



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

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TEROSON MS 9320 OC

SDS No. : 634003
V008.0

Revision: 07.11.2022

printing date: 26.07.2023

Replaces version from: 14.06.2022

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

1.1. Product identifier

TEROSON MS 9320 OC

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

SDSinfo.Adhesive@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

N-[3-(dimethoxymethylsilyl)propyl]ethylenediamine

Reaction mass of pentamethyl-4-piperidylsebacates

Signal word: Warning**Hazard statement:** H317 May cause an allergic skin reaction.**Supplemental information** Warning! Hazardous respirable dust may be formed when used. Do not breathe dust.**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
Naphtha (petroleum), hydrotreated light, < 0.1 % benzene 64742-49-0 01-2119471843-32	5- < 9,5 %	Flam. Liq. 3, H226 Asp. Tox. 1, Oral, H304 STOT SE 3, H336 Aquatic Chronic 3, H412		
Titanium dioxide < 1% particles with diameter $\leq 10 \mu\text{m}$ 13463-67-7 236-675-5 01-2119489379-17	1- < 3 %			
N-[3- (dimethoxymethylsilyl)propyl]et hylenediamine 3069-29-2 221-336-6 01-2119963926-21	0,1- < 1 %	Skin Sens. 1A, H317 Eye Dam. 1, H318 Acute Tox. 4, Oral, H302 Skin Irrit. 2, H315	oral:ATE = 500 mg/kg inhalation:ATE = 5,21 mg/l;dust/mist	
Reaction mass of pentamethyl-4- piperidylsebacates 1065336-91-5 915-687-0 01-2119491304-40	0,01- < 0,1 %	Aquatic Acute 1, H400 Aquatic Chronic 1, H410 Skin Sens. 1A, H317 Repr. 2, H361f	M acute = 1 M chronic = 1 ===== dermal:ATE = 3.171 mg/kg	
ethylenebis(oxyethylene) bis[3- (5-tert-butyl-4-hydroxy-m- tolyl)propionate] 36443-68-2 253-039-2 01-2119956160-44	0,01- < 0,0155 % (100 ppm- < 155 ppm)	Aquatic Chronic 1, H410	M chronic = 10	

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
Limestone 1317-65-3 [CALCIUM CARBONATE, INHALABLE DUST]		10	Time Weighted Average (TWA):		EH40 WEL
Limestone 1317-65-3 [CALCIUM CARBONATE, RESPIRABLE DUST]		4	Time Weighted Average (TWA):		EH40 WEL
Limestone 1317-65-3 [LIMESTONE, RESPIRABLE MARBLE, RESPIRABLE]		4	Time Weighted Average (TWA):		EH40 WEL
Limestone 1317-65-3 [LIMESTONE, TOTAL INHALABLE MARBLE, TOTAL INHALABLE]		10	Time Weighted Average (TWA):		EH40 WEL
Calcium carbonate 471-34-1 [CALCIUM CARBONATE, INHALABLE DUST]		10	Time Weighted Average (TWA):		EH40 WEL
Calcium carbonate 471-34-1 [CALCIUM CARBONATE, RESPIRABLE DUST]		4	Time Weighted Average (TWA):		EH40 WEL
Calcium carbonate 471-34-1 [LIMESTONE, RESPIRABLE MARBLE, RESPIRABLE]		4	Time Weighted Average (TWA):		EH40 WEL
Calcium carbonate 471-34-1 [LIMESTONE, TOTAL INHALABLE MARBLE, TOTAL INHALABLE]		10	Time Weighted Average (TWA):		EH40 WEL
Calcium carbonate 471-34-1 [Dust, inhalable dust]		10	Time Weighted Average (TWA):		EH40 WEL
Calcium carbonate 471-34-1 [Dust, respirable dust]		4	Time Weighted Average (TWA):		EH40 WEL
Titanium dioxide 13463-67-7 [Titanium dioxide, total inhalable]		10	Time Weighted Average (TWA):		EH40 WEL
Titanium dioxide 13463-67-7 [Titanium dioxide, respirable]		4	Time Weighted Average (TWA):		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
Limestone 1317-65-3 [CALCIUM CARBONATE]		4	Time Weighted Average (TWA):		IR_OEL
Limestone 1317-65-3 [CALCIUM CARBONATE]		10	Time Weighted Average (TWA):		IR_OEL
Calcium carbonate 471-34-1 [CALCIUM CARBONATE]		4	Time Weighted Average (TWA):		IR_OEL
Calcium carbonate		10	Time Weighted Average		IR_OEL

471-34-1 [CALCIUM CARBONATE]			(TWA):		
Calcium carbonate 471-34-1 [DUSTS NON-SPECIFIC]		4	Time Weighted Average (TWA):		IR_OEL
Calcium carbonate 471-34-1 [DUSTS NON-SPECIFIC]		10	Time Weighted Average (TWA):		IR_OEL
Titanium dioxide 13463-67-7 [Titanium dioxide]		4	Time Weighted Average (TWA):		IR_OEL
Titanium dioxide 13463-67-7 [Titanium dioxide]		10	Time Weighted Average (TWA):		IR_OEL

Predicted No-Effect Concentration (PNEC):

Name on list	Environmental Compartment	Exposure period	Value				Remarks
			mg/l	ppm	mg/kg	others	
N-[3-(Dimethoxymethylsilyl)propyl]ethylenediamine 3069-29-2	aqua (freshwater)		0,062 mg/l				
N-[3-(Dimethoxymethylsilyl)propyl]ethylenediamine 3069-29-2	aqua (marine water)		0,0062 mg/l				
N-[3-(Dimethoxymethylsilyl)propyl]ethylenediamine 3069-29-2	aqua (intermittent releases)		0,62 mg/l				
N-[3-(Dimethoxymethylsilyl)propyl]ethylenediamine 3069-29-2	sediment (freshwater)				0,024 mg/kg		
N-[3-(Dimethoxymethylsilyl)propyl]ethylenediamine 3069-29-2	sediment (marine water)				0,0024 mg/kg		
N-[3-(Dimethoxymethylsilyl)propyl]ethylenediamine 3069-29-2	Soil				0,01 mg/kg		
N-[3-(Dimethoxymethylsilyl)propyl]ethylenediamine 3069-29-2	sewage treatment plant (STP)		25 mg/l				
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	aqua (freshwater)		0,002 mg/l				
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	aqua (marine water)		0,00022 mg/l				
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	aqua (intermittent releases)		0,009 mg/l				
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	sewage treatment plant (STP)		1 mg/l				
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	sediment (freshwater)				1,05 mg/kg		
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	sediment (marine water)				0,11 mg/kg		
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	Soil				0,21 mg/kg		
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	Predator						no potential for bioaccumulation
Ethylenebis(oxyethylene) bis[3-(5-tert-butyl-4-hydroxy-m-tolyl)propionate] 36443-68-2	sewage treatment plant (STP)		1 mg/l				

Derived No-Effect Level (DNEL):

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
Naphtha (petroleum), hydrotreated light, < 0.1 % benzene 64742-49-0	Workers	dermal	Long term exposure - systemic effects		77 mg/kg	
Naphtha (petroleum), hydrotreated light, < 0.1 % benzene 64742-49-0	Workers	Inhalation	Long term exposure - systemic effects		871 mg/m3	
Naphtha (petroleum), hydrotreated light, < 0.1 % benzene 64742-49-0	General population	dermal	Long term exposure - systemic effects		46 mg/kg	
Naphtha (petroleum), hydrotreated light, < 0.1 % benzene 64742-49-0	General population	Inhalation	Long term exposure - systemic effects		185 mg/m3	
Naphtha (petroleum), hydrotreated light, < 0.1 % benzene 64742-49-0	General population	oral	Long term exposure - systemic effects		46 mg/kg	
N-[3-(Dimethoxymethylsilyl)propyl]ethylenediamine 3069-29-2	Workers	inhalation	Long term exposure - systemic effects		12 mg/m3	
N-[3-(Dimethoxymethylsilyl)propyl]ethylenediamine 3069-29-2	Workers	dermal	Long term exposure - systemic effects		1,7 mg/kg	
N-[3-(Dimethoxymethylsilyl)propyl]ethylenediamine 3069-29-2	General population	oral	Long term exposure - systemic effects		0,83 mg/kg	
N-[3-(Dimethoxymethylsilyl)propyl]ethylenediamine 3069-29-2	General population	inhalation	Long term exposure - systemic effects		2,9 mg/m3	
N-[3-(Dimethoxymethylsilyl)propyl]ethylenediamine 3069-29-2	General population	dermal	Long term exposure - systemic effects		0,83 mg/kg	
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	Workers	inhalation	Long term exposure - systemic effects		1,27 mg/m3	no potential for bioaccumulation
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	Workers	dermal	Long term exposure - systemic effects		1,8 mg/kg	no potential for bioaccumulation
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	General population	dermal	Long term exposure - systemic effects		0,9 mg/kg	no potential for bioaccumulation
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	General population	inhalation	Long term exposure - systemic effects		0,31 mg/m3	no potential for bioaccumulation
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	General population	oral	Long term exposure - systemic effects		0,18 mg/kg	no potential for bioaccumulation
Ethylenebis(oxyethylene) bis[3-(5-tert-butyl-4-hydroxy-m-tolyl)propionate] 36443-68-2	Workers	inhalation	Long term exposure - systemic effects		23,5 mg/m3	
Ethylenebis(oxyethylene) bis[3-(5-tert-butyl-4-hydroxy-m-tolyl)propionate] 36443-68-2	Workers	dermal	Long term exposure - systemic effects		6,7 mg/kg	
Ethylenebis(oxyethylene) bis[3-(5-tert-butyl-4-hydroxy-m-tolyl)propionate] 36443-68-2	General population	dermal	Long term exposure - systemic effects		3,3 mg/kg	
Ethylenebis(oxyethylene) bis[3-(5-tert-butyl-4-hydroxy-m-tolyl)propionate] 36443-68-2	General population	oral	Long term exposure - systemic effects		3,3 mg/kg	
Ethylenebis(oxyethylene) bis[3-(5-tert-butyl-4-hydroxy-m-tolyl)propionate] 36443-68-2	General population	inhalation	Long term exposure - systemic effects		5,8 mg/m3	

Biological Exposure Indices:

None

8.2. Exposure controls:

Engineering controls:

Ensure good ventilation/extraction.

Respiratory protection:

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

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

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	beige
Odor	alcohol-like
Melting point	Not applicable, Determination technically not possible
Solidification temperature	Not applicable, Product is a solid.
Initial boiling point	> 300 °C (> 572 °F)
Flammability	The product is not flammable.
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	Not applicable, Substance/mixture is not self-reactive, no organic peroxide and does not decompose under foreseen conditions of use
pH	Not applicable, Product reacts with water.
Viscosity (kinematic)	Not applicable, Product is a solid.
Solubility (qualitative)	Reacts with water.
(20 °C (68 °F); Solvent: Water)	

Partition coefficient: n-octanol/water	Not applicable
Vapour pressure (20 °C (68 °F))	Mixture < 0,1 hPa
Density (20 °C (68 °F))	1,54 g/cm ³ no method
Bulk density	1,54 g/cm ³
Relative vapour density:	Not applicable, Product is a solid.
Particle characteristics	Not applicable, mixture is a paste.

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

General toxicological information:

Persons suffering from allergic reactions to amines should avoid contact with the product.

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
Naphtha (petroleum), hydrotreated light, < 0.1 % benzene 64742-49-0	LD50	> 5.000 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
Titanium dioxide < 1% particles with diameter ≤ 10 µm 13463-67-7	LD50	> 5.000 mg/kg	rat	OECD Guideline 425 (Acute Oral Toxicity: Up-and-Down Procedure)
N-[3- (dimethoxymethylsilyl)pr opyl]ethylenediamine 3069-29-2	LD50	301 - 2.000 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
N-[3- (dimethoxymethylsilyl)pr opyl]ethylenediamine 3069-29-2	Acute toxicity estimate (ATE)	500 mg/kg		Expert judgement
Reaction mass of pentamethyl-4- piperidylsebacates 1065336-91-5	LD50	3.230 mg/kg	rat	OECD Guideline 423 (Acute Oral toxicity)
ethylenebis(oxyethylene) bis[3-(5-tert-butyl-4- hydroxy-m- tolyl)propionate] 36443-68-2	LD50	> 7.000 mg/kg	rat	equivalent or similar to 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
Naphtha (petroleum), hydrotreated light, < 0.1 % benzene 64742-49-0	LD50	> 5.000 mg/kg	rabbit	not specified
Titanium dioxide < 1% particles with diameter ≤ 10 µm 13463-67-7	LD50	≥ 10.000 mg/kg	hamster	not specified
N-[3- (dimethoxymethylsilyl)pr opyl]ethylenediamine 3069-29-2	LD50	15.520 mg/kg	rabbit	not specified
Reaction mass of pentamethyl-4- piperidylsebacates 1065336-91-5	LD50	> 3.170 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
Reaction mass of pentamethyl-4- piperidylsebacates 1065336-91-5	Acute toxicity estimate (ATE)	3.171 mg/kg		Expert judgement
ethylenebis(oxyethylene) bis[3-(5-tert-butyl-4- hydroxy-m- tolyl)propionate] 36443-68-2	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
Naphtha (petroleum), hydrotreated light, < 0.1 % benzene 64742-49-0	LC50	> 5,6 mg/l	dust/mist	4 h	rat	equivalent or similar to OECD Guideline 403 (Acute Inhalation Toxicity)
Titanium dioxide < 1% particles with diameter ≤ 10 µm 13463-67-7	LC50	> 6,82 mg/l	dust	4 h	rat	not specified
N-[3- (dimethoxymethylsilyl)pr opyl]ethylenediamine 3069-29-2	LC50	> 5,2 mg/l	dust/mist	4 h	rat	OECD Guideline 403 (Acute Inhalation Toxicity)
N-[3- (dimethoxymethylsilyl)pr opyl]ethylenediamine 3069-29-2	Acute toxicity estimate (ATE)	5,21 mg/l	dust/mist	4 h		Expert judgement

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
Titanium dioxide < 1% particles with diameter ≤ 10 µm 13463-67-7	not irritating	4 h	rabbit	equivalent or similar to OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
N-[3- (dimethoxymethylsilyl)pr opyl]ethylenediamine 3069-29-2	irritating	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
ethylenebis(oxyethylene) bis[3-(5-tert-butyl-4- hydroxy-m- tolyl)propionate] 36443-68-2	not irritating	24 h	rabbit	equivalent or similar to OECD Guideline 404 (Acute Dermal Irritation / Corrosion)

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
Titanium dioxide < 1% particles with diameter ≤ 10 µm 13463-67-7	not irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
N-[3- (dimethoxymethylsilyl)pr opyl]ethylenediamine 3069-29-2	highly irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
ethylenebis(oxyethylene) bis[3-(5-tert-butyl-4- hydroxy-m- tolyl)propionate] 36443-68-2	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
Titanium dioxide < 1% particles with diameter ≤ 10 µm 13463-67-7	not sensitising	Mouse local lymphnode assay (LLNA)	mouse	equivalent or similar to OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
N-[3- (dimethoxymethylsilyl)pr opyl]ethylenediamine 3069-29-2	Sub-Category 1A (sensitising)	Guinea pig maximisation test	guinea pig	OECD Guideline 406 (Skin Sensitisation)
Reaction mass of pentamethyl-4- piperidylsebacates 1065336-91-5	sensitising	Guinea pig maximisation test	guinea pig	OECD Guideline 406 (Skin Sensitisation)
ethylenebis(oxyethylene) bis[3-(5-tert-butyl-4- hydroxy-m- tolyl)propionate] 36443-68-2	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
Titanium dioxide < 1% particles with diameter ≤ 10 µm 13463-67-7	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Titanium dioxide < 1% particles with diameter ≤ 10 µm 13463-67-7	negative	in vitro mammalian chromosome aberration test	with and without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
Titanium dioxide < 1% particles with diameter ≤ 10 µm 13463-67-7	negative	mammalian cell gene mutation assay	with and without		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
Titanium dioxide < 1% particles with diameter ≤ 10 µm 13463-67-7	not carcinogenic	inhalation	24 m 6 h/d; 5 d/w	rat	male/female	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
Titanium dioxide < 1% particles with diameter ≤ 10 µm 13463-67-7	NOAEL P > 1.000 mg/kg NOAEL F1 > 1.000 mg/kg		oral: gavage	rat	OECD Guideline 421 (Reproduction / Developmental Toxicity Screening Test)
Reaction mass of pentamethyl-4- piperidylsebacates 1065336-91-5	NOAEL P < 221 mg/kg NOAEL F1 221 mg/kg		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
Titanium dioxide < 1% particles with diameter ≤ 10 µm 13463-67-7	NOAEL 1.000 mg/kg	oral: gavage	90 d daily	rat	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)

Aspiration hazard:

The mixture is classified based on Viscosity data.

Hazardous substances CAS-No.	Viscosity (kinematic) Value	Temperature	Method	Remarks
Naphtha (petroleum), hydrotreated light, < 0.1 % benzene 64742-49-0	0,91 mm ² /s	25 °C	not specified	

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
Naphtha (petroleum), hydrotreated light, < 0.1 % benzene 64742-49-0	LL50	> 10 - < 30 mg/l	96 h	Oncorhynchus mykiss	OECD Guideline 203 (Fish, Acute Toxicity Test)
Titanium dioxide < 1% particles with diameter ≤ 10 µm 13463-67-7	LC50	Toxicity > Water solubility	48 h	Danio rerio	other guideline:
Titanium dioxide < 1% particles with diameter ≤ 10 µm 13463-67-7	NOEC	Toxicity > Water solubility	8 d	Danio rerio	OECD Guideline 212 (Fish, Short-term Toxicity Test on Embryo and Sac-Fry Stages)
N-[3- (dimethoxymethylsilyl)propyl] ethylenediamine 3069-29-2	LC50	597 mg/l	96 h	Brachydanio rerio (new name: Danio rerio)	EU Method C.1 (Acute Toxicity for Fish)
Reaction mass of pentamethyl-4- piperidylsebacates 1065336-91-5	LC50	0,9 mg/l	96 h	Danio rerio	OECD Guideline 203 (Fish, Acute Toxicity Test)
ethylenebis(oxyethylene) bis[3-(5-tert-butyl-4-hydroxy- m-tolyl)propionate] 36443-68-2	LC50	Toxicity > Water solubility	96 h	Lepomis macrochirus	OECD Guideline 203 (Fish, Acute Toxicity Test)
ethylenebis(oxyethylene) bis[3-(5-tert-butyl-4-hydroxy- m-tolyl)propionate] 36443-68-2	NOEC	0,0088 mg/l	32 d	Pimephales promelas	OECD Guideline 210 (fish early lite stage 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
Naphtha (petroleum), hydrotreated light, < 0.1 % benzene 64742-49-0	EL50	> 22 - < 46 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Titanium dioxide < 1% particles with diameter ≤ 10 µm 13463-67-7	EC50	Toxicity > Water solubility	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
N-[3- (dimethoxymethylsilyl)propyl] ethylenediamine 3069-29-2	EC50	> 100 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
ethylenebis(oxyethylene) bis[3-(5-tert-butyl-4-hydroxy- m-tolyl)propionate] 36443-68-2	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
Reaction mass of pentamethyl- 4-piperidylsebacates	NOEC	1 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)

1065336-91-5					
ethylenebis(oxyethylene) bis[3-(5-tert-butyl-4-hydroxy-m-tolyl)propionate] 36443-68-2	NOEC	0,0055 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
Naphtha (petroleum), hydrotreated light, < 0.1 % benzene 64742-49-0	EL50	> 1.000 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Naphtha (petroleum), hydrotreated light, < 0.1 % benzene 64742-49-0	NOELR	< 1 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Titanium dioxide < 1% particles with diameter ≤ 10 µm 13463-67-7	EC50	Toxicity > Water solubility	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Titanium dioxide < 1% particles with diameter ≤ 10 µm 13463-67-7	NOEC	Toxicity > Water solubility	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	NOEC	0,22 mg/l	72 h	Desmodesmus subspicatus	OECD Guideline 201 (Alga, Growth Inhibition Test)
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	EC50	1,68 mg/l	72 h	Desmodesmus subspicatus	OECD Guideline 201 (Alga, Growth Inhibition Test)
ethylenebis(oxyethylene) bis[3-(5-tert-butyl-4-hydroxy-m-tolyl)propionate] 36443-68-2	EC50	Toxicity > Water solubility	72 h	Raphidocelis subcapitata (new name: Pseudokirchneriella subcapitata)	EU Method C.3 (Algal Inhibition test)
ethylenebis(oxyethylene) bis[3-(5-tert-butyl-4-hydroxy-m-tolyl)propionate] 36443-68-2	EC10	Toxicity > Water solubility	72 h	Raphidocelis subcapitata (new name: Pseudokirchneriella subcapitata)	EU Method C.3 (Algal 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
Titanium dioxide < 1% particles with diameter ≤ 10 µm 13463-67-7	EC50	Toxicity > Water solubility	3 h	activated sludge	ISO 8192 (Test for Inhibition of Oxygen Consumption by Activated Sludge)
N-[3-(dimethoxymethylsilyl)propyl] ethylenediamine 3069-29-2	EC10	25 mg/l	16 h	Pseudomonas putida	DIN 38412, part 8 (Pseudomonas Zellvermehrungshemm-Test)
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	IC50	100 mg/l	3 h	activated sludge	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
ethylenebis(oxyethylene) bis[3-(5-tert-butyl-4-hydroxy-m-tolyl)propionate] 36443-68-2	IC50	Toxicity > Water solubility	3 h	activated sludge, domestic	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)

12.2. Persistence and degradability

Hazardous substances CAS-No.	Result	Test type	Degradability	Exposure time	Method
Naphtha (petroleum), hydrotreated light, < 0.1 % benzene 64742-49-0	readily biodegradable	aerobic	89 %	28 d	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
N-[3- (dimethoxymethylsilyl)propyl] ethylenediamine 3069-29-2	not readily biodegradable.	aerobic	39 %	28 day	OECD Guideline 301 A (new version) (Ready Biodegradability: DOC Die Away Test)
Reaction mass of pentamethyl- 4-piperidylsebacates 1065336-91-5	not readily biodegradable.	aerobic	38 %	28 d	OECD Guideline 301 E (Ready biodegradability: Modified OECD Screening Test)
ethylenebis(oxyethylene) bis[3-(5-tert-butyl-4-hydroxy- m-tolyl)propionate] 36443-68-2	not readily biodegradable.	aerobic	8 %	28 d	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)

12.3. Bioaccumulative potential

Hazardous substances CAS-No.	Bioconcentratio n factor (BCF)	Exposure time	Temperature	Species	Method
Reaction mass of pentamethyl-4- piperidylsebacates 1065336-91-5	< 31,4	56 d	24,5 °C	Cyprinus carpio	other guideline:
ethylenebis(oxyethylene) bis[3-(5-tert-butyl-4-hydroxy- m-tolyl)propionate] 36443-68-2	> 0,11 - 2,45	56 d		Cyprinus carpio	OECD Guideline 305 C (Bioaccumulation: Test for the Degree of Bioconcentration in Fish)

12.4. Mobility in soil

Hazardous substances CAS-No.	LogPow	Temperature	Method
Naphtha (petroleum), hydrotreated light, < 0.1 % benzene 64742-49-0	4 - 5,7		OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
N-[3-(dimethoxymethylsilyl)propyl] ethylenediamine 3069-29-2	1	20 °C	QSAR (Quantitative Structure Activity Relationship)
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	> 2,37 - 2,77	25 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
ethylenebis(oxyethylene) bis[3-(5-tert-butyl-4-hydroxy-m-tolyl)propionate] 36443-68-2	4,7	23 °C	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)

12.5. Results of PBT and vPvB assessment

Hazardous substances CAS-No.	PBT / vPvB
Naphtha (petroleum), hydrotreated light, < 0.1 % benzene 64742-49-0	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Titanium dioxide < 1% particles with diameter ≤ 10 µm 13463-67-7	According to Annex XIII of regulation (EC) 1907/2006 a PBT and vPvB assessment shall not be conducted for inorganic substances.
N-[3-(dimethoxymethylsilyl)propyl]ethylenediamine 3069-29-2	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Reaction mass of pentamethyl-4-piperidylsebacates 1065336-91-5	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
ethylenebis(oxyethylene) bis[3-(5-tert-butyl-4-hydroxy-m-tolyl)propionate] 36443-68-2	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.

080409

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 10,3 %
(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:

H226 Flammable liquid and vapour.
H302 Harmful if swallowed.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H336 May cause drowsiness or dizziness.
H361f Suspected of damaging fertility.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H412 Harmful 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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