Safety Data Sheet

According to Annex II to REACH - Regulation (EU) 2020/878 and to Annex II to UK REACH

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

1.1. Product identifier

Code: **SPU04A**
Product name **POLYWHITE**

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

Intended use **Structural mounting adhesive**

Identified Uses	Industrial	Professional	Consumer
Professional uses: public sector (administration, education, entertainment, services, crafts)	**-**	**ERC: 8b, 8e. PROC: 10, 11, 19. PC: 1.**	**-**

1.3. Details of the supplier of the safety data sheet

Name **Industria Chimica General S.r.l.**
Full address **Via Repubblica di San Marino 8**
District and Country **41122 Modena (MO)**
Italy
Tel. (+39) 059 450991 / 059 450978
Fax (+39) 059 450615
e-mail address of the competent person responsible for the Safety Data Sheet **ricerca@generalchemical.it**

Supplier: **Industria Chimica General S.r.l.**

1.4. Emergency telephone number

For urgent inquiries refer to

Milano, Italy	**(+39) 02 66101029**	**Centro Antiveleni Ospedale Niguarda Ca' Granda**
Pavia, Italy	**(+39) 0382 24444**	**Centro Antiveleni IRCSS Fondazione Maugeri**
Bergamo, Italy	**(+39) 800 883300**	**Centro Antiveleni Ospedali Riuniti**
Firenze, Italy	**(+39) 055 7947819**	**Centro Antiveleni Ospedale Careggi**
Roma, Italy	**(+39) 06 3054343**	**Centro Antiveleni Policlinico Gemelli**
Roma, Italy	**(+39) 06 49978000**	**Centro Antiveleni Policlinico Umberto I**
Napoli, Italy	**(+39) 081 7472870**	**Centro Antiveleni Ospedale Cardarelli**

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 2020/878.
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:

Skin sensitization, category 1B	H317	May cause an allergic skin reaction.

SECTION 2. Hazards identification ... / >>

2.2. Label elements

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

Hazard pictograms:

Signal words: Warning

Hazard statements:

H317	May cause an allergic skin reaction.
EUH210	Safety data sheet available on request.
EUH208	Contains: trimethoxyvinylsilane; trimethoxy(vinyl)silane May produce an allergic reaction.

Precautionary statements:

P280	Wear protective gloves.
P261	Avoid breathing vapours or spray.
P333+P313	If skin irritation or rash occurs: Get medical advice / attention.
P362+P364	Take off contaminated clothing and wash it before reuse.

Contains: trimethoxyvinylsilane; trimethoxy(vinyl)silane

Product not intended for uses provided for by Directive 2004/42/EC.

2.3. Other hazards

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

The product does not contain substances with endocrine disrupting properties in concentration ≥ 0.1%.

trimethoxyvinylsilane; trimethoxy(vinyl)silane
Aerosol inhalation can cause damage to health.
The product hydrolysis with methanol formation (nr. Cas 67-56-1). Methanol is classified both in relation to physical dangers and to the dangers for health. The speed of hydrolysis and therefore also the relevance for the danger of the product depend strongly on the specific conditions.
Interferent properties with the endocrine - human health system: the substance/mixture does not contain components considered having the properties of endocrine interference pursuant to article 57 (f) of the Reach or the delegated regulation (EU) 2017/2100 of the Commission or Regulation (EU) 2018/605 of the Commission at levels of 0.1% or higher.
Interferent properties with the Endocrine - Environment System: the substance/mixture does not contain components considered having endocrine interference properties pursuant to article 57 (f) of the Reach or the delegated regulation (EU) 2017/2100 of the Commission or Regulation (EU) 2018/605 of the Commission at levels of 0.1% or higher.

SECTION 3. Composition/information on ingredients

3.2. Mixtures

Contains:

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

CALCIUM CARBONATE
INDEX 19 ≤ x < 25
EC *207-439-9*
CAS *471-34-1*
REACH Reg. *Esente ai sensi dell'Allegato V.7 del Regolamento CE 1907/2006 (REACH)*

SECTION 3. Composition/information on ingredients ... / >>

TITANIUM DIOXIDE

INDEX		1 ≤ x < 5	
EC	*236-675-5*		
CAS	*13463-67-7*		
REACH Reg.	*01-2119489379-17*		

trimethoxyvinylsilane; trimethoxy(vinyl)silane

INDEX	*014-049-00-0*	1 ≤ x < 5	**Flam. Liq. 3 H226, Acute Tox. 4 H332, Skin Sens. 1B H317**
EC	*220-449-8*		**LC50 Inhalation vapours: 16,8 mg/l/4h**
CAS	*2768-02-7*		
REACH Reg.	*01-2119513215-52*		

CALCIUM CARBONATE PCC

INDEX		1 ≤ x < 5	**Substance with a community workplace exposure limit.**
EC	*207-439-9*		
CAS	*471-34-1*		
REACH Reg.	*01-2119486795-18*		

(3-aminopropyl) trimethoxysilane

INDEX		0,5 ≤ x < 1	**Eye Dam. 1 H318, Skin Irrit. 2 H315**
EC	*237-511-5*		
CAS	*13822-56-5*		
REACH Reg.	*01-2119510159-45*		

Bis(2,2,6,6-tetramethyl-4-piperidine)sebacate

INDEX		0,1 ≤ x < 0,5	**Repr. 2 H361f, Eye Dam. 1 H318, Aquatic Acute 1 H400 M=1, Aquatic Chronic 2 H411**
EC	*258-207-9*		
CAS	*52829-07-9*		
REACH Reg.	*01-2119537297-32*		

methanol

INDEX	*603-001-00-X*	0 ≤ x < 0,05	**Flam. Liq. 2 H225, Acute Tox. 3 H301, Acute Tox. 3 H311, Acute Tox. 3 H331, STOT SE 1 H370**
EC	*200-659-6*		**STOT SE 2 H371: ≥ 3%**
CAS	*67-56-1*		**STA Oral: 100 mg/kg, STA Dermal: 300 mg/kg, STA Inhalation vapours: 3 mg/l**
REACH Reg.	*01-2119392409-28*		

toluene

INDEX	*601-021-00-3*	0 ≤ x < 0	**Flam. Liq. 2 H225, Repr. 2 H361d, Asp. Tox. 1 H304, STOT RE 2 H373, Skin Irrit. 2 H315, STOT SE 3 H336, Aquatic Chronic 3 H412**
EC	*203-625-9*		
CAS	*108-88-3*		
REACH Reg.	*01-2119471310-51*		

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

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.

SECTION 5. Firefighting measures ... / >>

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.

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.

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 cool and 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.

7.3. Specific end use(s)

Information not available

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

Regulatory references:

DEU	Deutschland	Forschungsgemeinschaft MAK- und BAT-Werte-Liste 2022 Ständige Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe Mitteilung 58
ESP	España	Límites de exposición profesional para agentes químicos en España 2023
FRA	France	Valeurs limites d'exposition professionnelle aux agents chimiques en FranceDécret n° 2021-1849 du 28 décembre 2021
GRC	Ελλάδα	Π.Δ. 26/2020 (ΦΕΚ 50/Α` 6.3.2020) Εναρμόνιση της ελληνικής νομοθεσίας προς τις διατάξεις των οδηγιών 2017/2398/ΕΕ, 2019/130/ΕΕ και 2019/983/ΕΕ «για την τροποποίηση της οδηγίας 2004/37/ΕΚ ''σχετικά με την προστασία των εργαζομένων από τους κινδύνους που συνδέονται με την έκθεση σε καρκινογόνους ή μεταλλαξιγόνους παράγοντες κατά την εργασία''»
ITA	Italia	Decreto Legislativo 9 Aprile 2008, n.81
PRT	Portugal	Decreto-Lei n.º 1/2021 de 6 de janeiro, valores-limite de exposição profissional indicativos para os agentes químicos. Decreto-Lei n.º 35/2020 de 13 de julho, proteção dos trabalhadores contra os riscos ligados à exposição durante o trabalho a agentes cancerígenos ou mutagénicos
POL	Polska	Rozporządzenie ministra rozwoju, pracy i technologii z dnia 18 lutego 2021 r. Zmieniające rozporządzenie w sprawie najwyższych dopuszczalnych stężeń i natężeń czynników szkodliwych dla zdrowia w środowisku pracy
ROU	România	Hotărârea nr. 53/2021 pentru modificarea hotărârii guvernului nr. 1.218/2006, precum și pentru modificarea și completarea hotărârii guvernului nr. 1.093/2006
GBR	United Kingdom	EH40/2005 Workplace exposure limits (Fourth Edition 2020)
EU	OEL EU	Directive (EU) 2022/431; Directive (EU) 2019/1831; Directive (EU) 2019/130; Directive (EU) 2019/983; Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 98/24/EC; Directive 91/322/EEC.
	TLV-ACGIH	ACGIH 2023

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

CALCIUM CARBONATE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
MAK	DEU	10				INHAL
MAK	DEU	3				RESP
VLA	ESP	10				INHAL
VLA	ESP	3				RESP
VLEP	FRA	10				INHAL
VLEP	FRA	5				RESP
TLV	GRC	10				INHAL
TLV	GRC	5				RESP
VLEP	ITA	10				INHAL
VLEP	ITA	3				RESP
VLE	PRT	10				INHAL
VLE	PRT	5				RESP
TLV	ROU	10				RESP
WEL	GBR	10				INHAL
WEL	GBR	4				RESP

Predicted no-effect concentration - PNEC

Normal value in fresh water	NPI	
Normal value in marine water	NPI	
Normal value for fresh water sediment	NPI	
Normal value for marine water sediment	NPI	
Normal value for water, intermittent release	NPI	
Normal value of STP microorganisms	100	mg/l
Normal value for the food chain (secondary poisoning)	NPI	
Normal value for the terrestrial compartment	NPI	
Normal value for the atmosphere	NPI	

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral	NPI	NPI	NPI	NPI				
Inhalation	NPI	NPI	1,06 mg/m3	10 mg/m3	NPI	NPI	4,26 mg/m3	10 mg/m3
Skin	NPI	NPI	NPI	NPI	NPI	NPI	NPI	NPI

trimethoxyvinylsilane; trimethoxy(vinyl)silane

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations	
		mg/m3	ppm	mg/m3	ppm		
VLEP	ITA	10	200			INHAL	Aerosol
WEL	GBR	266	200	333	250	SKIN	Methanol
TLV-ACGIH		262	200	328	250	SKIN	Metanolo

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,4	mg/l
Normal value in marine water	0,04	mg/l
Normal value for fresh water sediment	1,5	mg/kg
Normal value for marine water sediment	0,15	mg/kg
Normal value for water, intermittent release	2,4	mg/l
Normal value of STP microorganisms	6,6	mg/l
Normal value for the terrestrial compartment	0,06	mg/kg

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral			VND	0,3 mg/kg/d				
Inhalation	VND	0,7 mg/m3	VND	6,7 mg/m3			VND	27,6 mg/m3
Skin	VND	0,1 mg/kg/d	VND	7,8 mg/kg/d		0,2 mg/kg/d	VND	3,9 mg/kg/d

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

TITANIUM DIOXIDE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
MAK	DEU	0,3		2,4		RESP Hinweis
VLA	ESP	10				
VLEP	FRA	10				
TLV	GRC		10			
NDS/NDSCh	POL	10				INHAL
TLV	ROU	10		15		
WEL	GBR	10				INHAL
WEL	GBR	4				RESP
TLV-ACGIH		0,2				RESP

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,184	mg/l
Normal value in marine water	0,0184	mg/l
Normal value for fresh water sediment	1000	mg/kg
Normal value for marine water sediment	100	mg/kg
Normal value for water, intermittent release	0,193	mg/l
Normal value of STP microorganisms	100	mg/l
Normal value for the terrestrial compartment	100	mg/kg

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral			VND	700 mg/kg/d				
Inhalation							10 mg/m3	VND

CALCIUM CARBONATE PCC

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
OEL	EU	10				INHAL
OEL	EU	3				RESP
TLV-ACGIH		10				INHAL
TLV-ACGIH		3				RESP

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Inhalation			1,06 mg/m3	10 mg/m3			4,26 mg/m3	10 mg/m3

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

(3-aminopropyl) trimethoxysilane

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
VLEP	ITA	260	200			67-56-1 Metanolo
OEL	EU	260	200			Metanolo/Methanol
TLV-ACGIH		10				INHAL Aerosol

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,33	mg/l
Normal value in marine water	0,033	mg/l
Normal value for fresh water sediment	0,26	mg/kg
Normal value of STP microorganisms	13	mg/l
Normal value for the terrestrial compartment	0,04	mg/kg

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral				5 mg/kg bw/d				
Inhalation	VND	17,4 mg/m3	VND	17 mg/m3	VND	58 mg/m3	VND	58 mg/m3 1h
Skin	VND	5 mg/kg bw/d	VND	5 mg/kg bw/d	VND	8,3 mg/kg/d	VND	8,3 mg/kg/d

Bis(2,2,6,6-tetramethyl-4-piperidine)sebacate

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,004	mg/l
Normal value in marine water	0,00038	mg/l
Normal value for fresh water sediment	5,9	mg/kg
Normal value for marine water sediment	0,59	mg/kg
Normal value for water, intermittent release	0,01	mg/l
Normal value of STP microorganisms	1	mg/l
Normal value for the terrestrial compartment	1,6	mg/kg

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral				0,18 mg/kg bw/d				
Inhalation			0,31 mg/m3	0,31 mg/m3			0,31 mg/m3	1,27 mg/m3
Skin			0,9 mg/kg bw/d	0,9 mg/kg bw/d			0,9 mg/kg bw/d	1,8 mg/kg bw/d

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

methanol

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations	
		mg/m3	ppm	mg/m3	ppm		
AGW	DEU	270	200	1080	800	SKIN	
MAK	DEU	130	100	260	200	SKIN	
VLA	ESP	266	200			SKIN	
VLEP	FRA	260	200	1300	1000	SKIN	11
TLV	GRC	260	200	325	250		
VLEP	ITA	260	200			SKIN	
VLE	PRT	260	200			SKIN	
NDS/NDSCh	POL	100		300		SKIN	
TLV	ROU	260	200			SKIN	
WEL	GBR	266	200	333	250	SKIN	
OEL	EU	260	200				
TLV-ACGIH		262	200	328	250	SKIN	

Predicted no-effect concentration - PNEC

Normal value in fresh water	154	mg/l
Normal value in marine water	15,4	mg/l
Normal value for fresh water sediment	570,4	mg/kg
Normal value for water, intermittent release	1540	mg/l
Normal value of STP microorganisms	100	mg/l
Normal value for the terrestrial compartment	23,5	mg/kg

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral		4 mg/kg bw/d		4 mg/kg bw/d				
Inhalation	26 mg/m3	26 mg/m3	26 mg/m3	26 mg/m3	130 mg/m3	130 mg/m3	130 mg/m3	130 mg/m3
Skin	NPI	4 mg/kg bw/d	NPI	4 mg/kg bw/d	NPI	20 mg/kg bw/d	NPI	20 mg/kg bw/d

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

toluene

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
AGW	DEU	190	50	760	200	SKIN
MAK	DEU	190	50	380	100	SKIN
VLA	ESP	192	50	384	100	SKIN
VLEP	FRA	76,8	20	384	100	SKIN
TLV	GRC	192	50	384	100	
VLEP	ITA	192	50			SKIN
VLE	PRT	192	50	384	100	SKIN
NDS/NDSCh	POL	100		200		SKIN
TLV	ROU	192	50	384	100	SKIN
WEL	GBR	191	50	384	100	SKIN
OEL	EU	192	50	384	100	SKIN
TLV-ACGIH			20			

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,68	mg/l
Normal value in marine water	0,68	mg/l
Normal value for fresh water sediment	16,39	mg/kg
Normal value for marine water sediment	16,39	mg/kg
Normal value of STP microorganisms	13,61	mg/l
Normal value for the terrestrial compartment	2,89	mg/kg

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral				8,13 mg/kg bw/d				
Inhalation	226 mg/m3	226 mg/m3	56,5 mg/m3	56,5 mg/m3	384 mg/m3	384 mg/m3	192 mg/m3	192 mg/m3
Skin				226 mg/kg bw/d				384 mg/kg bw/d

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 ; LOW = low hazard ; MED = medium hazard ; HIGH = high hazard.

trimethoxyvinylsilane; trimethoxy(vinyl)silane
VLEP ITA 200 ppm Methanol

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.
HAND PROTECTION
Protect your hands with category III work gloves (ref. Standard EN 374).
For the final choice of material for work gloves, the following must be considered: compatibility, degradation, breakage time and permeation.
In the case of preparations, the resistance of work gloves to chemical agents must be checked before use as it is unpredictable. Gloves have a wear time that depends on the duration and mode of use.
SKIN PROTECTION
Wear category II professional long-sleeved overalls and safety footwear (see Regulation 2016/425 and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.
EYE PROTECTION
Wear splash goggles with side shields and / or protective visors complying with EN 166 and EN 165. Do not use eye lenses.
RESPIRATORY PROTECTION
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. 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).
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.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties		Value	Information
Appearance		thixotropic paste	
Colour		white	
Odour		mild	
Melting point / freezing point	<	5 °C	
Initial boiling point	>	100 °C	
Flammability		not flammable	
Lower explosive limit		not available	
Upper explosive limit		not available	
Flash point		not applicable	Reason for missing data:non infiammabile
Auto-ignition temperature	>	200 °C	
Decomposition temperature		100 °C	
pH		not available	Reason for missing data:substance/mixture is non-soluble (in water)
Kinematic viscosity		> 20,5 mm2/s	
Solubility		insoluble in water, soluble in organic solvents	
Partition coefficient: n-octanol/water		not applicable	Reason for missing data:Non si applica alle miscele
Vapour pressure		not available	
Density and/or relative density		1,55 kg/dm3	
Relative vapour density		not available	
Particle characteristics		not applicable	

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Information not available

9.2.2. Other safety characteristics

Total solids (250°C / 482°F)	96,90 %		
VOC (Directive 2010/75/EU)	3,15 %	- 48,82	g/litre
VOC (volatile carbon)	1,27 %	- 19,68	g/litre
Explosive properties	not explosive		
Oxidising properties	non-oxidizing		

SECTION 10. Stability and reactivity

10.1. Reactivity

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

CALCIUM CARBONATE
Decomposes at temperatures above 800°C/1472°F.
CALCIUM CARBONATE PCC
Decomposes at temperatures above 800°C/1472°F.
toluene
Avoid exposure to: light.

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.

toluene

SECTION 10. Stability and reactivity ... / >>

Risk of explosion on contact with: fuming sulphuric acid,nitric acid,silver perchlorate,nitrogen dioxide,non-metal halogenates,acetic acid,organic nitrocompounds.May form explosive mixtures with: air.May react dangerously with: strong oxidising agents,strong acids,sulphur.

10.4. Conditions to avoid

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

(3-aminopropyl) trimethoxysilane
Moisture, heat, open flames and other sources of ignition.

10.5. Incompatible materials

CALCIUM CARBONATE
Incompatible with: acids.
CALCIUM CARBONATE PCC
Incompatible with: acids.
(3-aminopropyl) trimethoxysilane
Reacts with: water, basic substances and acids. The reaction occurs with the formation of methanol.

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.

CALCIUM CARBONATE
May develop: calcium oxides,carbon oxides.
CALCIUM CARBONATE PCC
May develop: calcium oxides,carbon oxides.
(3-aminopropyl) trimethoxysilane
In case of hydrolysis: methanol. From checks it appears that at temperatures above 150°C, one is released due to oxidative decomposition
small amount of formaldehyde.

SECTION 11. Toxicological information

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

trimethoxyvinylsilane; trimethoxy(vinyl)silane
Additional toxicological information
Hydrolysis product / impurity: methanol (CAS 67-56-1) is well and rapidly absorbed through all routes of exposure and it is toxic regardless of the type of dose taken. Methanol can cause mucosal irritation, nausea, vomiting, headache, dizziness and visual disturbances, as well as blindness (irreversible damage to the optic nerve), acidosis, muscle cramps and coma. Delays in the onset of these effects may occur following exposure.

toluene
INHALATION May cause central nervous system depression. May cause drowsiness and dizziness; may cause damage to organs in case of prolonged or repeated exposure.
SKIN: Causes skin irritation;
EYES: Causes serious eye irritation;
INGESTION: Irritating to mouth, throat, stomach.

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

methanol
WORKERS: inhalation; contact with the skin.
POPULATION: ingestion of contaminated food or water; contact with the skin of products containing the substance.

toluene
WORKERS: inhalation; contact with the skin.
POPULATION: ingestion of contaminated food or water; inhalation of ambient air; contact with the skin of products containing the substance.

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

SECTION 11. Toxicological information ... / >>

methanol
The minimum lethal dose for humans by ingestion is considered to be in the range from 300 to 1000 mg/kg. Ingestion of 4-10 ml of the substance may cause permanent blindness in adult humans (IPCS).

toluene
Acute effects: contact with skin may cause irritation, erythema, edema, dryness and cracking. Inhalation of vapors may cause slight irritation of the upper respiratory tract. Being very volatile, it can cause serious depression of the central nervous system (CNS), with effects such as drowsiness, dizziness, loss of reflexes, narcosis. May produce functional disorders or morphological changes, by repeated or prolonged exposure by inhalation of a quantity less than or equal to 0.25 mg/l, 6 h/day. Ingestion can cause health problems, including abdominal pain with burning, nausea and vomiting. The introduction of even small quantities of liquid into the respiratory system in case of ingestion or vomiting can cause bronchopneumonia and pulmonary edema. It should be considered with suspicion due to possible teratogenic effects which can be toxic on the development of the fetus. It has a toxic action on the central and peripheral nervous system with encephalopathies and polyneuritis.

Interactive effects

toluene
Certain drugs and other industrial products can interfere with the metabolism of the toluene.

ACUTE TOXICITY

ATE (Inhalation - vapours) of the mixture:	> 20 mg/l
ATE (Oral) of the mixture:	Not classified (no significant component)
ATE (Dermal) of the mixture:	Not classified (no significant component)

CALCIUM CARBONATE

LD50 (Dermal):	> 2000 mg/kg Rat - OCSE 402
LD50 (Oral):	> 2000 mg/kg Rat - OCSE 425
LC50 (Inhalation mists/powders):	> 3 mg/l/4h Rat - OCSE 403

trimethoxyvinylsilane; trimethoxy(vinyl)silane

LD50 (Dermal):	> 3460 mg/kg Coniglio OECD 402
LD50 (Oral):	> 7000 mg/kg Ratto OECD 401
LC50 (Inhalation vapours):	16,8 mg/l/4h Ratto - OECD 403

TITANIUM DIOXIDE

LD50 (Dermal):	> 5000 mg/kg rabbit
LD50 (Oral):	> 5000 mg/kg rat
LC50 (Inhalation mists/powders):	> 6,8 mg/l/4h rat

CALCIUM CARBONATE PCC

LD50 (Dermal):	> 2000 mg/kg rat
LD50 (Oral):	> 2000 mg/kg rat
LC50 (Inhalation mists/powders):	> 3 mg/l rat

(3-aminopropyl) trimethoxysilane

LD50 (Dermal):	> 10000 mg/kg Rabbit
LD50 (Oral):	> 2000 mg/kg Rat

Bis(2,2,6,6-tetramethyl-4-piperidine)sebacate

LD50 (Dermal):	> 3000 mg/kg Rat
LD50 (Oral):	3700 mg/kg Rat
LC50 (Inhalation mists/powders):	500 mg/l/4h rat

methanol

LD50 (Dermal):	17100 mg/kg rabbit
STA (Dermal):	300 mg/kg estimate from table 3.1.2 of Annex I of the CLP (figure used for calculation of the acute toxicity estimate of the mixture)
LD50 (Oral):	1187 mg/kg rat
LC50 (Inhalation vapours):	437 mg/l/6h cat

toluene

LD50 (Dermal):	12124 mg/kg Rabbit
LD50 (Oral):	5580 mg/kg Rat
LC50 (Inhalation vapours):	28,1 mg/l/4h Rat

SECTION 11. Toxicological information ... / >>

trimethoxyvinylsilane; trimethoxy(vinyl)silane
Based on the available data, no acute toxic effects are expected after a single oral exposure. Minimal toxic effects are expected in case of single dermal exposure. Moderate toxic effects are expected in case of brief inhalation exposure.

SKIN CORROSION / IRRITATION

Does not meet the classification criteria for this hazard class

SERIOUS EYE DAMAGE / IRRITATION

Does not meet the classification criteria for this hazard class

RESPIRATORY OR SKIN SENSITISATION

Sensitising for the skin
May produce an allergic reaction.
Contains:
trimethoxyvinylsilane; trimethoxy(vinyl)silane

trimethoxyvinylsilane; trimethoxy(vinyl)silane
According to Annex VI of Regulation (EC) no. 1272/2008, vinyltrimethoxysilane (VTMS) is classified as a category 1B skin sensitizing substance based on data from in vivo tests with laboratory animals. Furthermore, no allergic reactions have been reported following professional exposures. Mixtures with VTMS (up to 5% active substance) in polymers (polydimethylsiloxane and silane-terminated polyethers) of different viscosities up to the lower limit of 60 mPas were analyzed in the "Local Lymph node assay" (OECD 429). None of the mixtures had sensitizing potential. Taking into account the entire composition, this result, based on expert judgment, can be used for the classification and labeling of mixtures containing polymers.

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

trimethoxyvinylsilane; trimethoxy(vinyl)silane
In Chinese hamster ovary (CHO) cells: negative (non-mutogenic) - OECD 476
Ames test (Genetic toxicology: Salmonella typhimurium, reversion assay): negative (non-mutogenic) - OECD 471
Chromosome aberration: positive - OECD 473

(3-aminopropyl) trimethoxysilane
Negative. OECD 471 method (bacterial cells - in vitro).
Negative. OECD method 476 (mammalian cells - in vitro).
Negative. OECD method 473 (mammalian cells - in vitro).
Negative. OECD 474 method (mouse - in vivo).

toluene
No significant effects are known.
- Negative (with and without metabolic activation)
Test system: mutation assay (in vitro) / mouse lymphoma cells; Method: OECD 476; Source: ECHA.
- Negative (with and without metabolic activation)
Test system: mutation assay (in vitro) / bacterial cells; Method: OECD 471; Source: ECHA.
- Negative
Test system: chromosome aberration assay (in vivo); Species: Rat Application method: Intraperitoneal; Cell type: bone marrow cells; Source: ECHA.

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

toluene
Classified in Group 3 (not classifiable as a human carcinogen) by the International Agency for Research on Cancer (IARC) - (IARC, 1999).
The US Environmental Protection Agency (EPA) affirms that "the data is inadequate for an assessment of the carcinogenic potential".

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

SECTION 11. Toxicological information ... / >>

toluene
CMR EFFECTS (carcinogenic, mutagenic, toxic for reproduction): Terat: suspected of harming the fetus if inhaled.
NOAEL (parents, general toxicity): 2261 mg/m³
NOAEL (parents, fertility): 7537 mg/m³
NOAEL (descendants): 2261 mg/m³
Species: Rat, male/female
Application method: Inhalation
Dosage levels: 0 - 2261 - 7537 mg/m³
Substance to be tested: vapour
Treatment frequency: 6 hours/day 7 days/week
NOAEL (parents, general toxicity): 1875 mg/m³
NOAEL (parents, fertility): 7500 mg/m³
NOAEL (descendants): 1875 mg/m³
Test type: Two-generation study
Species: Rat, male/female
Application method: Inhalation
Dosage levels: 0 - 375 - 1875 - 7500 mg/m³
Substance to be tested: vapour
Treatment frequency: 6 hours/day 7 days/week
Method: OECD Test Guideline 416

Adverse effects on development of the offspring

(3-aminopropyl) trimethoxysilane
NOAEL (developmental): 100 mg/kg. EPA OTS 798.4900
NOAEL (maternal): 100 mg/kg. EPA OTS 798.4900

toluene
NOAEL (teratogenicity): 4500 mg/m³
NOAEL (maternal): 2250 mg/m³
NOAEL (developmental toxicity): 2250 mg/m³
Species: Rat, female
Application method: Inhalation
Dosage levels: 0 - 4500 mg/m³
Treatment frequency: 6 hours/day 7 days/week
Substance to be tested: vapour
In animal studies, toxicity to the fetus was detected.

STOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class

toluene
Route of exposure: inhalation
target organs: Central nervous system
The vapors may have a narcotic effect.
Source: ECHA.

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

toluene
TOXICITY AFTER REPEATED TAKING (subacute, subchronic, chronic): May cause drowsiness or dizziness. May cause damage to organs through prolonged or repeated exposure. It has a toxic effect on the central and peripheral nervous system with polyneuritis and encephalopathy.
SUBACUTE ORAL TOXICITY
Parameter : NOAEL(C) (TOLUENE ; CAS No. : 108-88-3); Route of exposure: Oral - Effective dose: = 625 mg/kg bw/day
SUBACUTE INHALATION TOXICITY
Parameter : NOAEC (TOLUENE ; CAS No. : 108-88-3); Route of exposure: Inhalation - Species: Rat - Effective dose: 1131 mg/m3
Test result(s): Central nervous system.

Target organs

(3-aminopropyl) trimethoxysilane
NOAEL: 200 mg/kg
LOAEL: 600 mg/kg
Target organ: liver (rat). OECD 408.
LOAEC: 0.147 mg/l

SECTION 11. Toxicological information ... / >>

Target organ: respiratory tract (rat).

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

(3-aminopropyl) trimethoxysilane
Hydrolysis Product / Impurity: Methanol (CAS 67-56-1) is absorbed well and rapidly through all routes of exposure and is toxic regardless of the type of dose taken. Methanol can cause mucosal irritation, nausea, vomiting, headache, dizziness and visual disturbances, as well as blindness (irreversible damage to the optic nerve), acidosis, muscle cramps and coma. Delays in the appearance of these effects may occur following exposure.

toluene
ASPIRATION: May cause serious injury (chemical pneumonitis) to the lungs after ingestion and entry into the airways.

11.2. Information on other hazards

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with human health effects under evaluation.

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

(3-aminopropyl) trimethoxysilane	
LC50 - for Fish	> 934 mg/l/96h Danio rerio
EC50 - for Crustacea	331 mg/l/48h Daphnia magna
EC50 - for Algae / Aquatic Plants	> 1000 mg/l/72h Desmodesmus subspicatus
Chronic NOEC for Algae / Aquatic Plants	1,3 mg/l Desmodesmus subspicatus
trimethoxyvinylsilane; trimethoxy(vinyl)silane	
LC50 - for Fish	191 mg/l/96h Oncorhynchus mykiss
EC50 - for Crustacea	169 mg/l/48h Daphnia magna
EC50 - for Algae / Aquatic Plants	210 mg/l/72h Selenastrum capricornutum
EC10 for Algae / Aquatic Plants	32 mg/l/7d Selenastrum capricornutum
Chronic NOEC for Crustacea	28 mg/l Daphnia magna
Chronic NOEC for Algae / Aquatic Plants	25 mg/l Selenatrum capricornutum
CALCIUM CARBONATE PCC	
EC50 - for Algae / Aquatic Plants	> 14 mg/l/72h
toluene	
EC50 - for Algae / Aquatic Plants	12500 ppm
methanol	
EC50 - for Algae / Aquatic Plants	22 mg/l/72h
Bis(2,2,6,6-tetramethyl-4-piperidine)sebacate	
LC50 - for Fish	4,4 mg/l/96h Oncorhynchus mykiss
EC50 - for Crustacea	8,58 mg/l/48h Daphnia magna
EC50 - for Algae / Aquatic Plants	0,705 mg/l/72h Pseudokirchneriella subcapitata
Chronic NOEC for Crustacea	4 mg/l Daphnia magna

12.2. Persistence and degradability

(3-aminopropyl) trimethoxysilane
Hydrolysis:
Half-period 8.5 h: pH 7, 24.7°C (OECD 111)

(3-aminopropyl) trimethoxysilane	
NOT rapidly degradable	67% /28 d - OECD 301A

SECTION 12. Ecological information ... / >>

trimethoxyvinylsilane; trimethoxy(vinyl)silane
Solubility in water — 9400 mg/l a 20°C (hydrolitic decomposition)
NOT rapidly degradable — 51% / 28 d - OECD 301F

CALCIUM CARBONATE PCC
Solubility in water — 8 mg/l @ 20°C

TITANIUM DIOXIDE
Solubility in water — < 0,001 mg/l
Degradability: information not available

toluene
Solubility in water — 100 - 1000 mg/l
Rapidly degradable

methanol
Solubility in water — 1000 g/l 20 °C
Rapidly degradable

CALCIUM CARBONATE
Solubility in water — 0,1 - 100 mg/l

Bis(2,2,6,6-tetramethyl-4-piperidine)sebacate
Solubility in water — < 1 mg/l @ 20°C
NOT rapidly degradable

12.3. Bioaccumulative potential

trimethoxyvinylsilane; trimethoxy(vinyl)silane
It is not subject to bioaccumulation; hydrolyzes.

(3-aminopropyl) trimethoxysilane
Partition coefficient: n-octanol/water — 0,2 20°C

trimethoxyvinylsilane; trimethoxy(vinyl)silane
Partition coefficient: n-octanol/water — 1,1

toluene
Partition coefficient: n-octanol/water — 2,73
BCF — 90

methanol
Partition coefficient: n-octanol/water — -0,77
BCF — 0,2

Bis(2,2,6,6-tetramethyl-4-piperidine)sebacate
Partition coefficient: n-octanol/water — 0,35 Log Kow 20-25°C, pH=7

12.4. Mobility in soil

Information not available

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 ≥ than 0,1%.

12.6. Endocrine disrupting properties

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with environmental effects under evaluation.

12.7. 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.
CONTAMINATED PACKAGING
Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

SECTION 14. Transport information

The product is not dangerous under current provisions of the Code of International Carriage of Dangerous Goods by Road (ADR) and by Rail (RID), of the International Maritime Dangerous Goods Code (IMDG), and of the International Air Transport Association (IATA) regulations.

14.1. UN number or ID number

not applicable

14.2. UN proper shipping name

not applicable

14.3. Transport hazard class(es)

not applicable

14.4. Packing group

not applicable

14.5. Environmental hazards

not applicable

14.6. Special precautions for user

not applicable

14.7. Maritime transport in bulk according to IMO instruments

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/EU: None

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006
Product
Point 3 - 40
Contained substance
Point 75

Regulation (EU) 2019/1148 - on the marketing and use of explosives precursors
not applicable

Substances in Candidate List (Art. 59 REACH)
On the basis of available data, the product does not contain any SVHC in percentage ≥ than 0,1%.

Substances subject to authorisation (Annex XIV REACH)
None

Substances subject to exportation reporting pursuant to Regulation (EU) 649/2012:

SECTION 15. Regulatory information ... / >>

None

Substances subject to the Rotterdam Convention:
None

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.

toluene
Restriction
Point 48 toluene - CAS n. 108-88-3
REACH Reg.: 01-2119471310-51-XXXX

15.2. Chemical safety assessment

A chemical safety assessment has been performed for the following contained substances
trimethoxyvinylsilane; trimethoxy(vinyl)silane
Bis(2,2,6,6-tetramethyl-4-piperidine)sebacate
methanol
toluene
This safety data sheet contains one or more Exposure Scenarios in an integrated form. Contents have been included in sections 1.2, 8, 9, 12, 15 and 16 of this safety data sheet.

SECTION 16. Other information

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

Flam. Liq. 2	Flammable liquid, category 2
Flam. Liq. 3	Flammable liquid, category 3
Repr. 2	Reproductive toxicity, category 2
Acute Tox. 3	Acute toxicity, category 3
STOT SE 1	Specific target organ toxicity - single exposure, category 1
Acute Tox. 4	Acute toxicity, category 4
Asp. Tox. 1	Aspiration hazard, category 1
STOT RE 2	Specific target organ toxicity - repeated exposure, category 2
Eye Dam. 1	Serious eye damage, category 1
Skin Irrit. 2	Skin irritation, category 2
Skin Sens. 1B	Skin sensitization, category 1B
STOT SE 3	Specific target organ toxicity - single exposure, category 3
Aquatic Acute 1	Hazardous to the aquatic environment, acute toxicity, category 1
Aquatic Chronic 2	Hazardous to the aquatic environment, chronic toxicity, category 2
Aquatic Chronic 3	Hazardous to the aquatic environment, chronic toxicity, category 3
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H361d	Suspected of damaging the unborn child.
H361f	Suspected of damaging fertility.
H301	Toxic if swallowed.
H311	Toxic in contact with skin.
H331	Toxic if inhaled.
H370	Causes damage to organs.
H332	Harmful if inhaled.
H304	May be fatal if swallowed and enters airways.
H373	May cause damage to organs through prolonged or repeated exposure.
H318	Causes serious eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
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.
EUH210	Safety data sheet available on request.

Use descriptor system:

ERC	8b	Widespread use of reactive processing aid (no inclusion into or onto article, indoor)
ERC	8e	Widespread use of reactive processing aid (no inclusion into or onto article, outdoor)

SECTION 16. Other information ... / >>

PC	1	Adhesives, sealants
PROC	10	Roller application or brushing
PROC	11	Non industrial spraying
PROC	19	Manual activities involving hand contact

LEGEND:
- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- ATE: Acute Toxicity Estimate
- CAS: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE: Identifier in ESIS (European archive of existing substances)
- CLP: Regulation (EC) 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: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent, bioaccumulative and toxic
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PMT: Persistent, mobile and toxic
- PNEC: Predicted no effect concentration
- REACH: Regulation (EC) 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: Time-weighted average exposure limit
- TWA STEL: Short-term exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very persistent and very bioaccumulative
- vPvM: Very persistent and very mobile
- 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) 2020/878 (II Annex of REACH Regulation)
4. Regulation (EC) 790/2009 (I Atp. CLP) 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
11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
12. Regulation (EU) 2016/1179 (IX Atp. CLP)
13. Regulation (EU) 2017/776 (X Atp. CLP)
14. Regulation (EU) 2018/669 (XI Atp. CLP)
15. Regulation (EU) 2019/521 (XII Atp. CLP)
16. Delegated Regulation (UE) 2018/1480 (XIII Atp. CLP)
17. Regulation (EU) 2019/1148
18. Delegated Regulation (UE) 2020/217 (XIV Atp. CLP)
19. Delegated Regulation (UE) 2020/1182 (XV Atp. CLP)
20. Delegated Regulation (UE) 2021/643 (XVI Atp. CLP)
21. Delegated Regulation (UE) 2021/849 (XVII Atp. CLP)
22. Delegated Regulation (UE) 2022/692 (XVIII Atp. CLP)
23. Delegated Regulation (UE) 2023/707

- 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

SECTION 16. Other information ... / >>

- 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.

CALCULATION METHODS FOR CLASSIFICATION
Chemical and physical hazards: Product classification derives from criteria established by the CLP Regulation, Annex I, Part 2. The data for evaluation of chemical-physical properties are reported in section 9.
Health hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 3, unless determined otherwise in Section 11.
Environmental hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 4, unless determined otherwise in Section 12.