Safety Data Sheet

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

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

1.1. Product identifier

Product name **MS TECHNO LIGHT**

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

Intended use **Transparent sealant / adhesive for building, industry and other technical applications.**

Identified Uses	Industrial	Professional	Consumer
Production, Processing, Formulation and Distribution of substances and mixtures.	✓	✓	-

Uses Advised Against

Not suitable for use in homeworker (DIY) applications.

1.3. Details of the supplier of the safety data sheet

Name **FRATELLI ZUCCHINI S.p.A.**
Full address **via Colombo, 6**
District and Country **44124 Cassana (Ferrara)**
ITALIA
Tel. +39 0532-782611
Fax +39 0532-732121

e-mail address of the competent person responsible for the Safety Data Sheet **tecnico@zucchini.it**

Supplier: **FRATELLI ZUCCHINI S.p.A.**

1.4. Emergency telephone number

For urgent inquiries refer to **+39 0532-782734 - Monday to Friday from 8.30 to 13.00 and from 14.00 to 17.00**

SECTION 2. Hazards identification

2.1. Classification of the substance or mixture

The product is not classified as hazardous pursuant to the provisions set forth in EC Regulation 1272/2008 (CLP).
However, since the product contains hazardous substances in concentrations such as to be declared in section no. 3, it requires a safety data sheet with appropriate information, compliant to (EU) Regulation 2020/878.

Hazard classification and indication: --

2.2. Label elements

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

Hazard pictograms: --

Signal words: --

Hazard statements:

EUH210 Safety data sheet available on request.

EUH208 Contains: N-(3- (trimethoxysilyl) propyl) ethylenediamine - CAS n. 1760-24-3
VINYLTRIMETHOXYSILANE - CAS n. 2768-02-7
May produce an allergic reaction.

Precautionary statements: --

SECTION 2. Hazards identification ... / >>

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%.

The product hydrolyzes to form methanol (CAS no. 67-56-1). Methanol is toxic if inhaled, ingested and in contact with skin. Methanol causes organ damage and is highly flammable.

SECTION 3. Composition/information on ingredients

3.1. Substances

Information not relevant

3.2. Mixtures

Contains:

Identification		x = Conc. %	Classification (EC) 1272/2008 (CLP)
VINYLTRIMETHOXYSILANE - CAS n. 2768-02-7			
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-XXXX*		
N-(3- (trimethoxysilyl) propyl) ethylenediamine - CAS n. 1760-24-3			
INDEX		0,5 ≤ x < 1	**Eye Dam. 1 H318, STOT SE 3 H335, Skin Sens. 1 H317**
EC	*217-164-6*		
CAS	*1760-24-3*		
REACH Reg.	*01-2119970215-39-0005*		
GAMMA-AMINOPROPYLTRIMETHOXYSILANE - CAS n. 13822-56-5			
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-XXXX*		
Bis (2,2,6,6-TETRAMETHYL-4-PIPERIDYL) SEBACATE - CAS n. 52829-07-9			
INDEX		0,5 ≤ x < 1	**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-XXXX*		
METHANOL - CAS n. 67-56-1			
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.	*01-2119433307-44*		
METHYL BENZENE - CAS n. 108-88-3			
INDEX	*601-021-00-3*	0 ≤ x < 0,005	**Flam. Liq. 2 H225, Repr. 2 H361d, Asp. Tox. 1 H304, STOT RE 2 H373, Skin Irrit. 2 H315, STOT SE 3 H336**
EC	*203-625-9*		
CAS	*108-88-3*		
REACH Reg.	*01-2119471310-51-XXXX*		

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

They are not known incidents of damage to personnel involved in the use of the product. However, in case of necessity, adopt the following general measures:
INHALATION: It does not appear possible. However, in case of malaise, remove to fresh air. If breathing is difficult, seek medical advice immediately. If the subject stops breathing, administer artificial respiration.

SECTION 4. First aid measures ... / >>

INGESTION: seek medical advice immediately. Induce vomiting only if indicated by your doctor. Never give anything by mouth to an unconscious person unless authorized by the physician.
EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. Consult a physician immediately.
SKIN: Take off contaminated clothing. Wash immediately with plenty of water. If irritation persists, consult your doctor. Wash contaminated clothing before reuse.

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

There are no known episodes of damage to health attributable to the product. For symptoms and effects due to the substances contained, see chap. 11.

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

Information available to the chapter. 4.1.

SECTION 5. Firefighting measures

5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT
Extinguishing substances are: carbon dioxide, foam, chemical powder. For product loss or leakage that has not caught fire, water spray can be used to disperse flammable vapours and protect those trying to stem the leak.
UNSUITABLE EXTINGUISHING EQUIPMENT
Do not use jets of water. Water is not effective for putting out fires but can be used to cool containers exposed to flames to prevent explosions.

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE
Excess pressure may form in containers exposed to fire at a risk of explosion. Do not breathe combustion products.

In case of fire, hazardous fumes and gases may develop: carbon oxides, silicon oxide, nitrogen oxides, tin oxides, toxic and very toxic fumes.

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. Check incompatibility for container material in section 7. 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

Information for safe handling.
Ensure adequate ventilation of the working environment. Avoid contact with skin and eyes. Spilled substance increases risk of slipping. Avoid formation of aerosols. In case of aerosol formation special protective measures are required (exhausting by suction, respiratory protection). Remove any contaminated clothes and personal protective equipment before entering mess hall. Observe information in section 8. Keep away from incompatible substances in accordance with section 10.
Precautions against fire and explosion:
Reacting with moisture, product can release methanol (in trace amounts). Flammable vapors may accumulate and form explosive mixtures with air in containers, process vessels, including partial, empty and uncleaned containers and vessels, or other enclosed spaces. Keep away from sources of ignition and do not smoke. Take precautionary measures against electrostatic charging. Cool endangered containers with water.

7.2. Conditions for safe storage, including any incompatibilities

Store in a dry and cool place. Protect against moisture. Store container in a well ventilated place. Normal storage conditions without special incompatibilities (see Section 10).

7.3. Specific end use(s)

No data available.

SECTION 8. Exposure controls/personal protection

Recommended monitoring procedures: As this product contains ingredients with exposure limits, consequently personal, environmental, workplace and biological monitoring may be required to determine the effectiveness of ventilation or other control measures and/or the need to use Respiratory protection.
Refer to monitoring standards, such as the following:
European Standard EN 689 (Atmosphere in the Working Environment - Guideline for Evaluation of Inhalation Exposure to Chemical Compounds for Comparison with Limit Values and Measurement Strategy),
European Standard EN 14042 (Atmosphere in the Working Environment - Guidance on the Application and Use of Procedures for Evaluation of Exposure to Chemical and Biological Agents),
European Standard EN 482 (Atmospheres in the Working Environment - General Requirements for Measuring Procedures for Chemical Agents).
Reference should also be made to national guidance documents on methods for the determination of hazardous substances.

8.1. Control parameters

Regulatory References:

BGR	България	НАРЕДБА № 13 ОТ 30 ДЕКЕМВРИ 2003 Г. ЗА ЗАЩИТА НА РАБОТЕЩИТЕ ОТ РИСКОВЕ, СВЪРЗАНИ С ЕКСПОЗИЦИЯ НА ХИМИЧНИ АГЕНТИ ПРИ РАБОТА (изм. ДВ. бр.5 от 17 Януари 2020г.)
CZE	Česká Republika	Nařízení vlády č. 41/2020 Sb. Nařízení vlády, kterým se mění nařízení vlády č. 361/2007 Sb., kterým se stanoví podmínky ochrany zdraví při práci, ve znění pozdějších předpisů
DEU	Deutschland	Technischen Regeln für Gefahrstoffe (TRGS 900) - Liste der Arbeitsplatzgrenzwerte und Kurzzeitwerte. MAK- und BAT-Werte-Liste 2020, Ständige Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe, Mitteilung 56
DNK	Danmark	Bekendtgørelse om grænseværdier for stoffer og materialer - BEK nr 1458 af 13/12/2019
ESP	España	Límites de exposición profesional para agentes químicos en España 2021
EST	Eesti	Ohtlike kemikaalide ja neid sisaldavate materjalide kasutamise töötervishoiu ja tööohutuse nõuded ning töökeskkonna keemiliste ohutegurite piirnormid [RT I, 17.10.2019, 1 - jõust. 17.01.2020]
FRA	France	Valeurs limites d'exposition professionnelle aux agents chimiques en France. ED 984 - INRS
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''»
HUN	Magyarország	Az innovációért és technológiáért felelős miniszter 5/2020. (II. 6.) ITM rendelete a kémiai kóroki tényezők hatásának kitett munkavállalók egészségének és biztonságának védelméről
HRV	Hrvatska	Pravilnik o izmjenama i dopunama Pravilnika o zaštiti radnika od izloženosti opasnimkemikalijama na radu, graničnim vrijednostima izloženosti i biološkim graničnim vrijednostima (NN 1/2021)
ITA	Italia	Decreto Legislativo 9 Aprile 2008, n.81
LTU	Lietuva	Jsakymas dėl lietuvos higienos normos hn 23:2011 „cheminių medžiagų profesinio poveikio ribiniai dydžiai. Matavimo ir poveikio vertinimo bendrieji reikalavimai“ patvirtinimo
LVA	Latvija	Grozījumi Ministru kabineta 2007. gada 15. maija noteikumos Nr. 325 "Darba aizsardzības

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

		prasības saskarē ar ķīmiskajām vielām darba vietās" (prot. Nr. 32 18. §; prot. Nr. 1 22. §)
NLD	Nederland	Arbeidsomstandighedenregeling. Lijst van wettelijke grenswaarden op grond van de artikelen 4.3, eerste lid, en 4.16, eerste lid, van het Arbeidsomstandighedenbesluit
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
SWE	Sverige	Hygieniska gränsvärden, Arbetsmiljöverkets föreskrifter och allmänna råd om hygieniska gränsvärden (AFS 2018:1)
SVK	Slovensko	NARIADENIE VLÁDY Slovenskej republiky z 12. augusta 2020, ktorým sa mení a dopĺňa nariadenie vlády Slovenskej republiky č. 356/2006 Z. z. o ochrane zdravia zamestnancov pred rizikami súvisiacimi s expozíciou karcinogénnym a mutagénnym faktorom pri práci v znení neskorších predpisov
SVN	Slovenija	Pravilnik o varovanju delavcev pred tveganji zaradi izpostavljenosti kemičnim snovem pri delu (Uradni list RS, št. 100/01, 39/05, 53/07, 102/10, 43/11 – ZVZD-1, 38/15, 78/18 in 78/19)
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 2022

SILANE, DICHLOROMETHYL-, REACTION PRODUCTS WITH SILICA - CAS N. 68611-44-9

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
VLEP	ITA	10				INHAL
VLEP	ITA	3				RESP

SILICON DIOXIDE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
WEL	GBR	6				INHAL
WEL	GBR	2,4				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							4 mg/m3	

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

VINYLTRIMETHOXYSILANE - CAS n. 2768-02-7

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations	
		mg/m3	ppm	mg/m3	ppm		
VLEP	ITA		200				Metanolo
VLEP	ITA	10				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	(secco) mg/kg
Normal value for water, intermittent release	2,4	(secco) 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		VND	0,3 mg/kg bw/d				
Inhalation	VND	0,7 mg/m3	VND	6,7 mg/m3	VND	VND	VND	27,6 mg/m3
Skin	VND	0,1 mg/kg/d	VND	7,8 mg/kg bw/d		0,2 mg/kg/d	VND	3,9 mg/kg bw/d

N-(3- (trimethoxysilyl) propyl) ethylenediamine - CAS n. 1760-24-3

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,062	mg/l
Normal value in marine water	0,0062	mg/l
Normal value for fresh water sediment	0,05	mg/kg
Normal value for marine water sediment	0,005	mg/kg
Normal value of STP microorganisms	25	mg/l
Normal value for the terrestrial compartment	0,0075	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	2,5 mg/kg/d				
Inhalation			VND	8,7 mg/m3			VND	35,5 mg/m3
Skin			VND	2,5 mg/kg/d			VND	5 mg/kg/d

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

GAMMA-AMINOPROPYLTRIMETHOXYSILANE - CAS n. 13822-56-5

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 - frazione inalabile

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			VND	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/d	VND	5 mg/kg/d	VND	8,3 mg/kg/d	VND	8,3 mg/kg/d

Bis (2,2,6,6-TETRAMETHYL-4-PIPERIDYL) SEBACATE - CAS n. 52829-07-9

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				0,180 mg/kg bw/d				
Inhalation			0,310	0,310 mg/m3			0,310	1,27 mg/m3
Skin			0,900	0,900 mg/kg bw/d			0,900	1,8 mg/kg bw/d

2-(2H-Benzotriazol-2-yl)-6-(1-methyl-1-phenylethyl)-4-(1,1,3,3-tetramethylbutyl)phenol

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			10 mg/m3				10 mg/m3	

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

Derivates of Bis-(acetyloxy)-di-octyl-stannane - CAS n. 93925-43-0

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	DNK	0,1				Tin-organiske tinforbindelser
VLA	ESP	0,1		0,2		Estaño (compuestos orgánicos)
VLEP	FRA	0,1		0,2		Étain (composés organiques)
VLEP	ITA	0,1		0,2		Stagno (composti organici)
WEL	GBR	0,1		0,2		Tin (organic compounds)
TLV-ACGIH		0,1		0,2		Cute, A4 - come Sn

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				0,00117 mg/kg/d				
Inhalation				0,00203 mg/m3				0,0115 mg/m3
Skin				5,83 mg/kg/d				16,3 mg/kg/d

METHANOL - CAS n. 67-56-1

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations	
		mg/m3	ppm	mg/m3	ppm		
TLV	BGR	260	200			SKIN	
TLV	CZE	250	187,75	1000	751	SKIN	
AGW	DEU	270	200	1080	800	SKIN	
MAK	DEU	130	100	260	200	SKIN	
TLV	DNK	260	200			SKIN	E
VLA	ESP	266	200			SKIN	
TLV	EST	250	200	350	250	SKIN	
VLEP	FRA	260	200	1300	1000	SKIN	11
TLV	GRC	260	200	325	250		
AK	HUN	260				SKIN	
GVI/KGVI	HRV	260	200			SKIN	
VLEP	ITA	260	200			SKIN	
RD	LTU	260	200			SKIN	
RV	LVA	260	200			SKIN	
TGG	NLD	133				SKIN	
VLE	PRT	260	200			SKIN	
NDS/NDSCh	POL	100		300		SKIN	
TLV	ROU	260	200			SKIN	
NGV/KGV	SWE	250	200	350 (C)	250 (C)	SKIN	
NPEL	SVK	260	200			SKIN	
MV	SVN	260	200	1040	800	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	VND	8 mg/kg/d	VND	8 mg/kg/d				
Inhalation	VND	50 mg/m3	VND	50 mg/m3	VND	260 mg/m3	VND	260 mg/m3
Skin	VND	8 mg/kg/d	VND	8 mg/kg/d	VND	40 mg/kg/d	VND	40 mg/kg/d

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

METHYL BENZENE - CAS n. 108-88-3

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	150		300		
TLV	CZE	192	50,112	384	100,224	SKIN
AGW	DEU	190	50	760	200	SKIN
MAK	DEU	190	50	760	200	
TLV	DNK	94	25			SKIN
VLA	ESP	192	50	384	100	SKIN
TLV	EST	192	50	384	100	SKIN
VLEP	FRA	76,8	20	384	100	SKIN
TLV	GRC	192	50	384	100	
AK	HUN	190		380		
GVI/KGVI	HRV	192	50	384	100	SKIN
VLEP	ITA	192	50	384	100	SKIN H
RD	LTU	192	50	384	100	SKIN
RV	LVA	50	14	150	40	SKIN
TGG	NLD	150		384		
VLE	PRT	192	50	384	100	SKIN
NDS/NDSCh	POL	100		200		
NGV/KGV	SWE	192	50	384	100	SKIN
NPEL	SVK	192	50	384	100	SKIN
WEL	GBR	191	50	384	100	SKIN
OEL	EU	192	50	384	100	SKIN
TLV-ACGIH		75,4	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 for water, intermittent release	0,68	mg/l
Normal value of STP microorganisms	13,61	mg/l
Normal value for the terrestrial compartment	2,89	mg/kg
Normal value for the atmosphere	0,68	mg/l

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	8,13 mg/kg/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			VND	226 mg/kg			VND	384 mg/m3

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.

Derived No-Effect Levels' (DNEL's) and Predicted No-Effect Concentrations' (PNEC's)
Explanatory note: REACH requires manufacturers and importers to establish and report 'Derived No-Effect Levels' (DNEL's) for humans by inhalation, ingestion and dermal routes of exposure and 'Predicted No-Effect Concentrations'(PNEC's) for environmental exposure.
DNEL's and PNEC's are established by the registrant without an official consultation process, and are not intended to be directly used for setting workplace or general population exposure limits. They are primarily used as input values in running Quantitative Risk Assessment models (like the ECETOC-TRA model).
Due to differences in calculation methodology the DNEL will tend to be lower (sometimes significantly) than any corresponding health-based OEL for that chemical substance. Further although DNEL's (and PNEC's) are an indication for setting risk reduction measures, it should be recognized that these limits do not have the same regulatory application as officially endorsed governmental OEL's.

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.
HAND PROTECTION
Gloves are required at all times when handling the material. Protect hands with category I (ref. Directive 89/686/EEC and standard EN 374)

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

work gloves.
Recommended glove types: Protective gloves made of butyl rubber
thickness of the material: > 0,3 mm - Breakthrough time: > 480 min
Recommended glove types: Protective gloves made of nitrile rubber
thickness of the material: > 0,1 mm - Breakthrough time: > 480 min
Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. Note that, due to the numerous external influences (such as temperature), a chemically resistant protective glove in daily use may have a service life that is considerably shorter than the measured break through time.

SKIN PROTECTION
Wear category I 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.
.
EYE PROTECTION
Wear airtight protective goggles (see standard EN 166).
.
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.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties		Value	Information
Appearance		paste	
Colour		transparent	
Odour		imperceptible	
Melting point / freezing point	<	5 °C	
Initial boiling point	>	50 °C	
Flammability		not flammable	
Lower explosive limit		not applicable	Reason for missing data:not explosive
Upper explosive limit		not applicable	Reason for missing data:not explosive
Flash point		not applicable	Reason for missing data:Not inflammable
Auto-ignition temperature	>	200 °C	
Decomposition temperature		100 °C	
pH		not applicable	Reason for missing data:Insoluble in water
Kinematic viscosity		> 20,5 mm2/s	
Solubility		immiscible	
Partition coefficient: n-octanol/water		not applicable	Reason for missing data:it does not apply to mixtures
Vapour pressure		not available	Reason for missing data:not significant
Density and/or relative density		1,07 kg/l	
Relative vapour density		not applicable	Reason for missing data:not significant

Particle characteristics
Median equivalent diameter
Method: it does not apply to pastes

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Information not available

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

9.2.2. Other safety characteristics

Total solids (250°C / 482°F)	96,62 %	
VOC (Directive 2010/75/EU)	0,70 % - 7,50	g/litre
Explosive properties	not explosive	
Oxidising properties	non-oxidizing	

SECTION 10. Stability and reactivity

10.1. Reactivity

Thermal decomposition: the product is stable up to 100° c.

10.2. Chemical stability

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

METHYL BENZENE - CAS n. 108-88-3
breaks down in sunlight.

10.3. Possibility of hazardous reactions

By reaction with water, the product releases small amounts of methanol; the reaction is small and solidified material isn't dangerous

METHYL BENZENE - CAS n. 108-88-3
risk of explosion on contact with fuming sulphuric acid, nitric acid, silver perchlorates, nitrogen dioxide, non-metal halogenides, acetic acid, organic nitrocompounds. Can form explosive mixtures with the air. May react dangerously with: strong oxidising agents, strong acids, sulphur (in the presence of heat).

10.4. Conditions to avoid

Conditions to avoid: flames, sparks and heat.

GAMMA-AMINOPROPYLTRIMETHOXYSILANE - CAS n. 13822-56-5
Humidity, heat, open flames and other sources of ignition.

10.5. Incompatible materials

Materials to avoid: moisture and water.

GAMMA-AMINOPROPYLTRIMETHOXYSILANE - CAS n. 13822-56-5
Reacts with: water, basic substances and acids. The reaction takes place with the formation of methanol.

10.6. Hazardous decomposition products

Combustion products in case of fire: hazardous compounds can develop such as carbon oxides, silicon oxides, nitrogen oxides, unburned hydrocarbons, toxic and very toxic fumes.

GAMMA-AMINOPROPYLTRIMETHOXYSILANE - CAS n. 13822-56-5
In the case of hydrolysis: methanol. By checks it results that at temperatures above 150Â ° C, a small amount of formaldehyde is released by oxidative decomposition.

In case of fire, dangerous fumes and gases may be developed: carbon oxides, silicon oxides, nitrogen oxides, tin oxides, toxic and very toxic fumes.

SECTION 11. Toxicological information

No information is available on the preparation as such. In the absence of experimental toxicological data on the product itself, any health hazards of the product have been assessed on the basis of the properties of the substances contained, according to the criteria established by the reference legislation for classification.
Therefore, consider the concentration of the individual dangerous substances possibly mentioned in sect. 3, to evaluate the toxicological effects resulting from exposure to the product. The toxicological information concerning the main substances present in the mixture is reported below.

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

SECTION 11. Toxicological information ... / >>

VINYLTRIMETHOXYSILANE - CAS n. 2768-02-7
Further toxicological information
Hydrolysis product / impurity: Methanol (CAS 67-56-1) is readily and rapidly absorbed at all exposure routes and is toxic by all routes. Methanol may cause irritation of the mucosa, as well as nausea, vomiting, headaches, vertigo and visual disorders, including blindness (irreversible damage to the optic nerve), acidosis, spasms, narcosis and coma. There may be a delay in the onset of these effects after exposure.

N-(3- (trimethoxysilyl) propyl) ethylenediamine - CAS n. 1760-24-3
Product of hydrolysis/impurities: METHANOL (CAS n. 67-56-1). METHANOL is rapidly and well absorbed by all routes of exposure and it is toxic regardless of the assumed type of dose. Methanol can cause irritation of the mucous membranes, nausea, vomiting, headache, dizziness and vision problems, as well as blindness (irreversible damage to the optic nerve), acidosis, muscle cramps and coma. Following exposure may be a delay in the occurrence of these effects.

METHYL BENZENE - CAS n. 108-88-3
INHALATION: May cause central nervous system depression. May cause drowsiness and dizziness; may cause damage to organs through prolonged or repeated exposure.
SKIN: Causes skin irritation;
EYES: Causes severe 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 - CAS n. 67-56-1
WORKERS: inhalation; contact with the skin.
POPULATION: ingestion of contaminated food or water; contact with the skin of products containing the substance.

METHYL BENZENE - CAS n. 108-88-3
WORKERS: inhalation; contact with the skin.

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

METHANOL - CAS n. 67-56-1
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).

METHYL BENZENE - CAS n. 108-88-3
Acute effects: skin contact may cause irritation, erythema, edema, dryness and cracking.
Inhalation of vapors may cause mild irritation of the upper respiratory tract. Being very volatile can cause serious depression of the central nervous system (CNS) with effects such as drowsiness, dizziness, loss of reflexes, narcosis. It can produce functional disturbance or morphological change, for repeated or prolonged exposure by inhalation of a quantity less than or equal to 0.25 mg/l, 6 h/day.
Ingestion may cause health problems, including stomach pain and sting, nausea and vomiting. The introduction of even small quantities of this liquid into the respiratory system in case of ingestion or vomit may cause bronchopneumonia and pulmonary edema.
Has to be considered with suspicion for possible teratogenic effects which may be toxic on the developing fetus.

Interactive effects

Information not available

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)

VINYLTRIMETHOXYSILANE - CAS n. 2768-02-7

LD50 (Dermal):	> 3460 mg/kg Coniglio/Rabbit/Lapin/Kaninchen/Iepure/Conejo - OECD 402
LD50 (Oral):	> 7000 mg/kg Ratto/Rat/Ratte/Sobolan/Rata - OECD401
LC50 (Inhalation vapours):	16,8 mg/l/4h Ratto/Rat/Ratte/Sobolan/Rata - OECD 403

SECTION 11. Toxicological information ... / >>

N-(3- (trimethoxysilyl) propyl) ethylenediamine - CAS n. 1760-24-3

LD50 (Dermal):	> 2000 mg/kg Ratto/Rat/Ratte/Rata/Sobolan
LD50 (Oral):	2995 mg/klg Ratto/Rat/Ratte/Rata/Sobolan
LC50 (Inhalation vapours):	> 1,49 mg/l Ratto/Rat/Ratte/Rata/Sobolan (4h-aerosol)

GAMMA-AMINOPROPYLTRIMETHOXYSILANE - CAS n. 13822-56-5

LD50 (Dermal):	> 2000 mg/kg Coniglio/Rabbit/Kaninchen/Iepure/Conejo
LD50 (Oral):	3 ml/kg Ratto/Rat/Rata/Sobolan

Bis (2,2,6,6-TETRAMETHYL-4-PIPERIDYL) SEBACATE - CAS n. 52829-07-9

LD50 (Dermal):	> 3000 mg/kg Ratto/Rat/Ratte/Sobolan/Rata - OECD 402
LD50 (Oral):	3700 mg/kg Ratto/Rat/Ratte/Sobolan/Rata - OECD 423
LC50 (Inhalation mists/powders):	500 mg/l/4h Ratto/Rat/Ratte/Sobolan/Rata - CIBA-GEIGY 1974

METHANOL - CAS n. 67-56-1

LD50 (Dermal):	15800 mg/kg Coniglio/Rabbit/Lapin/Conejo/Kaninchen/Iepure
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):	5628 mg/kg Ratto/Rat/Ratte/Rata/Șobolan
LC50 (Inhalation vapours):	83,2 mg/l/4h Ratto/Rat/Ratte/Rata/Șobolan

METHYL BENZENE - CAS n. 108-88-3

LD50 (Dermal):	> 5000 mg/kg Coniglio/Rabbit/Lapin/Kaninchen/Iepure/Conejo
LD50 (Oral):	5580 mg/kg Ratto/Rat/Ratte/Șobolan/Rata
LC50 (Inhalation vapours):	28,1 mg/l/4h Ratto/Rat/Ratte/Șobolan/Rata - Meth: OCSE 403

VINYLTRIMETHOXYSILANE - CAS n. 2768-02-7
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. In case of short inhalation exposure moderate toxic effects are expected.

SKIN CORROSION / IRRITATION

Does not meet the classification criteria for this hazard class

N-(3- (trimethoxysilyl) propyl) ethylenediamine - CAS n. 1760-24-3
Slightly irritating (rabbit) - OECD 404

GAMMA-AMINOPROPYLTRIMETHOXYSILANE - CAS n. 13822-56-5
Irritating to the skin
Method: OECD TG 404. (rabbit).

METHYL BENZENE - CAS n. 108-88-3
CORROSIVENESS AND IRRITATION: Irritating to the skin, conjunctiva, cornea and respiratory system.
Skin irritation (OECD 404): irritating (Tested on rabbit)

SERIOUS EYE DAMAGE / IRRITATION

Does not meet the classification criteria for this hazard class

VINYLTRIMETHOXYSILANE - CAS n. 2768-02-7
No eye irritation - rabbit (OECD 405)

N-(3- (trimethoxysilyl) propyl) ethylenediamine - CAS n. 1760-24-3
Serious eye damage (rabbit) - OECD 405

GAMMA-AMINOPROPYLTRIMETHOXYSILANE - CAS n. 13822-56-5
Risk of serious eye damage.
Method: OECD TG 405. (rabbit).

METHYL BENZENE - CAS n. 108-88-3
No eye irritation
Species: On rabbit; Method: OECD 405; Source: ECHA.

RESPIRATORY OR SKIN SENSITISATION

May produce an allergic reaction.
Contains:

SECTION 11. Toxicological information ... / >>

N-(3- (trimethoxysilyl) propyl) ethylenediamine - CAS n. 1760-24-3
VINYLTRIMETHOXYSILANE - CAS n. 2768-02-7

VINYLTRIMETHOXYSILANE - CAS n. 2768-02-7
According to Annex VI of Regulation (EC) no. 1272/2008, vinyltrimethoxysilane (VTMS) is classified as a category 1B skin sensitizer based on data from in vivo tests with laboratory animals. No allergic reactions were also reported following occupational 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. In consideration of the entire composition, this result, based on the judgment of experts, can be used for the classification and labeling of mixtures containing polymers.

GAMMA-AMINOPROPYLTRIMETHOXYSILANE - CAS n. 13822-56-5
Not sensitizing.
Method OECD 406 (guinea pig).

METHYL BENZENE - CAS n. 108-88-3
Does not cause skin sensitization.
Species: Guinea pig; Test System: Maximization Test; Method: OECD 406, Source: ECHA.

Skin sensitization

N-(3- (trimethoxysilyl) propyl) ethylenediamine - CAS n. 1760-24-3
In case of contact with the skin, skin sensitization is possible. The product is a skin sensitizer, sub-category 1B.
Sensitizer (guinea pig) - OECD 406
Sensitizer (mouse) - OECD 429 (LLNA)

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

VINYLTRIMETHOXYSILANE - CAS n. 2768-02-7
In Chinese Hamster Ovary (CHO) cells: negative (non-mutegenic) - OECD 476
Ames test (Genetic toxicology: salmonella typhimurium, reversion assay): negative (not mutegenic) - OECD 471
Chromosomal aberration: positive - OECD 473

N-(3- (trimethoxysilyl) propyl) ethylenediamine - CAS n. 1760-24-3
On the basis of the available data, no significant potential is assumed whose effect may be genetically harmful.
Result / effect: negative
Species / test system: mammalian cells; mutation assay (in vitro)
Source: OECD 476

GAMMA-AMINOPROPYLTRIMETHOXYSILANE - CAS n. 13822-56-5
Negative. Method OECD 471 (bacterial cells - in vitro).
Negative. Method OECD 476 (mammalian cells - in vitro).
Negative. Method OECD 473 (mammalian cells - in vitro).
Negative. Method OECD 474 (mouse - in vivo).

METHYL BENZENE - CAS n. 108-88-3
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 Route: Intraperitoneal; Cell type: bone marrow cells; Source: ECHA.

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

METHYL BENZENE - CAS n. 108-88-3
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) claims that "the data was found to be inadequate for an assessment of carcinogenic potential."

NOAEL (Toxicity): 4,500 mg/m³
LOAEL (Toxicity): 2,250 mg/m³

SECTION 11. Toxicological information ... / >>

Species: Rat, male/female
Method of application: Inhalative
Dosage levels: 0 - 2250 - 4500 mg/m³
Substance to be tested: steam
Duration of exposure: 103 w
Treatment frequency: 6 hours/day 5 days/week
Method: OECD Test Guideline 453

NOAEL (Toxicity): 1.131
Species: Rat, male/female
Method of application: Inhalative
Dosage levels: 0 - 113 - 377 - 1131 mg/m³
Substance to be tested: steam
Duration of exposure: 2 a
Treatment frequency: 6 hours/day 5 days/week
Method: OECD Test Guideline 453

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

N-(3- (trimethoxysilyl) propyl) ethylenediamine - CAS n. 1760-24-3
Based on available data, the criteria for classification as toxic for reproduction have not been met.
Studies related to effects on fertility:
NOAEL:> = 500 mg / kg
(Rat, Oral - OECD 422 analysis report)
Studies relating to developmental toxicity and teratogenicity:
NOAEL (developmental):> = 500 mg / kg
NOAEL (maternal):> = 500 mg / kg
(Rat, Oral - OECD 422 analysis report)

Bis (2,2,6,6-TETRAMETHYL-4-PIPERIDYL) SEBACATE - CAS n. 52829-07-9
Test: NOAEL - Species: rabbit 60 mg / m3

METHYL BENZENE - CAS n. 108-88-3
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
Method of application: Inhalative
Dosage levels: 0 - 2261 - 7537 mg/m³
Substance to be tested: steam
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
Method of application: Inhalative
Dosage levels: 0 - 375 - 1875 - 7500 mg/m³
Substance to be tested: steam
Treatment frequency: 6 hours/day 7 days/week
Method: OECD Test Guideline 416

Adverse effects on development of the offspring

GAMMA-AMINOPROPYLTRIMETHOXYSILANE - CAS n. 13822-56-5
NOAEL (developmental): 100 mg / kg. EPA OTS 798.4900
NOAEL (maternal): 100 mg / kg. EPA OTS 798.4900

METHYL BENZENE - CAS n. 108-88-3
NOAEL (teratogenicity): 4500 mg/m³
NOAEL (maternal): 2250 mg/m³
NOAEL (developmental toxicity): 2250 mg/m³
Species: Rat, female

SECTION 11. Toxicological information ... / >>

Method of application: Inhalative
Dosage levels: 0 - 4500 mg/m³
Treatment frequency: 6 hours/day 7 days/week
Substance to be tested: steam
Fetal toxicity was noted in animal studies.

STOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class

METHYL BENZENE - CAS n. 108-88-3
Route of exposure: inhalation
Target organs: Central nervous system
Vapors may have a narcotic effect.
Source: ECHA.

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

N-(3- (trimethoxysilyl) propyl) ethylenediamine - CAS n. 1760-24-3
NOAEL:> = 500 mg / kg (No observed harmful level)
(Rat, Ingestion, 28 d - OECD 422 analysis report)

METHYL BENZENE - CAS n. 108-88-3
TOXICITY AFTER REPEATED ADMINISTRATION (subacute, sub-chronic, chronic): May cause drowsiness or dizziness. May cause damage to organs in the event of prolonged or repeated exposure. Has a toxic effect on the central and peripheral nervous system with polyneuritis and encephalopathy.
SUBACUTE ORAL TOXICITY
Parameter: NOAEL (C) (TOLUENE; CAS: 108-88-3); Route of Exposure: Oral - Effective Dose: = 625 mg / kg bw / day
SUBACUTE INHALATION TOXICITY
Parameter: NOAEC (TOLUENE; CAS: 108-88-3); Route of Exposure: Inhalation - Species: Rat - Effective Dose: 1,131 mg / m3
Result of the / test: CNS

Target organs

GAMMA-AMINOPROPYLTRIMETHOXYSILANE - CAS n. 13822-56-5
NOAEL: 200 mg / kg
LOAEL: 600 mg / kg
Target organ: liver (rat). OECD 408.
LOAEC: 0.147 mg / l
Target organ: respiratory tract (rat).

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

GAMMA-AMINOPROPYLTRIMETHOXYSILANE - CAS n. 13822-56-5
Hydrolysis / impurity product: 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 irritation of the mucous membranes, nausea, vomiting, headache, dizziness and visual disturbances, as well as blindness (irreversible damage to the optic nerve), acidosis, muscle cramps and coma. After exposure, delays may occur in the appearance of these effects.

METHYL BENZENE - CAS n. 108-88-3
ASPIRATION: May cause severe injury (chemical pneumonitis) to the lungs after ingestion and enters 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 in accordance with the rules of good manufacturing technique, avoiding release into the environment (see also sections 6, 7, 13, 14 and 15).
Inform the competent authorities, should the product reach waterways or sewers or contaminate soil or vegetation.
There are not available eco-toxicological data on the mixture as a whole. Below the toxicological information are listed, relating to the main substances in the mixture.

SECTION 12. Ecological information ... / >>

12.1. Toxicity

METHYL BENZENE - CAS n. 108-88-3

LC50 - for Fish	5,5 mg/l/96h Oncorhyncus mykiss
EC50 - for Crustacea	3,78 mg/l/48h Ceriodaphnia dubia
EC50 - for Algae / Aquatic Plants	134 mg/l/3h Chlorella vulgaris
Chronic NOEC for Fish	1,39 mg/l Oncorhyncus kisutch (40d)
Chronic NOEC for Crustacea	0,74 mg/l Ceriodaphnia dubia (7d) - EPA 600/4-91-003
Chronic NOEC for Algae / Aquatic Plants	10 mg/l Skeletonema costatum (72h) - OECD TG 201

N-(3- (trimethoxysilyl) propyl) ethylenediamine - CAS n. 1760-24-3

LC50 - for Fish	597 mg/l/96h Danio Renio
EC50 - for Crustacea	81 mg/l/48h Daphnia magna
EC50 - for Algae / Aquatic Plants	8,8 mg/l Pseudokirchneriella subcapitata - OECD 201
Chronic NOEC for Crustacea	> 1 mg/l Daphnia magna
Chronic NOEC for Algae / Aquatic Plants	3,1 mg/l/72h Pseudokirchneriella subcapitata - OECD 201

VINYLTRIMETHOXYSILANE - CAS n. 2768-02-7

LC50 - for Fish	191 mg/l/96h Oncorhynchus mykiss
EC50 - for Crustacea	169 mg/l/48h Daphnia magna - OECD 202
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 (Reproduction; 21 days) OECD 211
Chronic NOEC for Algae / Aquatic Plants	25 mg/l Selenastrum capricornutum (7d)

GAMMA-AMINOPROPYLTRIMETHOXYSILANE - CAS n. 13822-56-5

LC50 - for Fish	> 934 mg/l/96h Danio rerio - OECD TG 203
EC50 - for Crustacea	331 mg/l/48h Daphnia magna (static) OECD TG 202
EC50 - for Algae / Aquatic Plants	> 1000 mg/l/72h Desmodesmus subspicatus - OECD TG 201
Chronic NOEC for Algae / Aquatic Plants	1,3 mg/l Desmodesmus subspicatus (72h)

Bis (2,2,6,6-TETRAMETHYL-4-PIPERIDYL) SEBACATE - CAS n. 52829-07-9

LC50 - for Fish	4,4 mg/l/96h Oncorhynchus mykiss OECD 203
EC50 - for Crustacea	8,58 mg/l/48h Daphnia magna - OECD 202
EC50 - for Algae / Aquatic Plants	0,705 mg/l/72h Pseudokirchneriella subcapitata - OECD 201
Chronic NOEC for Crustacea	4 mg/l/48h Daphnia magna (21d) - OECD 211

METHANOL - CAS n. 67-56-1

LC50 - for Fish	> 100 mg/l/96h Pimephales promelas (static)
EC50 - for Crustacea	10000 mg/l/48h Daphnia
EC50 - for Algae / Aquatic Plants	10000 mg/l/72h Piante acquatiche, diatomee

12.2. Persistence and degradability

N-(3- (trimethoxysilyl) propyl) ethylenediamine - CAS n. 1760-24-3
Reacts with water to develop methanol and silanol and / or siloxanol compounds. Methanol is readily biodegradable. Compounds of silanol and / or siloxanol: not biodegradable.
Hydrolysis
Result: half-period; 0.025 h
Test system: pH 7; 24.7 ° C
Source: OECD 111

GAMMA-AMINOPROPYLTRIMETHOXYSILANE - CAS n. 13822-56-5
Hydrolysis:
Half-life 8.5 h: pH 7, 24.7 ° C (OECD 111)

METHYL BENZENE - CAS n. 108-88-3
PHOTODEGRADATION
Test type: Phototransformation in air
Sensitiser: OH radicals
Sensitizer concentration: 500,000 1/cm3
Rate constant: 6.19E-12cm3/s
Half-life (Indirect photolysis): 2.59 d
Method: SRC - AOP (calculation)
Following evaporation or exposure to air, the product is moderately degraded through photochemical processes.

SECTION 12. Ecological information ... / >>

METHYL BENZENE - CAS n. 108-88-3

Solubility in water	100-1000 mg/l
Rapidly degradable	69 - 100% (5 - 20 d)

N-(3- (trimethoxysilyl) propyl) ethylenediamine - CAS n. 1760-24-3

NOT rapidly degradable	39% / 28d

VINYLTRIMETHOXYSILANE - CAS n. 2768-02-7

Solubility in water	9400 mg/l At 20°C - (hydrolytic decomposition)
NOT rapidly degradable	51% / 28d - OECD 301F

GAMMA-AMINOPROPYLTRIMETHOXYSILANE - CAS n. 13822-56-5

Solubility in water	180 g/l 20°
NOT rapidly degradable	67% /28d - OECD 301A

Bis (2,2,6,6-TETRAMETHYL-4-PIPERIDYL) SEBACATE - CAS n. 52829-07-9

Solubility in water	< 1 mg/l a 20°C
NOT rapidly degradable	24% (28 days) Dir.84/449/EEC,C.5

METHANOL - CAS n. 67-56-1

Solubility in water	1000 - 10000 mg/l
Rapidly degradable	

Information not available on the mixture as a whole. Refer to substances listed above.

12.3. Bioaccumulative potential

VINYLTRIMETHOXYSILANE - CAS n. 2768-02-7
It is not subject to bioaccumulation; hydrolyzes.

METHYL BENZENE - CAS n. 108-88-3

Partition coefficient: n-octanol/water	2,73
BCF	90 Leuciscus idus - 3d @ 25°C

VINYLTRIMETHOXYSILANE - CAS n. 2768-02-7

Partition coefficient: n-octanol/water	1,1 Basso potenziale - Low potential

GAMMA-AMINOPROPYLTRIMETHOXYSILANE - CAS n. 13822-56-5

Partition coefficient: n-octanol/water	0,2 Log Kow at 20°C

Bis (2,2,6,6-TETRAMETHYL-4-PIPERIDYL) SEBACATE - CAS n. 52829-07-9

Partition coefficient: n-octanol/water	0,35 Log Kow (20-25°C: pH=7,0)

METHANOL - CAS n. 67-56-1

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

Information not available on the mixture as a whole. Refer to substances listed above.

12.4. Mobility in soil

Information not available on the mixture as such.

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. Neat product residues should be considered special non-hazardous waste.
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 40
Contained substance
Point 75
Point 52 DI-ISODECYL PHTHALATE (DIDP) - CAS n. 68515-49-1
REACH Reg.: 01-2119422347-43
Point 48 METHYL BENZENE - CAS n. 108-88-3
REACH Reg.: 01-2119471310-51-XXXX

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

SECTION 15. Regulatory information ... / >>

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:
None

Substances subject to the Rotterdam Convention:
None

Substances subject to the Stockholm Convention
None

Healthcare controls
Information not available

15.2. Chemical safety assessment

A chemical safety assessment has been performed for the following contained substances:
VINYLTRIMETHOXYSILANE - CAS n. 2768-02-7
N-(3- (trimethoxysilyl) propyl) ethylenediamine - CAS n. 1760-24-3
Bis (2,2,6,6-TETRAMETHYL-4-PIPERIDYL) SEBACATE - CAS n. 52829-07-9
METHYL BENZENE - CAS n. 108-88-3
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
STOT SE 3	Specific target organ toxicity - single exposure, category 3
Skin Sens. 1	Skin sensitization, category 1
Skin Sens. 1B	Skin sensitization, category 1B
Aquatic Acute 1	Hazardous to the aquatic environment, acute toxicity, category 1
Aquatic Chronic 2	Hazardous to the aquatic environment, chronic toxicity, category 2
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.
H335	May cause respiratory 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.
EUH210	Safety data sheet available on request.

SECTION 16. Other information ... / >>

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 as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- 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 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) 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)

- 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

SECTION 16. Other information ... / >>

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.

PROCEDURE USED TO DERIVE CLASSIFICATION UNDER REGULATION (EC) No 1272/2008 [CLP/GHS]
Classification: NOT classified product
Justification: Based on raw material testing and expert judgement.

Changes to previous review:
The following sections were modified:
01 / 02 / 03 / 04 / 05 / 06 / 07 / 08 / 09 / 10 / 11 / 12 / 15 / 16.