



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

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TEROSON MS 9320 WH

SDS No. : 633981
V008.0

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

1.1. Product identifier

TEROSON MS 9320 WH

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

Intended use:

MS Sealant

1.3. Details of the supplier of the safety data sheet

Henkel AG & Co. KGaA

Henkelstr. 67

40589 Düsseldorf

Germany

Phone: +49 211 797 0

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

The Henkel information service also provides an around-the-clock telephone service on phone no.+49-(0)211-797-3350 for exceptional cases.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (CLP):

Skin sensitizer

H317 May cause an allergic skin reaction.

Sub-category 1A

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

Following substances are present in a concentration ≥ the concentration limit for depiction in Section 3 and fulfill the criteria for PBT/vPvB, or were identified as endocrine disruptor (ED):

This mixture does not contain any substances in a concentration ≥ the concentration limit for depiction in Section 3 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- < 10 % | Flam. Liq. 3, H226 Asp. Tox. 1, Oral, H304 STOT SE 3, H336 Aquatic Chronic 3, H412 | | |
| Titanium dioxide < 1% particles with diameter ≤ 10 µm 13463-67-7 236-675-5 01-2119489379-17 | 5- < 10 % | | | |
| N-[3-(dimethoxymethylsilyl)propyl]ethylenediamine 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- < 0,25 % | 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 Sealant

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Occupational Exposure Limits**

Valid for
Germany

| Ingredient [Regulated substance] | ppm | mg/m ³ | Value type | Short term exposure limit category / Remarks | Regulatory list |
|----------------------------------|-----|-------------------|-------------------------------------|--|-----------------|
| Calcium carbonate 471-34-1 | | | Short Term Exposure Classification: | Category II: substances with a resorptive effect. | TRGS 900 |
| Calcium carbonate 471-34-1 | | 10 | Exposure limit(s): | 2 If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7). | TRGS 900 |
| Calcium carbonate 471-34-1 | | 1,25 | Exposure limit(s): | If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7). | TRGS 900 |
| Limestone 1317-65-3 | | | Short Term Exposure Classification: | Category II: substances with a resorptive effect. | TRGS 900 |
| Limestone 1317-65-3 | | 1,25 | Exposure limit(s): | If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7). | TRGS 900 |
| Limestone 1317-65-3 | | 10 | Exposure limit(s): | 2 If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7). | TRGS 900 |
| Titanium dioxide 13463-67-7 | | | Short Term Exposure Classification: | Category II: substances with a resorptive effect. | TRGS 900 |
| Titanium dioxide 13463-67-7 | | 10 | Exposure limit(s): | 2 If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7). | TRGS 900 |
| Titanium dioxide 13463-67-7 | | 1,25 | Exposure limit(s): | If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7). | TRGS 900 |

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 | white |
| 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.

11.1 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)propyl]ethylenediamine 3069-29-2 | LD50 | 301 - 2.000 mg/kg | rat | OECD Guideline 401 (Acute Oral Toxicity) |
| N-[3-(dimethoxymethylsilyl)propyl]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)propyl]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 (2010/75/EU) | 9,9 % |

15.2. Chemical safety assessment

A chemical safety assessment has been carried out.

National regulations/information (Germany):

WGK: WGK 2: significantly water endangering (Ordinance on facilities for handling substances that are hazardous to water (AwSV))
Classification according to AwSV, Annex 1 (5.2)

Storage class according to TRGS 510: 11

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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