Safety Data Sheet
according to Regulation (EC) No. 1907/2006 (REACH)
according to Regulation (EU) 2020/878

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

1.1. Product identifier

Article No. (manufacturer/supplier): 4 06789 A00V1
Trade name/designation: epple 06789-new / V1 / red
cast resin
component A
UFI: P3N0-M090-0006-MWFS

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

Relevant identified uses:
Casting resin for casting electronic and other components.

1.3. Details of the supplier of the safety data sheet

supplier (manufacturer/importer/downstream user/distributor)

E. Epple & Co. GmbH
Hertzstr. 8
71083 Herrenberg

Telephone: +49 7032 / 9771-17
Telefax: +49 7032 / 9771-60
www.epple-chemie.de

Department responsible for information:
laboratory
E-mail (competent person): labor@epple-chemie.de

1.4. Emergency telephone number

Information center against poisoning Bonn: +49 (0) 228 / 19 240 (Advice in German)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [CLP]

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

Skin Irrit. 2 / H315	Skin corrosion/irritation	Causes skin irritation.
Eye Irrit. 2 / H319	Serious eye damage/eye irritation	Causes serious eye irritation.
Skin Sens. 1 / H317	Respiratory or skin sensitisation	May cause an allergic skin reaction.
Aquatic Chronic 2 / H411	Hazardous to the aquatic environment	Toxic to aquatic life with long lasting effects.

2.2. Label elements

The product is classified and labelled according to EC directives or corresponding national laws.

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms



Danger

Hazard statements

H315	Causes skin irritation.
H319	Causes serious eye irritation.
H317	May cause an allergic skin reaction.
H411	Toxic to aquatic life with long lasting effects.

Precautionary statements

P261	Avoid breathing vapours.
P273	Avoid release to the environment.
P280	Wear protective gloves.
P302 + P352	IF ON SKIN: Wash with plenty of water and soap.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P501	Dispose of contents/ container to an approved waste disposal plant.

Hazard components for labelling

bis-[4-(2,3-epoxipropoxi)phenyl]propane
Methyl toluene-4-sulfonate
Fatty acids, C18-unsaturated, trimers, compounds with oleylamine
1,6-hexanediol diglycidyl ether
Bisphenol-F-epichlorohydrin resin with molecular weight <= 700

Fatty acids, tall oil compounds with oleylamine

Supplemental hazard information

EUH205 Contains epoxy constituents. May produce an allergic reaction.

2.3. **Other hazards**

No information available.

This product contains respirable quartz. In the present physical form (liquid/pasty) and during the processing of the product, no dust is generated, so inhalation is not to be expected. Classification and labeling with STOT RE 1 / H372 is therefore not necessary. Depending on handling and use (e.g. grinding), the formation of airborne respirable crystalline silica is possible. Prolonged and/or intensive inhalation of respirable crystalline silicon dioxide can cause dust lung disease (silicosis).

SECTION 3: Composition/information on ingredients

3.2. **Mixtures**

Description EP-resin on bisphenol A-EP base filled

Hazardous ingredients

Classification according to Regulation (EC) No 1272/2008 [CLP]

EC No. CAS No. Index No.	REACH No. Designation classification: // Remark	weight-%
238-878-4 14808-60-7	quartz STOT RE 1 H372	49,9 - 74,9
216-823-5 1675-54-3 603-073-00-2	01-2119456619-26 bis-[4-(2,3-epoxipropoxi)phenyl]propane Skin Irrit. 2 H315 / Eye Irrit. 2 H319 / Skin Sens. 1 H317 / Aquatic Chronic 2 H411 Specific concentration limit (SCL): Eye Irrit. 2 H319 >= 5 / Skin Irrit. 2 H315 >= 5	19,9 - 24,9
240-260-4 16096-31-4	01-2119463471-41 1,6-hexanediol diglycidyl ether Skin Irrit. 2 H315 / Eye Irrit. 2 H319 / Skin Sens. 1 H317 / Aquatic Chronic 3 H412	9,9 - 19,9
500-006-8 9003-36-5	01-2119454392-40 Bisphenol-F-epichlorohydrin resin with molecular weight <= 700 Skin Irrit. 2 H315 / Skin Sens. 1 H317 / Aquatic Chronic 2 H411	2,4 - 9,9
236-675-5 13463-67-7	01-2119489379-17 Titanium dioxide Carc. 2 H351	0,1 - 0,9
201-283-5 80-48-8	01-2120211468-59 Methyl toluene-4-sulfonate Acute Tox. 4 H302 / Skin Irrit. 2 H315 / Eye Irrit. 2 H319 / Skin Sens. 1 H317 / STOT SE 3 H335 Acute toxicity estimate (ATE): ATE (oral): 341 mg/kg bw	0,1 - 0,9
288-315-1 85711-55-3	01-2119974148-28 Fatty acids, tall oil compounds with oleylamine Skin Sens. 1A H317	0,1 - 0,9

Additional information

Full text of classification: see section 16

SECTION 4: First aid measures

4.1. **Description of first aid measures**

General information

In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness give nothing by mouth, place in recovery position and seek medical advice.

In case of inhalation

Remove casualty to fresh air and keep warm and at rest. In case of irregular breathing or respiratory arrest provide artificial respiration.

Following skin contact
Take off immediately all contaminated clothing. After contact with skin, wash immediately with plenty of water and soap. Do not use solvents or thinners.

After eye contact
Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical advice immediately.

Following ingestion
If swallowed, rinse mouth with water (only if the person is conscious). Seek medical advice immediately. Keep victim calm. Do NOT induce vomiting.

4.2. **Most important symptoms and effects, both acute and delayed**
In all cases of doubt, or when symptoms persist, seek medical advice.

4.3. **Indication of any immediate medical attention and special treatment needed**
First Aid, decontamination, treatment of symptoms.

SECTION 5: Firefighting measures

5.1. **Extinguishing media**

Suitable extinguishing media
alcohol resistant foam, carbon dioxide, Powder, spray mist, (water)

Unsuitable extinguishing media
strong water jet

5.2. **Special hazards arising from the substance or mixture**
Dense black smoke occurs during fire. Inhaling hazardous decomposing products can cause serious health damage.

5.3. **Advice for firefighters**
Provide a conveniently located respiratory protective device. Do not allow water used to extinguish fire to enter drains, ground or waterways. Cool closed containers that are near the source of the fire.

SECTION 6: Accidental release measures

6.1. **Personal precautions, protective equipment and emergency procedures**
Keep away from sources of ignition. Ventilate affected area. Do not breathe vapours.

6.2. **Environmental precautions**
Do not allow to enter into surface water or drains. If the product contaminates lakes, rivers or sewages, inform competent authorities in accordance with local regulations.

6.3. **Methods and material for containment and cleaning up**
Isolate leaked material using non-flammable absorption agent (e.g. sand, earth, vermiculit, diatomaceous earth) and collect it for disposal in appropriate containers in accordance with the local regulations (see section 13). Clean using cleansing agents. Do not use solvents.

6.4. **Reference to other sections**
Observe protective provisions (see section 7 and 8).

SECTION 7: Handling and storage

7.1. **Precautions for safe handling**

Advices on safe handling

Avoid contact with skin, eyes and clothes. When using do not eat, drink or smoke. Personal protection equipment: refer to section 8. Follow the legal protection and safety regulations.

Further information
Vapours are heavier than air. Vapours form explosive mixtures with air.

7.2. **Conditions for safe storage, including any incompatibilities**

Requirements for storage rooms and vessels
Storage in accordance with the Ordinance on Industrial Safety and Health (BetrSiVO). Keep container tightly closed. Do not empty containers with pressure - no pressure vessel! Smoking is forbidden. Access only for authorised persons. Store carefully closed containers upright to prevent any leaks. Soils have to conform to the "Guidelines for avoidance of ignition hazards due to electrostatic charges (TRGS 727)".

Hints on joint storage
Keep away from strongly acidic and alkaline materials as well as oxidizers.

Further information on storage conditions
Take care of instructions on label. Store in a well-ventilated and dry room at temperatures between 5 °C and 30 °C. Protect from heat and direct sunlight. Keep container tightly closed. Remove all sources of ignition. Smoking is forbidden. Access only for authorised persons. Store carefully closed containers upright to prevent any leaks.

7.3. **Specific end use(s)**
Observe technical data sheet. Observe instructions for use.

SECTION 8: Exposure controls/personal protection

8.1. **Control parameters**
Occupational exposure limit values

Titanium dioxide
EC No. 236-675-5 / CAS No. 13463-67-7
TWA: 10 mg/m3
Remark: inhalable aerosol

Additional information
TWA : Long-term occupational exposure limit value
STEL : short-term occupational exposure limit value
Ceiling : peak limitation

DNEL:

bis-[4-(2,3-epoxipropoxi)phenyl]propane
Index No. 603-073-00-2 / EC No. 216-823-5 / CAS No. 1675-54-3
DNEL acute dermal, short-term (systemic), Workers: 8,3 mg/kg bw/day
DNEL long-term dermal (systemic), Workers: 8,3 mg/kg bw/day
DNEL acute inhalative (systemic), Workers: 12,3 mg/m³
DNEL long-term inhalative (systemic), Workers: 12,3 mg/m³

Titanium dioxide
EC No. 236-675-5 / CAS No. 13463-67-7
DNEL long-term inhalative (systemic), Workers: 10 mg/m³

1,6-hexanediol diglycidyl ether
EC No. 240-260-4 / CAS No. 16096-31-4
DNEL acute dermal, short-term (local), Workers: 0,0226 mg/cm²
DNEL long-term dermal (systemic), Workers: 2,8 mg/kg bw/day
DNEL long-term inhalative (systemic), Workers: 0,44 mg/m³

Bisphenol-F-epichlorohydrin resin with molecular weight <= 700
EC No. 500-006-8 / CAS No. 9003-36-5
DNEL acute dermal, short-term (local), Workers: 8,3 µg/cm³
DNEL long-term dermal (systemic), Workers: 104,15 mg/kg bw/day
DNEL long-term inhalative (systemic), Workers: 29,39 mg/m³

Fatty acids, tall oil compounds with oleylamine
EC No. 288-315-1 / CAS No. 85711-55-3
DNEL long-term dermal (systemic), Workers: 0,024 mg/kg

Fatty acids, C18-unsaturated, trimers, compounds with oleylamine
EC No. 604-612-4 / CAS No. 147900-93-4
DNEL long-term dermal (systemic), Workers: 0,024 mg/kg

PNEC:

bis-[4-(2,3-epoxipropoxi)phenyl]propane
Index No. 603-073-00-2 / EC No. 216-823-5 / CAS No. 1675-54-3
PNEC aquatic, freshwater: 6 µg/L
PNEC aquatic, marine water: 1 µg/L
PNEC aquatic, intermittent release: 0,013 mg/L
PNEC sediment, freshwater: 0,996 mg/kg dw
PNEC sediment, marine water: 0,1 mg/kg dw
PNEC, soil: 0,196 mg/kg dw
PNEC sewage treatment plant (STP): 10 mg/L

Titanium dioxide
EC No. 236-675-5 / CAS No. 13463-67-7

PNEC aquatic, freshwater: 0,127 mg/L
PNEC aquatic, marine water: 1 mg/L
PNEC aquatic, intermittent release: 0,61 mg/L
PNEC sediment, freshwater: 1000 mg/kg
PNEC sediment, marine water: 100 mg/kg
PNEC, soil: 100 mg/kg
PNEC sewage treatment plant (STP): 100 mg/L
PNEC Secondary Poisoning: 1667 mg/kg

1,6-hexanediol diglycidyl ether
EC No. 240-260-4 / CAS No. 16096-31-4
PNEC aquatic, freshwater: 0,0115 mg/L
PNEC aquatic, marine water: 0,0011 mg/L
PNEC aquatic, intermittent release: 0,115 mg/L
PNEC sediment, freshwater: 0,283 mg/kg
PNEC sediment, marine water: 0,0283 mg/kg
PNEC, soil: 0,223 mg/kg
PNEC sewage treatment plant (STP): 1 mg/L

Bisphenol-F-epichlorohydrin resin with molecular weight <= 700
EC No. 500-006-8 / CAS No. 9003-36-5
PNEC aquatic, freshwater: 0,003 mg/L
PNEC aquatic, marine water: 0,0003 mg/L
PNEC aquatic, intermittent release: 0,0254 mg/L
PNEC sediment, freshwater: 0,294 mg/kg bw/day
PNEC sediment, marine water: 0,0294 mg/kg bw/day
PNEC, soil: 0,237 mg/kg bw/day
PNEC sewage treatment plant (STP): 10 mg/L

Fatty acids, tall oil compounds with oleylamine
EC No. 288-315-1 / CAS No. 85711-55-3
PNEC Secondary Poisoning: 0,47 mg/kg

Fatty acids, C18-unsaturated, trimers, compounds with oleylamine
EC No. 604-612-4 / CAS No. 147900-93-4
PNEC aquatic, freshwater: 0,006 mg/L
PNEC aquatic, marine water: 0,0006 mg/L
PNEC sediment, freshwater: 2,46 mg/kg
PNEC sediment, marine water: 0,25 mg/kg
PNEC, soil: 0,28 mg/kg
PNEC Secondary Poisoning: 0,47 mg/kg

8.2. **Exposure controls**

Provide good ventilation. This can be achieved with local or room suction. If this should not be sufficient to keep aerosol and solvent vapour concentration below the exposure limit values, a suitable respiratory protection must be used.

Personal protection equipment

Respiratory protection

If the workplace limit values (AGW) are exceeded, a suitable breathing apparatus must be worn. Observe the wear time limits according GefStoffV in combination with the rules for using respiratory protection apparatus (BGR 190). Use only respiratory protection equipment with CE-symbol including four digit test number.
Use filter / combination filter according to EN 14387.
Suitable respiratory protection apparatus: ABEK-P2

Hand protection

For prolonged or repeated handling the following glove material must be used: NBR (Nitrile rubber)
Thickness of the glove material > 0,4 mm ; Breakthrough time: > 480 min.
Observe the instructions and details for use, storage, maintenance and replacement provided by the protective glove manufacturer. Penetration time of glove material depending on intensity and duration of exposure to skin. Recommended glove articles EN ISO 374
Barrier creams can help protecting exposed skin areas. In no case should they be used after contact.

Eye/face protection

Wear eye glasses with side protection according to EN 166.

Body protection

Wear antistatic clothing of natural fibers (cotton) or heat resistant synthetic fibers.

Protective measures
After contact clean skin thoroughly with water and soap or use appropriate cleanser.

Environmental exposure controls
Do not allow to enter into surface water or drains. See section 7. No additional measures necessary.

SECTION 9: Physical and chemical properties

9.1. **Information on basic physical and chemical properties**

Physical state:	**Liquid**
Appearance:	**viscous**
Colour:	**red**
Odour:	**odourless**
Odour threshold:	**not applicable**
Melting point/freezing point:	**8 °C** Source: bis-[4-(2,3-epoxipropoxi)phenyl]propane
Initial boiling point and boiling range:	**not applicable**
Flammability:	**not applicable**
Lower and upper explosion limit:	
Lower explosion limit:	**not applicable**
Upper explosion limit:	**not applicable**
Flash point:	**not determined**
Auto-ignition temperature:	**not applicable**
Decomposition temperature:	**not applicable**
pH at 20 °C:	**not relevant**
Kinematic viscosity (40°C):	**6969,7 mm²/s**
Viscosity at 20 °C:	**10 - 13 Pa*s**
Solubility(ies):	
Water solubility at 20 °C:	**insoluble**
Partition coefficient: n-octanol/water:	**see section 12**
Vapour pressure at 20 °C:	**not applicable**
Density and/or relative density:	
Density at 20 °C:	**1,65 g/cm³**
Relative vapour density:	**not applicable**
particle characteristics:	**not applicable**

9.2. **Other information**

Solvent separation test:	**< 3 weight-% (ADR/RID)**

SECTION 10: Stability and reactivity

10.1. **Reactivity**
No information available.

10.2. **Chemical stability**
Stable when applying the recommended regulations for storage and handling. Further information on correct storage: refer to section 7.

10.3. **Possibility of hazardous reactions**
Keep away from strong acids, strong bases and strong oxidizing agents to avoid exothermic reactions.

10.4. **Conditions to avoid**
Hazardous decomposition byproducts may form with exposure to high temperatures.

10.5. **Incompatible materials**
not applicable

10.6. **Hazardous decomposition products**
Hazardous decomposition byproducts may form with exposure to high temperatures, e.g.: carbon dioxide, carbon monoxide, smoke, nitrogen oxides.

SECTION 11: Toxicological information

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

Acute toxicity

bis-[4-(2,3-epoxipropoxi)phenyl]propane
oral, LD50, Rat: > 2000 mg/kg
dermal, LD50, Rat: > 2000 mg/kg
Method: OECD 402
dermal, LD50, Rabbit: > 2000 mg/kg

Methyl toluene-4-sulfonate
oral, LD50, Rat: 341 mg/kg

Titanium dioxide
oral, LD50, Rat: > 5000 mg/kg
Method: OECD 420
inhalative (dust and mist), LC50, Rat: > 6,82 mg/L (4 h)

1,6-hexanediol diglycidyl ether
oral, LD50, Rat: 3741 mg/kg
dermal, LD50, Rat: > 2000 mg/kg
inhalative (vapours), LC50, Rat: > 0,035 mg/L (4 h)

Bisphenol-F-epichlorohydrin resin with molecular weight <= 700
oral, LD50, Rat: > 2000 mg/kg
dermal, LD50, Rabbit: > 2000 mg/kg

Fatty acids, tall oil compounds with oleylamine
oral, LD50, Rat: > 2000 mg/kg
Method: OECD 423

Fatty acids, C18-unsaturated, trimers, compounds with oleylamine
oral, LD50, Rat: > 1570 mg/kg

Skin corrosion/irritation; Serious eye damage/eye irritation

Causes skin irritation.

Causes serious eye irritation.

Methyl toluene-4-sulfonate
Skin, Rabbit (24 h): Evaluation strongly irritant.
eyes, Rabbit (24 h): Evaluation mild irritant.

Titanium dioxide
Skin:, Rabbit: Evaluation non-irritant.
Method: OECD 404
Eyes:, Rabbit.: Evaluation non-irritant.
Method: OECD 405

Fatty acids, tall oil compounds with oleylamine
eyes, Rabbit
Method: OECD 405
Skin:, EPISKIN human epidermis skin constructs: Evaluation no skin irritation
Method: OECD 439

Fatty acids, C18-unsaturated, trimers, compounds with oleylamine
eyes, Bovine corneal opacity and permeability assay (BCOP)
Method: OECD 437
Skin:, EPISKIN human epidermis skin constructs: Evaluation no skin irritation
Method: OECD 439

Respiratory or skin sensitisation

May cause an allergic skin reaction.

Titanium dioxide
Skin, Mouse: ; Evaluation not sensitising.
Method: OECD 429

Fatty acids, tall oil compounds with oleylamine
Skin, Mouse Local Lymph Node assay (LLNA), Mouse: ; Evaluation May cause sensitization by skin contact.

Method: OECD 429

Fatty acids, C18-unsaturated, trimers, compounds with oleylamine
Skin, Mouse Local Lymph Node assay (LLNA), Mouse: ; Evaluation May cause sensitization by skin contact.
Method: OECD 429

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Fatty acids, C18-unsaturated, trimers, compounds with oleylamine
genotoxicity; Evaluation negative
Method: OECD 471 (Ames test).

STOT-single exposure; STOT-repeated exposure

Fatty acids, C18-unsaturated, trimers, compounds with oleylamine
STOT-repeated exposure, NOAEL:, Rat: 7,1 mg/L
Method: OECD 422
oral; gastrointestinal tract

Aspiration hazard

Based on available data, the classification criteria are not met.

Practical experience/human evidence

Based on the properties of the epoxy constituents and considering toxicological data on similar preparations, this preparation may be a skin sensitiser and an irritant. It contains low molecular weight epoxy constituents which are irritating to eyes, mucous membrane and skin. Repeated skin contact may result in irritations and sensitizations, possibly due to a cross-over sensitization with other epoxy compounds. Skin contact with the preparation and exposure to spray mist and vapour should be avoided.

Overall assessment on CMR properties

The ingredients in this mixture do not meet the criteria for classification as CMR category 1A or 1B according to CLP.

Remark

There is no information available on the preparation itself .

11.2. **Information on other hazards**

Endocrine disrupting properties
No information available.

SECTION 12: Ecological information

Classification according to Regulation (EC) No 1272/2008 [CLP]
Do not allow to enter into surface water or drains.

12.1. **Toxicity**

bis-[4-(2,3-epoxipropoxi)phenyl]propane
Fish toxicity, LC50: 1,3 mg/L (96 h)
Method: OECD 203
Daphnia toxicity, EC50: 2,1 mg/L (48 h)
Method: OECD 202

Titanium dioxide
Algae toxicity, EC50, Pseudokirchneriella subcapitata: 61 mg/L (72 h)
Method: EPA-600/9-78-018
Bacterial toxicity:, EC50:, Activated sludge: > 1000 (3 h)
Method: OECD 209

1,6-hexanediol diglycidyl ether
Fish toxicity, LC50, Oncorhynchus mykiss (Rainbow trout): 30 mg/L (96 h)
Daphnia toxicity, EC50, Daphnia magna (Big water flea): 47 mg/L (48 h)

Bisphenol-F-epichlorohydrin resin with molecular weight <= 700
Fish toxicity, LC50: 2,54 mg/L (96 h)
Daphnia toxicity, EC50: 2,55 mg/L (48 h)
Algae toxicity, EC50: > 1000 mg/L (72 h)

Fatty acids, tall oil compounds with oleylamine
Fish toxicity, LC50, Oncorhynchus mykiss (Rainbow trout): > 100 mg/L (96 h)
Method: OECD 203
Daphnia toxicity, EC50, Daphnia magna (Big water flea): 15,2 mg/L (48 h)
Method: OECD 202

Algae toxicity, ErC50, Pseudokirchneriella subcapitata: 7,43 mg/L (72 h)
Method: OECD 201
Fish toxicity, NOEC:, Leuciscus idus (golden orfe): 150 mg/L (48 h)
Method: DIN 38412
Bacterial toxicity:, EC50, Pseudomonas putida: > 400 mg/L (16 h)
Method: DIN 38412 / part 8
Bacterial toxicity:, EC50, Activated sludge: > 1000 mg/L (3 h)
Method: OECD 209

Fatty acids, C18-unsaturated, trimers, compounds with oleylamine
Fish toxicity, LC50, Oncorhynchus mykiss (Rainbow trout): > 100 mg/L (96 h)
Method: OECD 203
Daphnia toxicity, EC50, Daphnia magna (Big water flea): > 100 mg/L (48 h)
Method: OECD 202
Algae toxicity, ErC50, Pseudokirchneriella subcapitata: 7,89 mg/L (72 h)
Method: OECD 201
Bacteria toxicity, EC50:, Activated sludge: > 1000 mg/L (3 h)
Method: OECD 209

Long-term Ecotoxicity

Toxic to aquatic life with long lasting effects.

bis-[4-(2,3-epoxipropoxi)phenyl]propane
Daphnia toxicity, NOEC: 0,3 mg/L (21 d)
Method: OECD 211

Fatty acids, C18-unsaturated, trimers, compounds with oleylamine
Daphnia toxicity, EC50:, Daphnia magna (Big water flea): > 100 mg/L (21 d)
Method: OECD 211

12.2. **Persistence and degradability**

bis-[4-(2,3-epoxipropoxi)phenyl]propane
Biodegradation:: 5 % (28 d); Evaluation Not readily biodegradable (according to OECD criteria)
Method: OECD 301F
Biodegradation:: 6 - 12 % (28 d); Evaluation Not readily biodegradable (according to OECD criteria)
Method: OECD 301B

1,6-hexanediol diglycidyl ether
: 47 % (28 d); Evaluation Not readily biodegradable (according to OECD criteria)
Method: OECD 301D

Fatty acids, tall oil compounds with oleylamine
Biodegradation:: Evaluation Readily biodegradable
Method: OECD 301

Fatty acids, C18-unsaturated, trimers, compounds with oleylamine
Biodegradation:: Evaluation Not readily biodegradable (according to OECD criteria)
Method: OECD 301

12.3. **Bioaccumulative potential**

bis-[4-(2,3-epoxipropoxi)phenyl]propane
Partition coefficient: n-octanol/water: 2,64 - 3,78

1,6-hexanediol diglycidyl ether
Partition coefficient: n-octanol/water: 0,822
Method: OECD 107

Bisphenol-F-epichlorohydrin resin with molecular weight <= 700
Partition coefficient: n-octanol/water: 3,3

Bioconcentration factor (BCF)

bis-[4-(2,3-epoxipropoxi)phenyl]propane
Bioconcentration factor (BCF): 3 - 31

1,6-hexanediol diglycidyl ether
Bioconcentration factor (BCF): < 100

12.4. **Mobility in soil**

Toxicological data are not available.

12.5. **Results of PBT and vPvB assessment**

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6. **Endocrine disrupting properties**
No information available.

12.7. **Other adverse effects**
No information available.

SECTION 13: Disposal considerations

13.1. **Waste treatment methods**

Appropriate disposal / Product
Recommendation
Do not allow to enter into surface water or drains. This material and its container must be disposed of in a safe way. Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.Observe in addition any national regulations!

Switzerland: Disposal in accordance with the Ordinance on the Transport of Waste (VeVA) and the Ordinance on the Avoidance and Disposal of Waste (VVEA).

List of proposed waste codes/waste designations in accordance with EWC
080409* Waste adhesives and sealants containing organic solvents or other dangerous substances
*Hazardous waste according to Directive 2008/98/EC (waste framework directive).

Appropriate disposal / Package
Dispose of packaging and contaminated filters at a offical hazardous waste incinerator facility.
Recommendation:
Waste codes / waste designations according to EWC / AVV: 15 01 10*
Non-contaminated packages may be recycled.

SECTION 14: Transport information

14.1. **UN number or ID number**

UN 3082

14.2. **UN proper shipping name**

Land transport (ADR/RID):	Environmentally hazardous substance, liquid, n.o.s. (4,4'-methylene diphenyl diglycidyl ether)
Sea transport (IMDG):	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (4,4'-methylene diphenyl diglycidyl ether)
Air transport (ICAO-TI / IATA-DGR):	Environmentally hazardous substance, liquid, n.o.s. (4,4'-methylene diphenyl diglycidyl ether)

14.3. **Transport hazard class(es)**

9

14.4. **Packing group**

III

14.5. **Environmental hazards**

Land transport (ADR/RID)	DANGEROUS FOR THE ENVIRONMENT
Marine pollutant	p / 4,4'-methylene diphenyl diglycidyl ether

14.6. **Special precautions for user**

Transport always in closed, upright and safe containers. Make sure that persons transporting the product know what to do in case of an accident or leakage.
Advices on safe handling: see parts 6 - 8

Further information

Land transport (ADR/RID)

Tunnel restriction code	-
in packages <= 5 litres	KEIN GUT DER KLASSE 9

Sea transport (IMDG)

EmS-No.	F-A, S-F
in packages <= 5 litres	NOT RESTRICTED 2.10.2.7

Air transport (ICAO-TI / IATA-DGR)

in packages <= 5 litres NOT RESTRICTED

14.7. **Maritime transport in bulk according to IMO instruments**

No transport as bulk according IBC - Code.

SECTION 15: Regulatory information

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

EU legislation

Directive 2010/75/EU on industrial emissions [Industrial Emissions Directive]
VOC-value (in g/L): 9

National regulations

Restrictions of occupation
Observe employment restrictions under the Maternity Protection Directive 92/85/EEC or stricter national regulations, if applicable.

Switzerland: Maternity Protection Ordinance (SR 822.111.52): Pregnant women and nursing mothers may only come into contact with or be exposed to this preparation during their work if it has been established on the basis of a risk assessment by a specialist that, in the context of the activities and the protective measures taken, exposure will not result in harm to the mother or child.

Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC) or stricter national regulations, if applicable.

Switzerland: Youth Labour Protection Ordinance (ArGV 5; SR 822.115): Young people up to the age of 18 may only come into contact with or be exposed to this preparation during their work if the Federal Office for Professional Education and Technology (OPET) or the State Secretariat for Economic Affairs (SECO) has authorised an exception.

For professional use only. Product is not intended for consumer use.

Substance/product listed in the following inventories:
AICS no informtion
DSL no information
EHS no information
IECSC no information
KECI no information
MITI no information
NZLoC no information
PICCS no information
TCSI no information
TSCA no information

15.2. **Chemical Safety Assessment**
For the following substances of this mixture a chemical safety assessment has been carried out:

EC No. CAS No.	Designation	REACH No.
216-823-5 1675-54-3	bis-[4-(2,3-epoxipropoxi)phenyl]propane	01-2119456619-26
240-260-4 16096-31-4	1,6-hexanediol diglycidyl ether	01-2119463471-41
500-006-8 9003-36-5	Bisphenol-F-epichlorohydrin resin with molecular weight <= 700	01-2119454392-40
236-675-5 13463-67-7	Titanium dioxide	01-2119489379-17
201-283-5 80-48-8	Methyl toluene-4-sulfonate	01-2120211468-59
288-315-1 85711-55-3	Fatty acids, tall oil compounds with oleylamine	01-2119974148-28

SECTION 16: Other information

Full text of classification in section 3:

STOT RE 1 / H372	STOT-repeated exposure	Causes damage to organs (or state all organs affected, if known) through prolonged or repeated exposure (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard).
Skin Irrit. 2 / H315	Skin corrosion/irritation	Causes skin irritation.
Eye Irrit. 2 / H319	Serious eye damage/eye irritation	Causes serious eye irritation.
Skin Sens. 1 / H317	Respiratory or skin sensitisation	May cause an allergic skin reaction.
Aquatic Chronic 2 / H411	Hazardous to the aquatic environment	Toxic to aquatic life with long lasting effects.
Aquatic Chronic 3 / H412	Hazardous to the aquatic environment	Harmful to aquatic life with long lasting effects.
Carc. 2 / H351	Carcinogenicity	Suspected of causing cancer (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard).
Acute Tox. 4 / H302	Acute toxicity (oral)	Harmful if swallowed.
STOT SE 3 / H335	STOT-single exposure	May cause respiratory irritation.
Skin Sens. 1A / H317	Respiratory or skin sensitisation	May cause an allergic skin reaction.

Classification procedure

Classification for mixtures and used evaluation method according to regulation (EC) No 1272/2008 [CLP]

Skin Irrit. 2	Skin corrosion/irritation	Calculation method.
Eye Irrit. 2	Serious eye damage/eye irritation	Calculation method.
Skin Sens. 1	Respiratory or skin sensitisation	Calculation method.
Aquatic Chronic 2	Hazardous to the aquatic environment	Calculation method.

Abbreviations and acronyms

ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
OEL	Occupational Exposure Limit Value
BLV	Biological Limit Value
CAS	Chemical Abstracts Service
CLP	Classification, Labelling and Packaging
CMR	Carcinogenic, Mutagenic and Reprotoxic
DIN	German Institute for Standardization / German industrial standard
DNEL	Derived No-Effect Level
EAKV	European Waste Catalogue Directive
EC	Effective Concentration
EC	European Community
EN	European Standard
IATA-DGR	International Air Transport Association – Dangerous Goods Regulations
IBC Code	International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
ICAO-TI	International Civil Aviation Organization Technical Instructions for the Safe Transport of Dangerous Goods by Air
IMDG Code	International Maritime Code for Dangerous Goods
ISO	International Organization for Standardization
LC	Lethal Concentration
LD	Lethal Dose
MARPOL	Maritime Pollution: The International Convention for the Prevention of Pollution from Ships
OECD	Organisation for Economic Cooperation and Development
PBT	persistent, bioaccumulative, toxic
PNEC	Predicted No Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
UN	United Nations
VOC	Volatile Organic Compounds
vPvB	very persistent and very bioaccumulative

Abbreviations and acronyms

n.a. = not applicable
n.b. = not determined

Further information

Classification according to Regulation (EC) No 1272/2008 [CLP]

The information supplied on this safety data sheet complies with our current level of knowledge as well as with national and EU regulations.Without written approval, the product must not be used for purposes different from those mentioned in section

1.It is always the user's duty to take any necessary measures for meeting the requirements laid down by local rules and regulations.The details in this safety data sheet describe the safety requirements of our product and are not to be regarded as guaranteed attributes of the product.