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, use a mask with a type A filter whose class (1, 2 or 3) must be chosen according to the limit of use concentration. (see standard EN 14387). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.

Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.

If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus (in compliance with standard EN 137) or external air-intake breathing apparatus (in compliance with standard EN 138). For a correct choice of respiratory protection device, see standard EN 529. **ENVIRONMENTAL EXPOSURE CONTROLS** 

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

liquid

#### SECTION 9. Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

YELLOW-RED Colour Odour typical Odour threshold Not available Not available Melting point / freezing point Not available Initial boiling point Not available Boiling range Not available Flash point 32 Not available Evaporation Rate Flammability of solids and gases Not available Lower inflammability limit Not available Upper inflammability limit Not available Lower explosive limit Not available Upper explosive limit Not available Vapour pressure Not available Vapour density Not available Relative density 1 10

Solubility insoluble in water Partition coefficient: n-octanol/water Not available Auto-ignition temperature Not available Not available Decomposition temperature Viscosity Not available Explosive properties Not available Oxidising properties Not available

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#### SECTION 9. Physical and chemical properties ..../>>

#### 9.2. Other information

 VOC (Directive 2010/75/EC):
 29,23 % - 321,53
 g/litre

 VOC (volatile carbon):
 26,98 % - 296,78
 g/litre

#### SECTION 10. Stability and reactivity

#### 10.1. Reactivity

There are no particular risks of reaction with other substances in normal conditions of use.

#### STYRENE

Polymerises at temperatures above 65°C/149°F. Fire hazard. Possibility of explosion.

Added with an inhibitor that requires a small amount of dissolved oxygen at temperatures < 25°C/77°F.

#### 10.2. Chemical stability

The product is stable in normal conditions of use and storage.

#### 10.3. Possibility of hazardous reactions

The vapours may also form explosive mixtures with the air.

#### **STYRENE**

May react dangerously with: peroxides, strong acids. May polymerise on contact with: aluminium trichloride, azobisisobutyronitrile, dibenzoyl peroxide, sodium. Risk of explosion on contact with: butyllithium, chlorosulphuric acid, diterbutyl peroxide, oxidising substances, oxygen.

#### 10.4. Conditions to avoid

Avoid overheating. Avoid bunching of electrostatic charges. Avoid all sources of ignition.

#### STYRENE

Avoid contact with: oxidising substances,copper,strong acids.

#### 10.5. Incompatible materials

#### STYRENE

Incompatible materials: plastic materials.

#### 10.6. Hazardous decomposition products

In the event of thermal decomposition or fire, gases and vapours that are potentially dangerous to health may be released.

#### **SECTION 11. Toxicological information**

#### 11.1. Information on toxicological effects

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

STYRENE

WORKERS: inhalation; contact with the skin.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

#### STYRENE

The acute toxicity by inhalation at 1000 ppm affects the central nervous system with headache and dizziness, lack of coordination; irritation of the eye and respiratory tract mucous membranes occurs at 500 ppm. Chronic exposure causes depression of the central and peripheral nervous system with loss of memory, headache and drowsiness starting at 20 ppm; digestive disorders with nausea and loss of appetite; irritation of the respiratory tract with chronic bronchitis; dermatosis. Repeated exposure, at low doses of inhaled substance, causes irreversible changes to hearing and may cause changes in colour vision. No certain data is available on the reversibility of the visual impairment. Repeated skin exposure causes irritation. The substance degreases the skin, which can cause dryness and cracking.

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#### SECTION 11. Toxicological information ..../>>

#### Interactive effects

#### **STYRENE**

The metabolism of the substance is inhibited by ethanol. When styrene is photo-oxidised with ozone and nitrogen dioxide, as in the formation of smog, products highly irritating for the human eye may ensue.

#### ACUTE TOXICITY

LC50 (Inhalation) of the mixture: > 20 mg/l LD50 (Oral) of the mixture: >2000 mg/kg

LD50 (Dermal) of the mixture: Not classified (no significant component)

STYRENE

 LD50 (Oral)
 5000 mg/kg Rat

 LD50 (Dermal)
 > 2000 mg/kg Rat

 LC50 (Inhalation)
 11,8 mg/l/4h Rat

#### SKIN CORROSION / IRRITATION

Causes skin irritation

#### SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye irritation

#### RESPIRATORY OR SKIN SENSITISATION

Does not meet the classification criteria for this hazard class

#### GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

#### CARCINOGENICITY

Does not meet the classification criteria for this hazard class

#### **STYRENE**

Classified in Group 2B (possible human carcinogen) by the International Agency for Research on Cancer (IARC) - (IARC, 2002). Classified as "probable carcinogen" by the US National Toxicology Program (NTP) - (US DHHS, 2014).

#### REPRODUCTIVE TOXICITY

Suspected of damaging the unborn child

#### STOT - SINGLE EXPOSURE

May cause respiratory irritation

#### STOT - REPEATED EXPOSURE

Causes damage to organs

#### ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

#### SECTION 12. Ecological information

Use this product according to good working practices. Avoid littering. Inform the competent authorities, should the product reach waterways or contaminate soil or vegetation.

#### 12.1. Toxicity

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#### SECTION 12. Ecological information $\quad ... \mid >>$

**STYRENE** 

LC50 - for Fish 4,02 mg/l/96h Pimephales promelas

EC50 - for Crustacea 4,7 mg/l/48h Daphnia magna

EC50 - for Algae / Aquatic Plants 4,9 mg/l/72h Pseudokirchneriella subcapitata

EC10 for Algae / Aquatic Plants 0,28 mg/l/72h

#### 12.2. Persistence and degradability

STYRENE

Solubility in water 320 mg/l

Rapidly degradable

#### 12.3. Bioaccumulative potential

**STYRENE** 

Partition coefficient: n-octanol/water 2,96 BCF 74

#### 12.4. Mobility in soil

STYRENE

Partition coefficient: soil/water 2,55

#### 12.5. Results of PBT and vPvB assessment

On the basis of available data, the product does not contain any PBT or vPvB in percentage greater than 0.1%.

#### 12.6. Other adverse effects

Information not available

#### **SECTION 13. Disposal considerations**

#### 13.1. Waste treatment methods

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.

Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.

Waste transportation may be subject to ADR restrictions.

CONTAMINATED PACKAGING

Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

#### **SECTION 14. Transport information**

#### 14.1. UN number

ADR / RID, IMDG, IATA: 1866

The product, if packaged in packages of less than 450 litres, is not subject to ADR regulations as stated in 2.2.3.1.5.

The product, if packaged in packages of less than 30 litres, is not subject to obligations relating to marking, labelling and package testing in accordance with 2.3.2.5 of the IMDG CODE.

#### 14.2. UN proper shipping name

ADR / RID: RESIN SOLUTION IMDG: RESIN SOLUTION IATA: RESIN SOLUTION

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#### SECTION 14. Transport information

#### 14.3. Transport hazard class(es)

ADR / RID:

Class: 3

Label: 3

IMDG:

Class: 3

Label: 3

IATA:

Class: 3

Label: 3



Limited Quantities: 5 L

Limited Quantities: 5 L

Maximum quantity: 220 L

Maximum quantity: 60 L

#### 14.4. Packing group

ADR / RID, IMDG, IATA:

#### 14.5. Environmental hazards

ADR / RID: IMDG: NO IATA: NO

#### 14.6. Special precautions for user

ADR / RID: HIN - Kemler: 30

Special Provision: -

IMDG: EMS: F-E, S-E

IATA:

Pass.:

Cargo:

Special Instructions:

Tunnel restriction code: (D/E)

Packaging instructions: 366 Packaging instructions: 355

#### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Information not relevant

#### **SECTION 15. Regulatory information**

#### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Seveso Category - Directive 2012/18/EC:

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006

Product

Point 3 - 40

#### Substances in Candidate List (Art. 59 REACH)

On the basis of available data, the product does not contain any SVHC in percentage greater than 0,1%.

Substances subject to authorisation (Annex XIV REACH)

Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012:

Substances subject to the Rotterdam Convention:

Substances subject to the Stockholm Convention:

None

### Healthcare controls

Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.

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#### SECTION 15. Regulatory information

#### 15.2. Chemical safety assessment

No chemical safety assessment has been processed for the mixture and the substances it contains.

#### **SECTION 16. Other information**

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

Flam. Liq. 3 Flammable liquid, category 3 Repr. 2 Reproductive toxicity, category 2

Acute Tox. 4 Acute toxicity, category 4

STOT RE 1 Specific target organ toxicity - repeated exposure, category 1

Serious eye damage, category 1 Eye Dam. 1 Eye Irrit. 2 Eye irritation, category 2 Skin irritation, category 2 Skin Irrit. 2

STOT SE 3 Specific target organ toxicity - single exposure, category 3

H226 Flammable liquid and vapour.

H361d Suspected of damaging the unborn child.

H302 Harmful if swallowed. H332 Harmful if inhaled.

H372 Causes damage to organs through prolonged or repeated exposure.

H318 Causes serious eye damage. Causes serious eye irritation. H319 H315 Causes skin irritation.

H335 May cause respiratory irritation.

#### LEGEND:

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- CAS NUMBER: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE NUMBER: Identifier in ESIS (European archive of existing substances)
- CLP: EC Regulation 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX NUMBER: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: EC Regulation 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA STEL: Short-term exposure limit
- TWA: Time-weighted average exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

#### GENERAL BIBLIOGRAPHY

- 1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
- 2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
- 3. Regulation (EU) 790/2009 (I Atp. CLP) of the European Parliament
- 4. Regulation (EU) 2015/830 of the European Parliament
- 5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
- 6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
- 7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
- 8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
- 9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
- 10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament

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#### **SECTION 16. Other information**

- 11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament12. Regulation (EU) 2016/1179 (IX Atp. CLP)
- 13. Regulation (EU) 2017/776 (X Atp. CLP)
- The Merck Index. 10th Edition
- Handling Chemical Safety
- INRS Fiche Toxicologique (toxicological sheet)
- Patty Industrial Hygiene and Toxicology
- N.I. Sax Dangerous properties of Industrial Materials-7, 1989 Edition
- IFA GESTIS website
- ECHA website
- Database of SDS models for chemicals Ministry of Health and ISS (Istituto Superiore di Sanità) Italy

#### Note for users:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.

This document must not be regarded as a guarantee on any specific product property.

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.

Provide appointed staff with adequate training on how to use chemical products.

Changes to previous review: The following sections were modified: 02 / 03 / 08 / 12.