



## Safety Data Sheet according to Regulation (EC) No 1907/2006

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LOCTITE ECCOBOND FP4450 known as HYSOL FP4450 32OZ  
EUFRGER -40CD

SDS No. : 169901  
V002.0

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

#### 1.1. Product identifier

LOCTITE ECCOBOND FP4450 known as HYSOL FP4450 32OZ EUFRGER -40CD

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

Intended use:

1-c- epoxide adhesive

#### 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

Fax-no.: +49 211 798 2009

ua-productsafety.de@henkel.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 irritation   | Category 2 |
| H315 Causes skin irritation.  |            |
| Serious eye damage  | Category 1 |
| H318 Causes serious eye damage.   |            |
| Respiratory sensitizer  | Category 1 |
| H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. |            |
| Skin sensitizer   | Category 1 |
| H317 May cause an allergic skin reaction.                                       |            |
| Carcinogenicity   | Category 2 |
| H351 Suspected of causing cancer.   |            |
| Chronic hazards to the aquatic environment                                      | Category 3 |
| H412 Harmful to aquatic life with long lasting effects.                         |            |

#### 2.2. Label elements

##### Label elements (CLP):

**Hazard pictogram:**



**Contains**

Hexahydromethylphthalic anhydride

Epichlorohyd.-bisphenol A resin MW<=700  
2,2'-((3,5',5,5'-tetramethyl-(1,1'-biphenyl)-4,4'-diyl)-bis(oxymethylene))-bis-oxirane  
3,4-Epoxy cyclohexyl methyl-3,4-epoxy cyclohexyl carboxylate  
Methyltetrahydrophthalic anhydride  
Bisphenol-F epichlorhydrin resin; MW<700

**Signal word:**

Danger

**Hazard statement:**

H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H318 Causes serious eye damage.  
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
H351 Suspected of causing cancer.  
H412 Harmful to aquatic life with long lasting effects.

**Precautionary statement:  
Prevention**

P261 Avoid breathing vapors.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.

**Precautionary statement:  
Response**

P302+P352 IF ON SKIN: Wash with plenty of soap and water.  
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor.

**2.3. Other hazards**

None if used properly.

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

**SECTION 3: Composition/information on ingredients**

**3.2. Mixtures**

**General chemical description:**

Epoxy Adhesive

**Base substances of preparation:**

polymers  
Anhydrides  
Filler

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

| Hazardous components<br>CAS-No.  | EC Number<br>REACH-Reg No.                 | content    | Classification   |
|--|--|------------|--|
| Hexahydromethylphthalic anhydride<br>25550-51-0  | 247-094-1<br>01-2119845474-33              | 10- 20 %   | Eye Dam. 1<br>H318<br>Skin Sens. 1<br>H317<br>Resp. Sens. 1<br>H334<br>=====<br>EU. REACH Candidate List of Substances of<br>Very High Concern for Authorization<br>(SVHC) |
| Epichlorohyd.-bisphenol A resin<br>MW<=700<br>25068-38-6   | 01-2119456619-26                           | 5- < 10 %  | Skin Irrit. 2<br>H315<br>Skin Sens. 1<br>H317<br>Eye Irrit. 2<br>H319<br>Aquatic Chronic 2<br>H411   |
| 2,2'-((3,5',5,5'-tetramethyl-(1,1'-biphenyl)-<br>4,4'-diyl)-bis(oxymethylene))-bis-oxirane<br>85954-11-6 | 413-900-7                                  | 1- < 5 %   | Carc. 2<br>H351<br>Skin Sens. 1<br>H317  |
| Quartz (SiO <sub>2</sub> ), <1% respirable<br>14808-60-7   | 238-878-4                                  | 1- < 5 %   |  |
| 3,4-Epoxy cyclohexyl methyl-3,4-epoxy<br>cyclohexyl carboxylate<br>2386-87-0                             | 219-207-4<br>01-2119846133-44              | 1- < 3 %   | Skin Sens. 1; Dermal<br>H317<br>Aquatic Chronic 3<br>H412  |
| Methyltetrahydrophthalic anhydride<br>34090-76-1   | 251-823-9<br>01-2119513209-45              | 1- < 3 %   | Resp. Sens. 1<br>H334<br>Skin Sens. 1<br>H317<br>Eye Dam. 1<br>H318  |
| Bisphenol-F epichlorhydrin resin; MW<700<br>9003-36-5  | 500-006-8<br>500-006-8<br>01-2119454392-40 | 0,1- < 1 % | Skin Irrit. 2; Dermal<br>H315<br>Skin Sens. 1A<br>H317<br>Aquatic Chronic 2<br>H411  |

**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:**

Rinse with running water and soap. Apply replenishing cream. Change all contaminated clothing. If necessary, see a dermatologist.

**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: Redness, inflammation.

SKIN: Rash, Urticaria.

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

After eye contact: Corrosive, may cause permanent damage to eyes (impairment of vision).

#### **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:**

Foam, extinguishing powder, carbon dioxide.

Fine water spray

##### **Extinguishing media which must not be used for safety reasons:**

High pressure waterjet

#### **5.2. Special hazards arising from the substance or mixture**

Danger of decomposition if exposed to heat.

See section 10.

#### **5.3. Advice for firefighters**

Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear.

##### **Additional information:**

In case of fire, keep containers cool with water spray.

### **SECTION 6: Accidental release measures**

#### **6.1. Personal precautions, protective equipment and emergency procedures**

Avoid contact with skin and eyes.

Wear protective equipment.

Ensure adequate ventilation.

#### **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.

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).

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**

Ensure good ventilation/suction at the workplace.

Extract when the product is heated.

Avoid skin and eye contact.

See advice in section 8

Do not spray against flames or glowing bodies. Keep away from sources of ignition - no smoking.

Hygiene measures:

- Good industrial hygiene practices should be observed.
- 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**

- Store in sealed original container.
- Protect against contamination.
- Store in a cool, dry place.
- Ensure that storage and workrooms are adequately ventilated.
- Must be stored in a room with spill collection facilities.
- Keep away from heat and direct sunlight.
- Refer to Technical Data Sheet

**7.3. Specific end use(s)**

- 1-c- epoxide adhesive

**SECTION 8: Exposure controls/personal protection**

**8.1. Control parameters**

**Occupational Exposure Limits**

Valid for  
Germany

| Ingredient [Regulated substance] | ppm | mg/m <sup>3</sup> | Value type         | Short term exposure limit category / Remarks  | Regulatory list |
|----------------------------------|-----|-------------------|--------------------|---|-----------------|
| Silica, vitreous<br>60676-86-0   |     | 0,3               | 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        |
| Silicon dioxide<br>7631-86-9     |     | 4                 | 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<br>Compartment       | Exposure<br>period | Value      |     |                |        | Remarks |
|---|------------------------------------|--------------------|------------|-----|----------------|--------|---------|
|   |                                    |                    | mg/l       | ppm | mg/kg          | others |         |
| Hexahydromethylphthalic anhydride<br>25550-51-0   | aqua<br>(freshwater)               |                    | 0,1 mg/l   |     |                |        |         |
| Hexahydromethylphthalic anhydride<br>25550-51-0   | aqua (marine<br>water)             |                    | 0,01 mg/l  |     |                |        |         |
| Hexahydromethylphthalic anhydride<br>25550-51-0   | sewage<br>treatment plant<br>(STP) |                    | 2,19 mg/l  |     |                |        |         |
| Hexahydromethylphthalic anhydride<br>25550-51-0   | sediment<br>(freshwater)           |                    |            |     | 2,69 mg/kg     |        |         |
| Hexahydromethylphthalic anhydride<br>25550-51-0   | sediment<br>(marine water)         |                    |            |     | 0,269<br>mg/kg |        |         |
| Hexahydromethylphthalic anhydride<br>25550-51-0   | Air                                |                    |            |     |                |        |         |
| Hexahydromethylphthalic anhydride<br>25550-51-0   | Soil                               |                    |            |     | 0,603<br>mg/kg |        |         |
| Reaction product: bisphenol-A-<br>(epichlorhydrin); epoxy resin (number<br>average molecular weight <= 700)<br>25068-38-6 | aqua<br>(freshwater)               |                    | 0,006 mg/l |     |                |        |         |
| Reaction product: bisphenol-A-<br>(epichlorhydrin); epoxy resin (number<br>average molecular weight <= 700)<br>25068-38-6 | aqua (marine<br>water)             |                    | 0,001 mg/l |     |                |        |         |
| Reaction product: bisphenol-A-<br>(epichlorhydrin); epoxy resin (number<br>average molecular weight <= 700)<br>25068-38-6 | sewage<br>treatment plant<br>(STP) |                    | 10 mg/l    |     |                |        |         |
| Reaction product: bisphenol-A-<br>(epichlorhydrin); epoxy resin (number<br>average molecular weight <= 700)<br>25068-38-6 | sediment<br>(freshwater)           |                    |            |     | 0,996<br>mg/kg |        |         |
| Reaction product: bisphenol-A-<br>(epichlorhydrin); epoxy resin (number<br>average molecular weight <= 700)<br>25068-38-6 | sediment<br>(marine water)         |                    |            |     | 0,1 mg/kg      |        |         |
| Reaction product: bisphenol-A-<br>(epichlorhydrin); epoxy resin (number<br>average molecular weight <= 700)<br>25068-38-6 | Soil                               |                    |            |     | 0,196<br>mg/kg |        |         |
| Reaction product: bisphenol-A-<br>(epichlorhydrin); epoxy resin (number<br>average molecular weight <= 700)<br>25068-38-6 | oral                               |                    |            |     | 11 mg/kg       |        |         |
| Reaction product: bisphenol-A-<br>(epichlorhydrin); epoxy resin (number<br>average molecular weight <= 700)<br>25068-38-6 | aqua<br>(intermittent<br>releases) |                    | 0,018 mg/l |     |                |        |         |
| Tetrahydro-4-methylphthalic anhydride<br>34090-76-1   | aqua<br>(freshwater)               |                    | 2 mg/l     |     |                |        |         |
| Tetrahydro-4-methylphthalic anhydride<br>34090-76-1   | aqua<br>(intermittent<br>releases) |                    | 0,79 mg/l  |     |                |        |         |
| Tetrahydro-4-methylphthalic anhydride<br>34090-76-1   | aqua (marine<br>water)             |                    | 0,2 mg/l   |     |                |        |         |
| Tetrahydro-4-methylphthalic anhydride<br>34090-76-1   | sediment<br>(freshwater)           |                    |            |     | 27,1 mg/kg     |        |         |
| Tetrahydro-4-methylphthalic anhydride<br>34090-76-1   | sediment<br>(marine water)         |                    |            |     | 2,71 mg/kg     |        |         |
| Tetrahydro-4-methylphthalic anhydride<br>34090-76-1   | Soil                               |                    |            |     | 4,24 mg/kg     |        |         |
| Tetrahydro-4-methylphthalic anhydride<br>34090-76-1   | sewage<br>treatment plant<br>(STP) |                    | 0,69 mg/l  |     |                |        |         |
| Reaction product: bisphenol-F-<br>(epichlorhydrin); epoxy resin (number<br>average molecular weight <= 700)<br>9003-36-5  | aqua<br>(freshwater)               |                    | 0,003 mg/l |     |                |        |         |
| Reaction product: bisphenol-F-  | aqua (marine                       |                    | 0,0003     |     |                |        |         |

|   |                              |  |             |  |              |  |  |
|---|------------------------------|--|-------------|--|--------------|--|--|
| (epichlorhydrin); epoxy resin (number average molecular weight <= 700)<br>9003-36-5                               | water)                       |  | mg/l        |  |              |  |  |
| Reaction product: bisphenol-F-(epichlorhydrin); epoxy resin (number average molecular weight <= 700)<br>9003-36-5 | sewage treatment plant (STP) |  | 10 mg/l     |  |              |  |  |
| Reaction product: bisphenol-F-(epichlorhydrin); epoxy resin (number average molecular weight <= 700)<br>9003-36-5 | sediment (freshwater)        |  |             |  | 0,294 mg/kg  |  |  |
| Reaction product: bisphenol-F-(epichlorhydrin); epoxy resin (number average molecular weight <= 700)<br>9003-36-5 | sediment (marine water)      |  |             |  | 0,0294 mg/kg |  |  |
| Reaction product: bisphenol-F-(epichlorhydrin); epoxy resin (number average molecular weight <= 700)<br>9003-36-5 | Soil                         |  |             |  | 0,237 mg/kg  |  |  |
| Reaction product: bisphenol-F-(epichlorhydrin); epoxy resin (number average molecular weight <= 700)<br>9003-36-5 | aqua (intermittent releases) |  | 0,0254 mg/l |  |              |  |  |
| Reaction product: bisphenol-F-(epichlorhydrin); epoxy resin (number average molecular weight <= 700)<br>9003-36-5 | Air                          |  |             |  |              |  |  |
| Reaction product: bisphenol-F-(epichlorhydrin); epoxy resin (number average molecular weight <= 700)<br>9003-36-5 | Predator                     |  |             |  |              |  |  |

**Derived No-Effect Level (DNEL):**

| Name on list   | Application Area   | Route of Exposure | Health Effect                                | Exposure Time | Value        | Remarks |
|--|--------------------|-------------------|--|---------------|--------------|---------|
| Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700)<br>25068-38-6 | Workers            | dermal            | Acute/short term exposure - systemic effects |               | 8,33 mg/kg   |         |
| Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700)<br>25068-38-6 | Workers            | Inhalation        | Acute/short term exposure - systemic effects |               | 12,25 mg/m3  |         |
| Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700)<br>25068-38-6 | Workers            | dermal            | Long term exposure - systemic effects        |               | 8,33 mg/kg   |         |
| Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700)<br>25068-38-6 | Workers            | Inhalation        | Long term exposure - systemic effects        |               | 12,25 mg/m3  |         |
| Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700)<br>25068-38-6 | General population | dermal            | Acute/short term exposure - systemic effects |               | 3,571 mg/kg  |         |
| Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700)<br>25068-38-6 | General population | dermal            | Long term exposure - systemic effects        |               | 3,571 mg/kg  |         |
| Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700)<br>25068-38-6 | General population | oral              | Acute/short term exposure - systemic effects |               | 0,75 mg/kg   |         |
| Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700)<br>25068-38-6 | General population | oral              | Long term exposure - systemic effects        |               | 0,75 mg/kg   |         |
| Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700)<br>25068-38-6 | General population | inhalation        | Acute/short term exposure - systemic effects |               | 0,75 mg/m3   |         |
| Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700)<br>25068-38-6 | General population | inhalation        | Long term exposure - systemic effects        |               | 0,75 mg/m3   |         |
| Tetrahydro-4-methylphthalic anhydride<br>34090-76-1  | General population | dermal            | Long term exposure - systemic effects        |               | 10 mg/kg     |         |
| Tetrahydro-4-methylphthalic anhydride<br>34090-76-1  | General population | oral              | Long term exposure - systemic effects        |               | 10 mg/kg     |         |
| Tetrahydro-4-methylphthalic anhydride<br>34090-76-1  | Workers            | dermal            | Long term exposure - systemic effects        |               | 10 mg/kg     |         |
| Reaction product: bisphenol-F-(epichlorhydrin); epoxy resin (number average molecular weight <= 700)<br>9003-36-5  | Workers            | dermal            | Long term exposure - systemic effects        |               | 104,15 mg/kg |         |
| Reaction product: bisphenol-F-(epichlorhydrin); epoxy resin (number average molecular weight <= 700)<br>9003-36-5  | Workers            | Inhalation        | Long term exposure - systemic effects        |               | 29,39 mg/m3  |         |
| Reaction product: bisphenol-F-(epichlorhydrin); epoxy resin (number average molecular weight <= 700)<br>9003-36-5  | General population | dermal            | Long term exposure - systemic effects        |               | 62,5 mg/kg   |         |
| Reaction product: bisphenol-F-(epichlorhydrin); epoxy resin (number average molecular weight <= 700)<br>9003-36-5  | General population | Inhalation        | Long term exposure - systemic effects        |               | 8,7 mg/m3    |         |
| Reaction product: bisphenol-F-(epichlorhydrin); epoxy resin (number average molecular weight <= 700)<br>9003-36-5  | General population | oral              | Long term exposure - systemic effects        |               | 6,25 mg/kg   |         |
| Reaction product: bisphenol-F-   | Workers            | dermal            | Long term                                    |               | 8,3 µg/cm2   |         |



|   |  |  |                          |  |  |  |
|---|--|--|--------------------------|--|--|--|
| (epichlorhydrin); epoxy resin (number average molecular weight <= 700)<br>9003-36-5 |  |  | exposure - local effects |  |  |  |
|---|--|--|--------------------------|--|--|--|

**Biological Exposure Indices:**

None

**8.2. Exposure controls:**

## Respiratory protection:

Ensure adequate ventilation.

An approved mask or respirator fitted with an organic vapour cartridge should be worn if the product is used in a poorly ventilated area

Filter type: A (EN 14387)

## Hand protection:

Chemical-resistant protective gloves (EN 374).

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

nitrile rubber (NBR; &gt;= 0.4 mm thickness)

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

nitrile rubber (NBR; &gt;= 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:

Safety glasses with sideshields or chemical safety goggles should be worn if there is a risk of splashing.

Protective eye equipment should conform to EN166.

## Skin protection:

Wear suitable protective clothing.

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

## Advices to personal protection equipment:

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**

|                            |   |
|----------------------------|---|
| Appearance                 | liquid<br>Highly viscous<br>black                 |
| Odor                       | aromatic  |
| Odour threshold            | No data available / Not applicable                |
| pH                         | No data available / Not applicable                |
| Melting point              | No data available / Not applicable                |
| Solidification temperature | No data available / Not applicable                |
| Initial boiling point      | Polymerization may occur at elevated temperature. |
| Flash point                | > 93 °C (> 199.4 °F)                              |
| Evaporation rate           | No data available / Not applicable                |
| Flammability               | No data available / Not applicable                |
| Explosive limits           | No data available / Not applicable                |
| Vapour pressure            | No data available / Not applicable                |
| Relative vapour density:   | No data available / Not applicable                |

|   |                                    |
|---|------------------------------------|
| Density<br>(20 °C (68 °F))                                    | 1,77 g/cm <sup>3</sup>             |
| Bulk density  | No data available / Not applicable |
| Solubility  | No data available / Not applicable |
| Solubility (qualitative)<br>(20 °C (68 °F); Solvent: Water)   | Not miscible or difficult to mix   |
| Solubility (qualitative)<br>(20 °C (68 °F); Solvent: ketones) | Partially miscible                 |
| Partition coefficient: n-octanol/water                        | No data available / Not applicable |
| Auto-ignition temperature                                     | No data available / Not applicable |
| Decomposition temperature                                     | No data available / Not applicable |
| Viscosity   | No data available / Not applicable |
| Viscosity (kinematic)   | No data available / Not applicable |
| Explosive properties  | No data available / Not applicable |
| Oxidising properties  | No data available / Not applicable |

## 9.2. Other information

No data available / Not applicable

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Reacts with alcohols and amines.

Reacts with oxidants, acids and lyes

hydrolyses with water gradually

Polymerization may occur at elevated temperature or in the presence of incompatible materials.

### 10.2. Chemical stability

Stable under recommended storage conditions.

### 10.3. Possibility of hazardous reactions

See section reactivity

### 10.4. Conditions to avoid

Danger of decomposition if exposed to heat.

### 10.5. Incompatible materials

See section reactivity.

### 10.6. Hazardous decomposition products

Hydrocarbons

Irritating organic vapours.

carbon oxides.

nitrogen oxides

May produce fumes when heated to decomposition. Fumes may contain carbon monoxide and other toxic fumes.

See section 5.

**SECTION 11: Toxicological information****11.1. Information on toxicological effects****Acute oral toxicity:**

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

| Hazardous substances<br>CAS-No.   | Value<br>type | Value         | Species       | Method                                   |
|---|---------------|---------------|---------------|--|
| Hexahydromethylphthalic<br>anhydride<br>25550-51-0  | LD50          | > 2.000 mg/kg | rat           | EU Method B.1 tris (Acute Oral Toxicity) |
| Epichlorohyd.-bisphenol<br>A resin MW<=700<br>25068-38-6  | LD50          | > 2.000 mg/kg | rat           | OECD Guideline 420 (Acute Oral Toxicity) |
| 2,2'-((3,5',5,5'-<br>tetramethyl-(1,1'-<br>biphenyl)-4,4'-diyl)-<br>bis(oxyethylene))-bis-<br>oxirane<br>85954-11-6 | LD50          | 3.563 mg/kg   | rat           | EU Method B.1 bis (Acute Oral Toxicity)  |
| Quartz (SiO <sub>2</sub> ), <1%<br>respirable<br>14808-60-7   | LD50          | > 2.000 mg/kg | not specified | not specified                            |
| 3,4-Epoxy cyclohexyl<br>methyl-3,4-epoxy<br>cyclohexyl carboxylate<br>2386-87-0                                     | LD50          | 5.000 mg/kg   | rat           | OECD Guideline 401 (Acute Oral Toxicity) |
| Methyltetrahydrophthalic<br>anhydride<br>34090-76-1   | LD50          | > 2.000 mg/kg | rat           | OECD Guideline 401 (Acute Oral Toxicity) |
| Bisphenol-F<br>epichlorhydrin resin;<br>MW<700<br>9003-36-5   | LD50          | > 5.000 mg/kg | rat           | OECD Guideline 401 (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<br>CAS-No.   | Value<br>type | Value         | Species       | Method                                     |
|---|---------------|---------------|---------------|--|
| Hexahydromethylphthalic<br>anhydride<br>25550-51-0  | LD50          | > 2.000 mg/kg | rat           | OECD Guideline 402 (Acute Dermal Toxicity) |
| Epichlorohyd.-bisphenol<br>A resin MW<=700<br>25068-38-6  | LD50          | > 2.000 mg/kg | rat           | not specified                              |
| 2,2'-((3,5',5,5'-<br>tetramethyl-(1,1'-<br>biphenyl)-4,4'-diyl)-<br>bis(oxyethylene))-bis-<br>oxirane<br>85954-11-6 | LD50          | > 2.000 mg/kg | rat           | EU Method B.3 (Acute Toxicity (Dermal))    |
| Quartz (SiO <sub>2</sub> ), <1%<br>respirable<br>14808-60-7   | LD50          | > 2.000 mg/kg | not specified | not specified                              |
| 3,4-Epoxy cyclohexyl<br>methyl-3,4-epoxy<br>cyclohexyl carboxylate<br>2386-87-0                                     | LD50          | > 2.000 mg/kg | rat           | OECD Guideline 402 (Acute Dermal Toxicity) |
| Methyltetrahydrophthalic<br>anhydride<br>34090-76-1   | LD50          | > 2.000 mg/kg | rat           | OECD Guideline 402 (Acute Dermal Toxicity) |
| Bisphenol-F<br>epichlorhydrin resin;<br>MW<700<br>9003-36-5   | LD50          | > 2.000 mg/kg | rat           | OECD Guideline 402 (Acute Dermal Toxicity) |

**Acute inhalative toxicity:**

No data available.

**Skin corrosion/irritation:**

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

| Hazardous substances<br>CAS-No.  | Result                   | Exposure<br>time | Species | Method   |
|--|--------------------------|------------------|---------|--|
| Hexahydromethylphthalic<br>anhydride<br>25550-51-0   | moderately<br>irritating | 24 h             | rabbit  | other guideline:   |
| Epichlorohyd.-bisphenol<br>A resin MW<=700<br>25068-38-6   | moderately<br>irritating | 24 h             | rabbit  | Draize Test  |
| 2,2'-((3,5',5,5'-<br>tetramethyl-(1,1'-<br>biphenyl)-4,4'-diyl)-<br>bis(oxymethylene))-bis-<br>oxirane<br>85954-11-6 | not irritating           | 4 h              | rabbit  | EU Method B.4 (Acute Toxicity: Dermal Irritation /<br>Corrosion) |
| Bisphenol-F<br>epichlorhydrin resin;<br>MW<700<br>9003-36-5  | irritating               | 4 h              | rabbit  | 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<br>CAS-No.  | Result                 | Exposure<br>time | Species | Method  |
|--|------------------------|------------------|---------|---|
| Epichlorohyd.-bisphenol<br>A resin MW<=700<br>25068-38-6   | not irritating         |                  | rabbit  | OECD Guideline 405 (Acute Eye Irritation / Corrosion)         |
| 2,2'-((3,5',5,5'-<br>tetramethyl-(1,1'-<br>biphenyl)-4,4'-diyl)-<br>bis(oxymethylene))-bis-<br>oxirane<br>85954-11-6 | slightly<br>irritating | 24 h             | rabbit  | EU Method B.5 (Acute Toxicity: Eye Irritation /<br>Corrosion) |
| Bisphenol-F<br>epichlorhydrin resin;<br>MW<700<br>9003-36-5  | 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<br>CAS-No.  | Result          | Test type                             | Species    | Method   |
|--|-----------------|---------------------------------------|------------|--|
| Epichlorohyd.-bisphenol<br>A resin MW<=700<br>25068-38-6   | sensitising     | Mouse local lymphnode<br>assay (LLNA) | mouse      | OECD Guideline 429 (Skin Sensitisation:<br>Local Lymph Node Assay) |
| 2,2'-((3,5',5,5'-<br>tetramethyl-(1,1'-<br>biphenyl)-4,4'-diyl)-<br>bis(oxymethylene))-bis-<br>oxirane<br>85954-11-6 | not sensitising | Buehler test                          | guinea pig | EU Method B.6 (Skin Sensitisation)                                 |
| 3,4-Epoxy cyclohexyl<br>methyl-3,4-epoxy<br>cyclohexyl carboxylate<br>2386-87-0                                      | sensitising     | Guinea pig maximisation<br>test       | guinea pig | OECD Guideline 406 (Skin Sensitisation)                            |
| Bisphenol-F<br>epichlorhydrin resin;<br>MW<700<br>9003-36-5  | sensitising     | Mouse local lymphnode<br>assay (LLNA) | mouse      | OECD Guideline 429 (Skin Sensitisation:<br>Local Lymph Node Assay) |

**Germ cell mutagenicity:**

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

| <b>Hazardous substances<br/>CAS-No.</b>   | <b>Result</b> | <b>Type of study /<br/>Route of<br/>administration</b> | <b>Metabolic<br/>activation /<br/>Exposure time</b> | <b>Species</b> | <b>Method</b>  |
|---|---------------|--|---|----------------|--|
| Hexahydromethylphthalic anhydride<br>25550-51-0   | negative      | bacterial reverse mutation assay (e.g Ames test)       | with and without                                    |                | OECD Guideline 471 (Bacterial Reverse Mutation Assay)  |
| Hexahydromethylphthalic anhydride<br>25550-51-0   | negative      | in vitro mammalian chromosome aberration test          | with and without                                    |                | OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)                           |
| Hexahydromethylphthalic anhydride<br>25550-51-0   | negative      | mammalian cell gene mutation assay                     | with and without                                    |                | OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)                              |
| Epichlorohyd.-bisphenol A resin MW<=700<br>25068-38-6   | negative      | bacterial reverse mutation assay (e.g Ames test)       | with and without                                    |                | OECD Guideline 472 (Genetic Toxicology: Escherichia coli, Reverse Mutation Assay)            |
| 2,2'-((3,5',5,5'-tetramethyl-(1,1'-biphenyl)-4,4'-diyl)-bis(oxyethylene))-bis-oxirane<br>85954-11-6 | positive      | bacterial gene mutation assay                          | with and without                                    |                | not specified  |
| 2,2'-((3,5',5,5'-tetramethyl-(1,1'-biphenyl)-4,4'-diyl)-bis(oxyethylene))-bis-oxirane<br>85954-11-6 | positive      |  | with and without                                    |                | not specified  |
| 2,2'-((3,5',5,5'-tetramethyl-(1,1'-biphenyl)-4,4'-diyl)-bis(oxyethylene))-bis-oxirane<br>85954-11-6 | no data       | in vitro mammalian chromosome aberration test          | with and without                                    |                | not specified  |
| Methyltetrahydrophthalic anhydride<br>34090-76-1  | negative      | mammalian cell gene mutation assay                     | with and without                                    |                | OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)                              |
| Bisphenol-F epichlorhydrin resin; MW<700<br>9003-36-5   | positive      | bacterial reverse mutation assay (e.g Ames test)       | with and without                                    |                | OECD Guideline 471 (Bacterial Reverse Mutation Assay)  |
| Epichlorohyd.-bisphenol A resin MW<=700<br>25068-38-6   | negative      | oral: gavage   |   | mouse          | not specified  |
| 2,2'-((3,5',5,5'-tetramethyl-(1,1'-biphenyl)-4,4'-diyl)-bis(oxyethylene))-bis-oxirane<br>85954-11-6 | positive      | intraperitoneal  |   | mouse          | EU Method B.12 (Mutagenicity)  |
| Bisphenol-F epichlorhydrin resin; MW<700<br>9003-36-5   | negative      | oral: gavage   |   | mouse          | OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)                                 |
| Bisphenol-F epichlorhydrin resin; MW<700<br>9003-36-5   | negative      | oral: gavage   |   | rat            | OECD Guideline 486 (Unscheduled DNA Synthesis (UDS) Test with Mammalian Liver Cells in vivo) |

**Carcinogenicity**

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

| Hazardous components<br>CAS-No.                          | Result           | Route of<br>application | Exposure<br>time /<br>Frequency<br>of treatment | Species | Sex         | Method   |
|--|------------------|-------------------------|---|---------|-------------|--|
| Epichlorohyd.-bisphenol<br>A resin MW<=700<br>25068-38-6 | not carcinogenic | dermal                  | 2 y<br>daily                                    | mouse   | male        | OECD Guideline 453<br>(Combined Chronic<br>Toxicity /<br>Carcinogenicity<br>Studies) |
| Epichlorohyd.-bisphenol<br>A resin MW<=700<br>25068-38-6 | not carcinogenic | oral: gavage            | 2 y<br>daily                                    | rat     | male/female | OECD Guideline 453<br>(Combined Chronic<br>Toxicity /<br>Carcinogenicity<br>Studies) |

**Reproductive toxicity:**

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

| Hazardous substances<br>CAS-No.                             | Result / Value  | Test type                   | Route of<br>application | Species | Method   |
|---|---|-----------------------------|-------------------------|---------|--|
| Hexahydromethylphthalic<br>anhydride<br>25550-51-0          | NOAEL P 450 mg/kg   | screening                   | oral: gavage            | rat     | OECD Guideline 421<br>(Reproduction /<br>Developmental Toxicity<br>Screening Test) |
| Epichlorohyd.-bisphenol<br>A resin MW<=700<br>25068-38-6    | NOAEL P >= 50 mg/kg<br>NOAEL F1 >= 750 mg/kg<br>NOAEL F2 >= 750 mg/kg | Two<br>generation<br>study  | oral: gavage            | rat     | OECD Guideline 416 (Two-<br>Generation Reproduction<br>Toxicity Study)             |
| Bisphenol-F<br>epichlorhydrin resin;<br>MW<700<br>9003-36-5 | NOAEL P > 750 mg/kg<br>NOAEL F1 750 mg/kg<br>NOAEL F2 750 mg/kg       | two-<br>generation<br>study | oral: gavage            | rat     | OECD Guideline 416 (Two-<br>Generation Reproduction<br>Toxicity Study)             |

**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<br>CAS-No.                             | Result / Value  | Route of<br>application | Exposure time /<br>Frequency of<br>treatment | Species | Method   |
|---|-----------------|-------------------------|--|---------|--|
| Hexahydromethylphthalic<br>anhydride<br>25550-51-0          | NOAEL 450 mg/kg | oral: gavage            | 28 d<br>once a day, 7 days a<br>week         | rat     | OECD Guideline 407<br>(Repeated Dose 28-Day<br>Oral Toxicity in Rodents) |
| Epichlorohyd.-bisphenol<br>A resin MW<=700<br>25068-38-6    | NOAEL 50 mg/kg  | oral: gavage            | 14 w<br>daily                                | rat     | OECD Guideline 408<br>(Repeated Dose 90-Day<br>Oral Toxicity in Rodents) |
| Bisphenol-F<br>epichlorhydrin resin;<br>MW<700<br>9003-36-5 | NOAEL 250 mg/kg | oral: gavage            | 13 w<br>daily                                | rat     | OECD Guideline 408<br>(Repeated Dose 90-Day<br>Oral Toxicity in Rodents) |

**Aspiration hazard:**

No data available.



**SECTION 12: Ecological information****General ecological information:**

Do not empty into drains / surface water / ground 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<br>CAS-No.  | Value<br>type | Value        | Exposure time | Species             | Method  |
|--|---------------|--------------|---------------|---------------------|---|
| Hexahydromethylphthalic<br>anhydride<br>25550-51-0   | LC50          | 500 mg/l     | 48 h          | Oryzias latipes     | OECD Guideline 203 (Fish,<br>Acute Toxicity Test) |
| Epichlorohyd.-bisphenol A<br>resin MW<=700<br>25068-38-6   | LC50          | 1,75 mg/l    | 96 h          | Oncorhynchus mykiss | OECD Guideline 203 (Fish,<br>Acute Toxicity Test) |
| 2,2'-((3,5',5,5'-tetramethyl-<br>(1,1'-biphenyl)-4,4'-diyl)-<br>bis(oxymethylene))-bis-<br>oxirane<br>85954-11-6 | LC50          | > 0,1 mg/l   | 24 h          | Oncorhynchus mykiss | EU Method C.1 (Acute<br>Toxicity for Fish)        |
| Quartz (SiO <sub>2</sub> ), <1% respirable<br>14808-60-7   | LC50          | > 1.000 mg/l |               |                     | OECD Guideline 203 (Fish,<br>Acute Toxicity Test) |
| 3,4-Epoxy cyclohexyl methyl-<br>3,4-epoxy cyclohexyl<br>carboxylate<br>2386-87-0                                 | LC50          | 24 mg/l      | 96 h          | Oncorhynchus mykiss | OECD Guideline 203 (Fish,<br>Acute Toxicity Test) |
| Methyltetrahydrophthalic<br>anhydride<br>34090-76-1  | LC50          | > 100 mg/l   | 96 h          | Oryzias latipes     | OECD Guideline 203 (Fish,<br>Acute Toxicity Test) |
| Bisphenol-F epichlorhydrin<br>resin; MW<700<br>9003-36-5   | LC50          | 5,7 mg/l     | 96 h          | Leuciscus idus      | OECD Guideline 203 (Fish,<br>Acute Toxicity Test) |

**Toxicity (Daphnia):**

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

| Hazardous substances<br>CAS-No.  | Value<br>type | Value        | Exposure time | Species       | Method   |
|--|---------------|--------------|---------------|---------------|--|
| Hexahydromethylphthalic<br>anhydride<br>25550-51-0   | EC50          | > 100 mg/l   | 48 h          | Daphnia magna | OECD Guideline 202<br>(Daphnia sp. Acute<br>Immobilisation Test) |
| Epichlorohyd.-bisphenol A<br>resin MW<=700<br>25068-38-6   | EC50          | 1,7 mg/l     | 48 h          | Daphnia magna | OECD Guideline 202<br>(Daphnia sp. Acute<br>Immobilisation Test) |
| 2,2'-((3,5',5,5'-tetramethyl-<br>(1,1'-biphenyl)-4,4'-diyl)-<br>bis(oxymethylene))-bis-<br>oxirane<br>85954-11-6 | EC50          | > 0,15 mg/l  | 24 h          | Daphnia magna | EU Method C.2 (Acute<br>Toxicity for Daphnia)                    |
| Quartz (SiO <sub>2</sub> ), <1% respirable<br>14808-60-7   | EC50          | > 1.000 mg/l |               | Daphnia magna | OECD Guideline 202<br>(Daphnia sp. Acute<br>Immobilisation Test) |
| 3,4-Epoxy cyclohexyl methyl-<br>3,4-epoxy cyclohexyl<br>carboxylate<br>2386-87-0                                 | EC50          | 40 mg/l      | 48 h          | Daphnia magna | OECD Guideline 202<br>(Daphnia sp. Acute<br>Immobilisation Test) |
| Methyltetrahydrophthalic<br>anhydride<br>34090-76-1  | EC50          | 130 mg/l     | 48 h          | Daphnia magna | OECD Guideline 202<br>(Daphnia sp. Acute<br>Immobilisation Test) |
| Bisphenol-F epichlorhydrin<br>resin; MW<700<br>9003-36-5   | EC50          | 2,55 mg/l    | 48 h          | Daphnia magna | OECD Guideline 202<br>(Daphnia sp. Acute<br>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<br>CAS-No.                          | Value<br>type | Value    | Exposure time | Species       | Method   |
|--|---------------|----------|---------------|---------------|--|
| Epichlorohyd.-bisphenol A<br>resin MW≤700<br>25068-38-6  | NOEC          | 0,3 mg/l | 21 d          | Daphnia magna | OECD 211 (Daphnia<br>magna, Reproduction Test) |
| Bisphenol-F epichlorhydrin<br>resin; MW<700<br>9003-36-5 | NOEC          | 0,3 mg/l | 21 d          | Daphnia magna | OECD 211 (Daphnia<br>magna, Reproduction Test) |

**Toxicity (Algae):**

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

| Hazardous substances<br>CAS-No.  | Value<br>type | Value        | Exposure time | Species   | Method  |
|--|---------------|--------------|---------------|---|---|
| Hexahydromethylphthalic anhydride<br>25550-51-0  | EC50          | 135 mg/l     | 72 h          | Pseudokirchneriella subcapitata                                       | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| Hexahydromethylphthalic anhydride<br>25550-51-0  | NOEC          | 32 mg/l      | 72 h          | Pseudokirchneriella subcapitata                                       | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| Epichlorohyd.-bisphenol A resin MW<=700<br>25068-38-6  | EC50          | > 11 mg/l    | 72 h          | Scenedesmus capricornutum   | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| Epichlorohyd.-bisphenol A resin MW<=700<br>25068-38-6  | NOEC          | 4,2 mg/l     | 72 h          | Scenedesmus capricornutum   | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| 2,2'-((3,5',5,5'-tetramethyl-(1,1'-biphenyl)-4,4'-diyl)-bis(oxymethylene))-bis-oxirane<br>85954-11-6 | NOEC          | > 0,15 mg/l  | 72 h          | Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata) | EU Method C.3 (Algal Inhibition test)             |
| 2,2'-((3,5',5,5'-tetramethyl-(1,1'-biphenyl)-4,4'-diyl)-bis(oxymethylene))-bis-oxirane<br>85954-11-6 | EC50          | > 0,15 mg/l  | 72 h          | Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata) | EU Method C.3 (Algal Inhibition test)             |
| Quartz (SiO <sub>2</sub> ), <1% respirable<br>14808-60-7   | EC50          | > 1.000 mg/l |               |   | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| 3,4-Epoxy cyclohexyl methyl-3,4-epoxy cyclohexyl carboxylate<br>2386-87-0                            | EC50          | > 110 mg/l   | 72 h          | Pseudokirchneriella subcapitata                                       | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| 3,4-Epoxy cyclohexyl methyl-3,4-epoxy cyclohexyl carboxylate<br>2386-87-0                            | NOEC          | 30 mg/l      | 72 h          | Pseudokirchneriella subcapitata                                       | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| Methyltetrahydrophthalic anhydride<br>34090-76-1   | EC50          | 79 mg/l      | 72 h          | Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata) | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| Methyltetrahydrophthalic anhydride<br>34090-76-1   | NOEC          | 32 mg/l      | 72 h          | Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata) | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| Bisphenol-F epichlorhydrin resin; MW<700<br>9003-36-5  | EC50          | 1,8 mg/l     | 72 h          | Pseudokirchneriella subcapitata                                       | 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<br>CAS-No.   | Value<br>type | Value        | Exposure time | Species   | Method   |
|---|---------------|--------------|---------------|---|--|
| Hexahydromethylphthalic anhydride<br>25550-51-0                           | EC20          | 95,3 mg/l    | 3 h           | activated sludge, domestic                          | OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)       |
| Epichlorohyd.-bisphenol A resin MW<=700<br>25068-38-6                     | IC50          | > 100 mg/l   | 3 h           | activated sludge, industrial                        | other guideline:   |
| Quartz (SiO <sub>2</sub> ), <1% respirable<br>14808-60-7                  | EC0           | > 1.000 mg/l |               |   | not specified  |
| 3,4-Epoxy cyclohexyl methyl-3,4-epoxy cyclohexyl carboxylate<br>2386-87-0 | EC10          | 409 mg/l     | 3 h           | activated sludge of a predominantly domestic sewage | OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)       |
| Methyltetrahydrophthalic anhydride<br>34090-76-1                          | EC 50         | > 1.000 mg/l | 3 h           |   | ISO 8192 (Test for Inhibition of Oxygen Consumption by Activated Sludge) |
| Bisphenol-F epichlorhydrin resin; MW<700<br>9003-36-5                     | IC50          | > 100 mg/l   | 3 h           | activated sludge, industrial                        | other guideline:   |

**12.2. Persistence and degradability**

The product is not biodegradable.

| Hazardous substances<br>CAS-No.  | Result                     | Test type | Degradability | Exposure<br>time | Method  |
|--|----------------------------|-----------|---------------|------------------|---|
| Hexahydromethylphthalic<br>anhydride<br>25550-51-0                               | not readily biodegradable. | aerobic   | 2 %           | 28 d             | OECD Guideline 301 F (Ready<br>Biodegradability: Manometric<br>Respirometry Test) |
| Epichlorohyd.-bisphenol A<br>resin MW<=700<br>25068-38-6                         | not readily biodegradable. | aerobic   | 5 %           | 28 d             | OECD Guideline 301 F (Ready<br>Biodegradability: Manometric<br>Respirometry Test) |
| 3,4-Epoxy cyclohexyl methyl-<br>3,4-epoxy cyclohexyl<br>carboxylate<br>2386-87-0 | not readily biodegradable. | aerobic   | 71 %          | 28 d             | OECD Guideline 301 B (Ready<br>Biodegradability: CO2 Evolution<br>Test)           |
| Methyltetrahydrophthalic<br>anhydride<br>34090-76-1                              |                            | aerobic   | 90 %          | 30 d             | OECD Guideline 301 D (Ready<br>Biodegradability: Closed Bottle<br>Test)           |
| Bisphenol-F epichlorhydrin<br>resin; MW<700<br>9003-36-5                         | not readily biodegradable. | aerobic   | 0 %           | 28 d             | OECD Guideline 301 D (Ready<br>Biodegradability: Closed Bottle<br>Test)           |

**12.3. Bioaccumulative potential**

No data available.

| Hazardous substances<br>CAS-No.                    | Bioconcentratio<br>n factor (BCF) | Exposure time | Temperature | Species    | Method   |
|--|-----------------------------------|---------------|-------------|------------|--|
| Hexahydromethylphthalic<br>anhydride<br>25550-51-0 | 11,12                             |               |             | calculated | QSAR (Quantitative Structure<br>Activity Relationship) |

**12.4. Mobility in soil**

Cured adhesives are immobile.

| Hazardous substances<br>CAS-No.   | LogPow    | Temperature | Method   |
|---|-----------|-------------|--|
| Hexahydromethylphthalic anhydride<br>25550-51-0   | 2,59      | 25 °C       | QSAR (Quantitative Structure Activity Relationship)                                |
| Epichlorohyd.-bisphenol A resin MW<=700<br>25068-38-6   | 3,242     | 25 °C       | EU Method A.8 (Partition Coefficient)  |
| 2,2'-((3,5',5,5'-tetramethyl-(1,1'-biphenyl)-4,4'-diyl)-bis(oxyethylene))-bis-oxirane<br>85954-11-6 | 2,9       | 20 °C       | OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method) |
| 3,4-Epoxy cyclohexyl methyl-3,4-epoxy cyclohexyl carboxylate<br>2386-87-0                           | 1,34      | 20 °C       | OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method) |
| Bisphenol-F epichlorhydrin resin; MW<700<br>9003-36-5   | 2,7 - 3,6 |             | OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)        |

## 12.5. Results of PBT and vPvB assessment

| Hazardous substances<br>CAS-No.   | PBT / vPvB  |
|---|---|
| Hexahydromethylphthalic anhydride<br>25550-51-0                           | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.           |
| Epichlorohyd.-bisphenol A resin MW<=700<br>25068-38-6                     | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.           |
| Quartz (SiO <sub>2</sub> ), <1% respirable<br>14808-60-7                  | According to Annex XIII of regulation (EC) 1907/2006 a PBT and vPvB assessment shall not be conducted for inorganic substances. |
| 3,4-Epoxy cyclohexyl methyl-3,4-epoxy cyclohexyl carboxylate<br>2386-87-0 | According to Annex XIII of regulation (EC) 1907/2006 a PBT and vPvB assessment shall not be conducted for inorganic substances. |
| Bisphenol-F epichlorhydrin resin; MW<700<br>9003-36-5                     | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.           |

## 12.6. Other adverse effects

No data available.

# SECTION 13: Disposal considerations

## 13.1. Waste treatment methods

Product disposal:

Special waste incineration with the approval of the responsible local authority.

Disposal of uncleaned packages:

Disposal must be made according to official regulations.

Use packages for recycling only when totally empty.

Packaging that cannot be cleaned are to be disposed of in the same manner as the product.

Waste code

08 04 09 waste adhesives and sealants containing organic solvents and other dangerous substances

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.

## SECTION 14: Transport information

**14.1. UN 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. Transport in bulk according to Annex II of Marpol and the IBC Code**

not applicable

## SECTION 15: Regulatory information

**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

VOC content < 3 %  
(2010/75/EC)

**15.2. Chemical safety assessment**

A chemical safety assessment has not been carried out.

**National regulations/information (Germany):**

WGK: WGK = 2, water endangering product. Classification according to the mixture rules in German VwVwS regulation annex 4 from 27.July 2005.

WGK: WGK = 2, significantly water endangering mixture. Classification according to the mixture rules in German AwSV regulation annex 1, number 5.2 from 18. April 2017.

BG regulations, rules, infos:

BG data sheet: BGI 536 Hazardous chemical substances  
Storage class according to TRGS 510: 10

## 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:

- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H318 Causes serious eye damage.
- H319 Causes serious eye irritation.
- H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- H351 Suspected of causing cancer.
- H411 Toxic to aquatic life with long lasting effects.
- H412 Harmful to aquatic life with long lasting effects.

### Further information:

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This information is based on our current level of knowledge and relates to the product in the state in which it is delivered. It is intended to describe our products from the point of view of safety requirements and is not intended to guarantee any particular properties.

**Relevant changes in this safety data sheet are indicated by vertical lines at the left margin in the body of this document. Corresponding text is displayed in a different color on shadowed fields.**