



Safety Data Sheet according to (EC) No 1907/2006 as amended

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TEROSON MS 660 TP

SDS No. : 633060
V004.2

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

1.1. Product identifier

TEROSON MS 660 TP

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

Intended use:

MS Adhesive

1.3. Details of the supplier of the safety data sheet

Henkel Ltd

Adhesives

Wood Lane End

HP2 4RQ Hemel Hempstead

Great Britain

Phone: +44 (1442) 278000

ua-productsafety.uk@henkel.com

For Safety Data Sheet updates please visit our website <https://mysds.henkel.com/index.html#/appSelection> or www.henkel-adhesives.com.

1.4. Emergency telephone number

24 Hours Emergency Tel: +44 0 8701 906777 - For further general health & safety, technical and practical advice on this product, please call +44 (0) 1606 593933 or write to: Technical Services; Henkel Limited; Road 5; Winsford Industrial Estate; Winsford; Cheshire; CW7 3QY- Email: technical.services@henkel.co.uk

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (CLP):

Skin sensitizer

H317 May cause an allergic skin reaction.

Category 1

2.2. Label elements

Label elements (CLP):

Hazard pictogram:



Contains

Trimethoxyvinylsilane

Signal word:	Warning
Hazard statement:	H317 May cause an allergic skin reaction.
Precautionary statement:	P280 Wear protective gloves.
Prevention	

2.3. Other hazards

Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

Following substances are present in a concentration $\geq 0,1\%$ and fulfill the criteria for PBT/vPvB, or were identified as endocrine disruptor (ED):

This mixture does not contain any substances in concentration \geq the concentration limit that are assessed to be a PBT, vPvB or ED.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Declaration of the ingredients according to CLP (EC) No 1272/2008:

Hazardous components CAS-No. EC Number REACH-Reg No.	Concentration	Classification	Specific Conc. Limits, M-factors and ATEs	Add. Information
Vinyltrihydroxysilane 143-48-6	1- < 3 %	Acute Tox. 4, Inhalation, H332 STOT RE 2, H373		
Trimethoxyvinylsilane 2768-02-7 220-449-8 01-2119513215-52	1- < 3 %	Flam. Liq. 3, H226 Acute Tox. 4, Inhalation, H332 STOT RE 2, H373 Skin Sens. 1B, H317		
Bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate 52829-07-9 258-207-9 01-2119537297-32	0,1- < 1 %	Repr. 2, H361f Eye Dam. 1, H318 Aquatic Chronic 2, H411 Aquatic Acute 1, H400	M acute = 1	
methanol 67-56-1 200-659-6 01-2119433307-44	0,1- < 1 %	Flam. Liq. 2, H225 Acute Tox. 3, Inhalation, H331 Acute Tox. 3, Dermal, H311 Acute Tox. 3, Oral, H301 STOT SE 1, H370	STOT SE 1; H370; C $\geq 10\%$ STOT SE 2; H371; C 3 - < 10 % ===== oral:ATE = 300 mg/kg	EU OEL
Diocetyl tin dilaurate 3648-18-8 222-883-3 01-2119979527-19	0,1- < 0,3 %	Repr. 1B, H360D STOT RE 1, H372		SVHC

**For full text of the H - statements and other abbreviations see section 16 "Other information".
Substances without classification may have community workplace exposure limits available.**

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:

Move to fresh air, consult doctor if complaint persists.

Skin contact:

IF ON SKIN: Wash with plenty of soap and water.

In case of adverse health effects seek medical advice.

Eye contact:

Rinse immediately with plenty of running water (for 10 minutes), seek medical attention from a specialist.

Ingestion:

Rinse mouth, drink 1-2 glasses of water, do not induce vomiting, consult a doctor.

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

SKIN: Rash, Urticaria.

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

See section: Description of first aid measures

SECTION 5: Firefighting measures**5.1. Extinguishing media****Suitable extinguishing media:**

All common extinguishing agents are suitable.

Extinguishing media which must not be used for safety reasons:

High pressure waterjet

5.2. Special hazards arising from the substance or mixture

In case of fire toxic gases can be released.

5.3. Advice for firefighters

Wear self-contained breathing apparatus.

Wear protective equipment.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Wear protective equipment.

Avoid contact with skin and eyes.

Keep unprotected persons away.

6.2. Environmental precautions

Do not empty into drains / surface water / ground water.

6.3. Methods and material for containment and cleaning up

Remove mechanically.

Dispose of contaminated material as waste according to Section 13.

6.4. Reference to other sections

See advice in section 8

SECTION 7: Handling and storage**7.1. Precautions for safe handling****Hygiene measures:**

Wash hands before work breaks and after finishing work.

Do not eat, drink or smoke while working.

7.2. Conditions for safe storage, including any incompatibilities

Ensure good ventilation/extraction.

Temperatures between + 10 °C and + 25 °C

7.3. Specific end use(s)

MS Adhesive

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational Exposure Limits

Valid for
Great Britain

Ingredient [Regulated substance]	ppm	mg/m ³	Value type	Short term exposure limit category / Remarks	Regulatory list
Silane, dichlorodimethyl-, reaction products with silica 68611-44-9 [SILICA, AMORPHOUS, RESPIRABLE DUST]		2,4	Time Weighted Average (TWA):		EH40 WEL
Silane, dichlorodimethyl-, reaction products with silica 68611-44-9 [SILICA, AMORPHOUS, INHALABLE DUST]		6	Time Weighted Average (TWA):		EH40 WEL
Silane, dichlorodimethyl-, reaction products with silica 68611-44-9 [Dust, inhalable dust]		10	Time Weighted Average (TWA):		EH40 WEL
Silane, dichlorodimethyl-, reaction products with silica 68611-44-9 [Dust, respirable dust]		4	Time Weighted Average (TWA):		EH40 WEL
Methanol 67-56-1 [METHANOL]			Skin designation:	Can be absorbed through the skin.	EH40 WEL
Methanol 67-56-1 [METHANOL]	200	266	Time Weighted Average (TWA):		EH40 WEL
Methanol 67-56-1 [METHANOL]	200	260	Time Weighted Average (TWA):	Indicative	ECTLV
Methanol 67-56-1 [METHANOL]	250	333	Short Term Exposure Limit (STEL):	15 minutes	EH40 WEL
Diocetyl tin dilaurate 3648-18-8 [TIN COMPOUNDS, ORGANIC, EXCEPT CYHEXATIN (ISO), (AS SN)]		0,1	Time Weighted Average (TWA):		EH40 WEL
Diocetyl tin dilaurate 3648-18-8 [TIN COMPOUNDS, ORGANIC, EXCEPT CYHEXATIN (ISO), (AS SN)]			Skin designation:	Can be absorbed through the skin.	EH40 WEL
Diocetyl tin dilaurate 3648-18-8 [TIN COMPOUNDS, ORGANIC, EXCEPT CYHEXATIN (ISO), (AS SN)]		0,2	Short Term Exposure Limit (STEL):	15 minutes	EH40 WEL

Occupational Exposure Limits

Valid for
Ireland

Ingredient [Regulated substance]	ppm	mg/m ³	Value type	Short term exposure limit category / Remarks	Regulatory list
Silane, dichlorodimethyl-, reaction products with silica 68611-44-9 [DUSTS NON-SPECIFIC]		10	Time Weighted Average (TWA):		IR_OEL
Silane, dichlorodimethyl-, reaction products with silica 68611-44-9 [SILICA, AMORPHOUS]		2,4	Time Weighted Average (TWA):		IR_OEL
Silane, dichlorodimethyl-, reaction products with silica 68611-44-9 [SILICA, AMORPHOUS]		6	Time Weighted Average (TWA):		IR_OEL

Silane, dichlorodimethyl-, reaction products with silica 68611-44-9 [DUSTS NON-SPECIFIC]		4	Time Weighted Average (TWA):		IR_OEL
Methanol 67-56-1 [METHANOL]	200	260	Time Weighted Average (TWA):	Indicative OELV	IR_OEL
Methanol 67-56-1 [METHANOL]			Skin designation:	Can be absorbed through the skin.	IR_OEL
Methanol 67-56-1 [METHANOL]	200	260	Time Weighted Average (TWA):	Indicative	ECTLV
Diocetyl tin dilaurate 3648-18-8 [TIN, ORGANIC COMPOUNDS]		0,2	Short Term Exposure Limit (STEL):	15 minutes Indicative OELV	IR_OEL
Diocetyl tin dilaurate 3648-18-8 [TIN, ORGANIC COMPOUNDS]		0,1	Time Weighted Average (TWA):	Indicative OELV	IR_OEL

Predicted No-Effect Concentration (PNEC):

Name on list	Environmental Compartment	Exposure period	Value				Remarks
			mg/l	ppm	mg/kg	others	
Trimethoxyvinylsilane 2768-02-7	aqua (freshwater)		0,4 mg/l				
Trimethoxyvinylsilane 2768-02-7	aqua (marine water)		0,04 mg/l				
Trimethoxyvinylsilane 2768-02-7	Freshwater - intermittent		1,21 mg/l				
Trimethoxyvinylsilane 2768-02-7	sediment (freshwater)				1,5 mg/kg		
Trimethoxyvinylsilane 2768-02-7	sediment (marine water)				0,15 mg/kg		
Trimethoxyvinylsilane 2768-02-7	Soil				0,06 mg/kg		
Bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate 52829-07-9	aqua (freshwater)		0,004 mg/l				
Bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate 52829-07-9	aqua (marine water)		0,00038 mg/l				
Bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate 52829-07-9	Freshwater - intermittent		0,007 mg/l				
Bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate 52829-07-9	sediment (freshwater)				5,9 mg/kg		
Bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate 52829-07-9	sediment (marine water)				0,59 mg/kg		
Bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate 52829-07-9	Soil				1,18 mg/kg		
Bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate 52829-07-9	sewage treatment plant (STP)		1 mg/l				
methanol 67-56-1	aqua (freshwater)						no hazard identified
methanol 67-56-1	sediment (freshwater)						no hazard identified
methanol 67-56-1	aqua (marine water)						no hazard identified
methanol 67-56-1	Soil						no hazard identified
methanol 67-56-1	sewage treatment plant (STP)						no hazard identified
methanol 67-56-1	aqua (intermittent releases)						no hazard identified
methanol 67-56-1	sediment (marine water)						no hazard identified
Diocetyl tin dilaurate 3648-18-8	aqua (freshwater)					0,002 µg/l	
Diocetyl tin dilaurate 3648-18-8	aqua (marine water)					0 µg/l	
Diocetyl tin dilaurate 3648-18-8	Freshwater - intermittent					0,018 µg/l	
Diocetyl tin dilaurate 3648-18-8	sewage treatment plant (STP)		100 mg/l				
Diocetyl tin dilaurate 3648-18-8	sediment (freshwater)				0,028 mg/kg		
Diocetyl tin dilaurate 3648-18-8	sediment (marine water)				0,003 mg/kg		
Diocetyl tin dilaurate 3648-18-8	Soil				0,006 mg/kg		
Diocetyl tin dilaurate 3648-18-8	oral				0,02 mg/kg		

Derived No-Effect Level (DNEL):

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
Trimethoxyvinylsilane 2768-02-7	Workers	dermal	Long term exposure - systemic effects		0,91 mg/kg	
Trimethoxyvinylsilane 2768-02-7	Workers	inhalation	Long term exposure - systemic effects		27,6 mg/m3	
Trimethoxyvinylsilane 2768-02-7	General population	dermal	Long term exposure - systemic effects		0,63 mg/kg	
Trimethoxyvinylsilane 2768-02-7	General population	inhalation	Long term exposure - systemic effects		6,8 mg/m3	
Trimethoxyvinylsilane 2768-02-7	General population	oral	Long term exposure - systemic effects		0,63 mg/kg	
Trimethoxyvinylsilane 2768-02-7	Workers	inhalation	Acute/short term exposure - systemic effects		73,6 mg/m3	
Trimethoxyvinylsilane 2768-02-7	General population	inhalation	Acute/short term exposure - systemic effects		54,4 mg/m3	
Bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate 52829-07-9	Workers	dermal	Long term exposure - systemic effects		1,8 mg/kg	
Bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate 52829-07-9	Workers	Inhalation	Long term exposure - systemic effects		1,27 mg/m3	
Bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate 52829-07-9	General population	Inhalation	Long term exposure - systemic effects		0,31 mg/m3	
Bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate 52829-07-9	General population	dermal	Long term exposure - systemic effects		0,9 mg/kg	
Bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate 52829-07-9	General population	oral	Long term exposure - systemic effects		0,18 mg/kg	
methanol 67-56-1	Workers	inhalation	Long term exposure - systemic effects		260 mg/m3	no hazard identified
methanol 67-56-1	Workers	inhalation	Acute/short term exposure - systemic effects		260 mg/m3	no hazard identified
methanol 67-56-1	Workers	inhalation	Long term exposure - local effects		260 mg/m3	no hazard identified
methanol 67-56-1	Workers	inhalation	Acute/short term exposure - local effects		260 mg/m3	no hazard identified
methanol 67-56-1	Workers	dermal	Long term exposure - systemic effects		40 mg/kg	no hazard identified
methanol 67-56-1	Workers	dermal	Acute/short term exposure - systemic effects		40 mg/kg	no hazard identified
methanol 67-56-1	General population	inhalation	Long term exposure - systemic effects		50 mg/m3	no hazard identified
methanol 67-56-1	General population	inhalation	Acute/short term exposure - systemic effects		50 mg/m3	no hazard identified
methanol 67-56-1	General population	inhalation	Long term exposure - local effects		50 mg/m3	no hazard identified
methanol 67-56-1	General population	inhalation	Acute/short term exposure - local effects		50 mg/m3	no hazard identified
methanol 67-56-1	General population	dermal	Long term exposure - systemic effects		8 mg/kg	no hazard identified
methanol 67-56-1	General population	dermal	Acute/short term exposure -		8 mg/kg	no hazard identified

			systemic effects			
methanol 67-56-1	General population	oral	Long term exposure - systemic effects		8 mg/kg	no hazard identified
methanol 67-56-1	General population	oral	Acute/short term exposure - systemic effects		8 mg/kg	no hazard identified
Diocetyl tin dilaurate 3648-18-8	Workers	inhalation	Long term exposure - systemic effects		0,0035 mg/m ³	
Diocetyl tin dilaurate 3648-18-8	Workers	dermal	Long term exposure - systemic effects		0,05 mg/kg	
Diocetyl tin dilaurate 3648-18-8	General population	inhalation	Long term exposure - systemic effects		0,0009 mg/m ³	
Diocetyl tin dilaurate 3648-18-8	General population	dermal	Long term exposure - systemic effects		0,025 mg/kg	
Diocetyl tin dilaurate 3648-18-8	General population	oral	Long term exposure - systemic effects		0,0005 mg/kg	

Biological Exposure Indices:

None

8.2. Exposure controls:

Engineering controls:

Ensure good ventilation/extraction.

Respiratory protection:

The product should only be used at workplaces with intensive ventilation/extraction.

If intensive ventilation/extraction is not possible respiratory protection equipment with ABEK P2 filter (EN 14387) should be worn.

Hand protection:

Chemical-resistant protective gloves (EN 374).

Suitable materials for short-term contact or splashes (recommended: at least protection index 2, corresponding to > 30 minutes permeation time as per EN 374):

nitrile rubber (NBR; ≥ 0.4 mm thickness)

Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374):

nitrile rubber (NBR; ≥ 0.4 mm thickness)

This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in practice the working life of chemical-resistant protective gloves may be considerably shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced.

Eye protection:

Goggles which can be tightly sealed.

Protective eye equipment should conform to EN166.

Skin protection:

Wear protective equipment.

Protective clothing that covers arms and legs.

Protective clothing should conform to EN 14605 for liquid splashes or to EN 13982 for dusts.

Advices to personal protection equipment:

Use only personal protection that's CE-labelled according to Directive 89/686/EEC (Europe) or to Regulation No. 819 of 19 August 1994 (Norway), or equivalent.

The information provided on personal protective equipment is for guidance purposes only. A full risk assessment should be conducted prior to using this product to determine the appropriate personal protective equipment to suit local conditions.

Personal protective equipment should conform to the relevant EN standard.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state	solid
Delivery form	paste
Colour	transparent
Odor	characteristic
Solidification temperature	Not applicable, Product is a solid.
Initial boiling point	Currently under determination
Flammability	Not applicable
Explosive limits	Not applicable, Product is a solid.
Flash point	Not applicable, Product is a solid.
Auto-ignition temperature	Not applicable, Product is a solid.
Decomposition temperature	Currently under determination
pH	Not applicable, Product reacts with water.
Viscosity (kinematic)	Not applicable, Product is a solid.
Solubility (qualitative)	Currently under determination
Partition coefficient: n-octanol/water	Not applicable
	Mixture
Vapour pressure	Currently under determination
Density (20 °C (68 °F))	1,05 g/cm ³ no method
Relative vapour density:	Not applicable, Product is a solid.
Particle characteristics	Currently under determination

9.2. Other information

Other information not applicable for this product

SECTION 10: Stability and reactivity**10.1. Reactivity**

None if used for intended purpose.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

See section reactivity

10.4. Conditions to avoid

None if used for intended purpose.

10.5. Incompatible materials

None if used properly.

10.6. Hazardous decomposition products

No decomposition if used according to specifications.

SECTION 11: Toxicological information

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

Acute oral toxicity:

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Species	Method
Vinyltrihydroxysilane 143-48-6	LD50	7.120 mg/kg	rat	equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity)
Trimethoxyvinylsilane 2768-02-7	LD50	7.120 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
Bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate 52829-07-9	LD50	3.700 mg/kg	rat	OECD Guideline 423 (Acute Oral toxicity)
methanol 67-56-1	Acute toxicity estimate (ATE)	300 mg/kg		Expert judgement
Diocetyl tin dilaurate 3648-18-8	LD50	> 2.000 mg/kg	rat	OECD Guideline 423 (Acute Oral toxicity)

Acute dermal toxicity:

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Species	Method
Vinyltrihydroxysilane 143-48-6	LD50	3.259 mg/kg	rabbit	equivalent or similar to OECD Guideline 402 (Acute Dermal Toxicity)
Trimethoxyvinylsilane 2768-02-7	LD50	3.200 mg/kg	rabbit	OECD Guideline 402 (Acute Dermal Toxicity)
Bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate 52829-07-9	LD50	> 3.170 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
Diocetyl tin dilaurate 3648-18-8	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)

Acute inhalative toxicity:

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Test atmosphere	Exposure time	Species	Method
Vinyltrihydroxysilane 143-48-6	LC50	16,8 mg/l	vapour	4 h	rat	equivalent or similar to OECD Guideline 403 (Acute Inhalation Toxicity)
Trimethoxyvinylsilane 2768-02-7	LC50	16,8 mg/l	vapour	4 h	rat	OECD Guideline 403 (Acute Inhalation Toxicity)

Skin corrosion/irritation:

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Result	Exposure time	Species	Method
Trimethoxyvinylsilane 2768-02-7	not irritating		rabbit	other guideline:
Bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate 52829-07-9	not irritating	24 h	rabbit	EPA OPP 81-5 (Acute Dermal Irritation)
methanol 67-56-1	not irritating	20 h	rabbit	BASF Test

Serious eye damage/irritation:

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Result	Exposure time	Species	Method
Trimethoxyvinylsilane 2768-02-7	not irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate 52829-07-9	corrosive	24 h	rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
methanol 67-56-1	not irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Diocetyl tin dilaurate 3648-18-8	not irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)

Respiratory or skin sensitization:

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Result	Test type	Species	Method
Trimethoxyvinylsilane 2768-02-7	sensitising	Buehler test	guinea pig	OECD Guideline 406 (Skin Sensitisation)
Bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate 52829-07-9	not sensitising	Guinea pig maximisation test	guinea pig	OECD Guideline 406 (Skin Sensitisation)
methanol 67-56-1	not sensitising	Guinea pig maximisation test	guinea pig	equivalent or similar to OECD Guideline 406 (Skin Sensitisation)

Germ cell mutagenicity:

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Result	Type of study / Route of administration	Metabolic activation / Exposure time	Species	Method
Trimethoxyvinylsilane 2768-02-7	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Trimethoxyvinylsilane 2768-02-7	positive	in vitro mammalian chromosome aberration test	with and without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
Trimethoxyvinylsilane 2768-02-7	negative	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
Bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate 52829-07-9	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate 52829-07-9	negative	in vitro mammalian chromosome aberration test	with and without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
Bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate 52829-07-9	negative	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
methanol 67-56-1	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
methanol 67-56-1	negative	in vitro mammalian cell micronucleus test	without		not specified
methanol 67-56-1	negative	mammalian cell gene mutation assay	with and without		equivalent or similar to OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)

Carcinogenicity

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

Hazardous components CAS-No.	Result	Route of application	Exposure time / Frequency of treatment	Species	Sex	Method
methanol 67-56-1	not carcinogenic	inhalation: vapour	18 m 19 h/d	mouse	male/female	equivalent or similar OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)

Reproductive toxicity:

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Result / Value	Test type	Route of application	Species	Method
Trimethoxyvinylsilane 2768-02-7	NOAEL P 250 mg/kg	one- generation study	oral: gavage	rat	OECD Combined Repeated Dose and Reproductive / Developmental Toxicity Screening Test (Precursor Protocol of GL 422)
Trimethoxyvinylsilane 2768-02-7	NOAEL P 1.000 mg/kg	one- generation study	oral: gavage	rat	OECD Combined Repeated Dose and Reproductive / Developmental Toxicity Screening Test (Precursor Protocol of GL 422)
Trimethoxyvinylsilane 2768-02-7	NOAEL F1 1.000 mg/kg	one- generation study	oral: gavage	rat	OECD Combined Repeated Dose and Reproductive / Developmental Toxicity Screening Test (Precursor Protocol of GL 422)
Bis(2,2,6,6-tetramethyl-4- piperidyl) sebacate 52829-07-9	NOAEL P 109 mg/kg NOAEL F1 121 mg/kg	two- generation study	oral: feed	rat	OECD Guideline 443 (Extended One-Generation Reproductive Toxicity Study)
methanol 67-56-1	NOAEL P 1,3 mg/l NOAEL F1 0,13 mg/l NOAEL F2 0,13 mg/l	Two generation study	inhalation	rat	equivalent or similar to OECD Guideline 416 (Two- Generation Reproduction Toxicity Study)
Diocetyl tin dilaurate 3648-18-8	NOAEL P 0,3 - 0,4 mg/kg	screening	oral: feed	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)

STOT-single exposure:

No data available.

STOT-repeated exposure::

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Result / Value	Route of application	Exposure time / Frequency of treatment	Species	Method
Vinyltrihydroxysilane 143-48-6	NOAEL < 62,5 mg/kg	oral: gavage	42d daily	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
Vinyltrihydroxysilane 143-48-6	NOAEL 0,605 mg/l	inhalation: vapour	5 days/week for 14 weeks 6 hours/day	rat	not specified
Trimethoxyvinylsilane 2768-02-7	NOAEL < 62,5 mg/kg	oral: gavage	42d daily	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
Trimethoxyvinylsilane 2768-02-7	NOAEL 0,605 mg/l	inhalation: vapour	5 days/week for 14 weeks 6 hours/day	rat	not specified
Bis(2,2,6,6-tetramethyl-4- piperidyl) sebacate 52829-07-9	NOAEL 36 mg/kg	oral: feed	daily	rat	other guideline:
methanol 67-56-1	NOAEL 6,63 mg/l	inhalation: vapour	4 weeks 6 h/d, 5 d/w	rat	equivalent or similar to OECD Guideline 412 (Repeated Dose Inhalation Toxicity: 28/14-Day)
methanol 67-56-1	NOAEL 0,13 mg/l	inhalation: vapour	12 m 20 h/d	rat	equivalent or similar to OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)
Diocetyl tin dilaurate 3648-18-8	NOAEL 0,3 - 0,4 mg/kg	oral: feed	28 d 28 d/daily (ad libitum)	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)

Aspiration hazard:

No data available.

11.2 Information on other hazards

not applicable

SECTION 12: Ecological information

General ecological information:

Do not empty into drains, soil or bodies of water.

12.1. Toxicity

Toxicity (Fish):

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Vinyltrihydroxysilane 143-48-6	LC50	191 mg/l	96 h	Oncorhynchus mykiss	OECD Guideline 203 (Fish, Acute Toxicity Test)
Trimethoxyvinylsilane 2768-02-7	LC50	191 mg/l	96 h	Oncorhynchus mykiss	OECD Guideline 203 (Fish, Acute Toxicity Test)
Bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate 52829-07-9	LC50	4,4 mg/l	96 h	Lepomis macrochirus	OECD Guideline 203 (Fish, Acute Toxicity Test)
methanol 67-56-1	LC50	15.400 mg/l	96 h	Lepomis macrochirus	EPA-660 (Methods for Acute Toxicity Tests with Fish, Macroinvertebrates and Amphibians)
methanol 67-56-1	NOEC	7.900 mg/l	200 h	Oryzias latipes	OECD Guideline 210 (fish early life stage toxicity test)
Diocetyl tin dilaurate 3648-18-8	LC50	Toxicity > Water solubility	96 h		OECD Guideline 203 (Fish, Acute Toxicity Test)

Toxicity (Daphnia):

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Vinyltrihydroxysilane 143-48-6	EC50	168,7 mg/l	48 h	Daphnia magna	EU Method C.2 (Acute Toxicity for Daphnia)
Trimethoxyvinylsilane 2768-02-7	EC50	168,7 mg/l	48 h	Daphnia magna	EU Method C.2 (Acute Toxicity for Daphnia)
Bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate 52829-07-9	EC50	8,58 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
methanol 67-56-1	EC50	18.260 mg/l	96 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Diocetyl tin dilaurate 3648-18-8	EC50	Toxicity > Water solubility	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)

Chronic toxicity to aquatic invertebrates

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Vinyltrihydroxysilane 143-48-6	NOEC	28,1 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
Trimethoxyvinylsilane 2768-02-7	NOEC	28,1 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
Bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate 52829-07-9	NOEC	0,23 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)

Toxicity (Algae):

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Vinyltrihydroxysilane 143-48-6	EC50	> 957 mg/l	72 h	Desmodesmus subspicatus	EU Method C.3 (Algal Inhibition test)
Vinyltrihydroxysilane 143-48-6	NOEC	957 mg/l	72 h	Desmodesmus subspicatus	EU Method C.3 (Algal Inhibition test)
Trimethoxyvinylsilane 2768-02-7	EC50	> 957 mg/l	72 h	Desmodesmus subspicatus	EU Method C.3 (Algal Inhibition test)
Trimethoxyvinylsilane 2768-02-7	NOEC	957 mg/l	72 h	Desmodesmus subspicatus	EU Method C.3 (Algal Inhibition test)
Bis(2,2,6,6-tetramethyl-4- piperidyl) sebacate 52829-07-9	EC50	0,705 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Bis(2,2,6,6-tetramethyl-4- piperidyl) sebacate 52829-07-9	EC10	0,188 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
methanol 67-56-1	EC50	22.000 mg/l	96 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Diocetyl tin dilaurate 3648-18-8	NOEC	Toxicity > Water solubility	72 h	Desmodesmus subspicatus (reported as Scenedesmus subspicatus)	OECD Guideline 201 (Alga, Growth Inhibition Test)

Toxicity to microorganisms

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Vinyltrihydroxysilane 143-48-6	EC50	> 100 mg/l	3 h	activated sludge of a predominantly domestic sewage	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
Trimethoxyvinylsilane 2768-02-7	EC50	> 100 mg/l	3 h	activated sludge of a predominantly domestic sewage	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
Bis(2,2,6,6-tetramethyl-4- piperidyl) sebacate 52829-07-9	EC50	> 100 mg/l	3 h	activated sludge, domestic	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
methanol 67-56-1	IC50	> 1.000 mg/l	3 h	activated sludge of a predominantly domestic sewage	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)

12.2. Persistence and degradability

Hazardous substances CAS-No.	Result	Test type	Degradability	Exposure time	Method
Vinyltrihydroxysilane 143-48-6	not readily biodegradable.	aerobic	51 %	28 d	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
Trimethoxyvinylsilane 2768-02-7	not readily biodegradable.	aerobic	51 %	28 d	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
Bis(2,2,6,6-tetramethyl-4- piperidyl) sebacate 52829-07-9	not readily biodegradable.	aerobic	24 %	28 d	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
methanol 67-56-1	readily biodegradable	aerobic	82 - 92 %	30 d	EU Method C.4-E (Determination of the "Ready" Biodegradability Closed Bottle Test)
Diocetyl tin dilaurate 3648-18-8	not readily biodegradable.	aerobic	1,9 %	28 day	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)

12.3. Bioaccumulative potential

Hazardous substances CAS-No.	Bioconcentration factor (BCF)	Exposure time	Temperature	Species	Method
methanol 67-56-1	< 10	72 h		Leuciscus idus melanotus	not specified
Diocetyl tin dilaurate 3648-18-8	< 100	30 day		Salmo irideus	OECD Guideline 305 (Bioconcentration: Flow-through Fish Test)

12.4. Mobility in soil

Hazardous substances CAS-No.	LogPow	Temperature	Method
Bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate 52829-07-9	0,35	25 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
methanol 67-56-1	-0,77		other guideline:
Diocetyl tin dilaurate 3648-18-8	14,56		not specified

12.5. Results of PBT and vPvB assessment

Hazardous substances CAS-No.	PBT / vPvB
Trimethoxyvinylsilane 2768-02-7	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate 52829-07-9	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
methanol 67-56-1	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Diocetyl tin dilaurate 3648-18-8	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

12.6. Endocrine disrupting properties

not applicable

12.7. Other adverse effects

No data available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product disposal:

In consultation with the responsible local authority, must be subjected to special treatment.

Waste code

The valid EWC waste code numbers are source-related. The manufacturer is therefore unable to specify EWC waste codes for the articles or products used in the various sectors. The EWC codes listed are intended as a recommendation for users. We will be happy to advise you.

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SECTION 14: Transport information**14.1. UN number or ID number**

Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.

14.2. UN proper shipping name

Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.

14.3. Transport hazard class(es)

Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.

14.4. Packing group

Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.

14.5. Environmental hazards

Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.

14.6. Special precautions for user

Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.

14.7. Maritime transport in bulk according to IMO instruments

not applicable

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

Ozone Depleting Substance (ODS) (Regulation (EC) No 1005/2009): Not applicable

Prior Informed Consent (PIC) (Regulation (EU) No 649/2012): Not applicable

Persistent organic pollutants (Regulation (EU) 2019/1021): Not applicable

VOC content 1,5 %
(2010/75/EU)

15.2. Chemical safety assessment

A chemical safety assessment has been carried out.

SECTION 16: Other information

The labelling of the product is indicated in Section 2. The full text of all abbreviations indicated by codes in this safety data sheet are as follows:

H225 Highly flammable liquid and vapour.
H226 Flammable liquid and vapour.
H301 Toxic if swallowed.
H311 Toxic in contact with skin.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H331 Toxic if inhaled.
H332 Harmful if inhaled.
H360D May damage the unborn child.
H361f Suspected of damaging fertility.
H370 Causes damage to organs.
H372 Causes damage to organs through prolonged or repeated exposure.
H373 May cause damage to organs through prolonged or repeated exposure.
H400 Very toxic to aquatic life.
H411 Toxic to aquatic life with long lasting effects.

ED:	Substance identified as having endocrine disrupting properties
EU OEL:	Substance with a Union workplace exposure limit
EU EXPLD 1:	Substance listed in Annex I, Reg (EC) No. 2019/1148
EU EXPLD 2	Substance listed in Annex II, Reg (EC) No. 2019/1148
SVHC:	Substance of very high concern (REACH Candidate List)
PBT:	Substance fulfilling persistent, bioaccumulative and toxic criteria
PBT/vPvB:	Substance fulfilling persistent, bioaccumulative and toxic plus very persistent and very bioaccumulative criteria
vPvB:	Substance fulfilling very persistent and very bioaccumulative criteria

Further information:

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