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

1.1. Product identifier
SP-ep-hv Cartridge Part A

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

Use of the substance/mixture
Coatings and paints, fillers, putties, thinners

Uses advised against
No information available.

1.3. Details of the supplier of the safety data sheet

Company name: Ceramic Polymer GmbH
Street: Daimlerring 9
Place: DE-32289 Rödinghausen
Telephone: +49(0) 52 23 / 9 62 76-0
Telefax: +49(0) 52 23 / 9 62 76-17
E-mail: info@ceramic-polymer.de
Internet: www.ceramic-polymer.de
Responsible Department: +49(0) 551 - 1 92 40 (GIZ-Nord, 24h)

1.4. Emergency telephone number:
+49(0) 551 - 1 92 40 (GIZ-Nord, 24h)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No. 1272/2008

Hazard categories:
Skin corrosion/irritation: Skin Irrit. 2
Respiratory or skin sensitisation: Skin Sens. 1
Hazardous to the aquatic environment: Aquatic Chronic 2

Hazard Statements:
Causes skin irritation.
May cause an allergic skin reaction.
Toxic to aquatic life with long lasting effects.

2.2. Label elements

Regulation (EC) No. 1272/2008

Hazard components for labelling
epoxy resin (number average molecular weight <= 700), reaction product: bisphenol-F-(epichlorhydrin)
1,6-bis(2,3-epoxypropoxy)hexane
Polypropylene glycol-Epichlorhydrine-Copolymer

Signal word: Warning

Pictograms:

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

Precautionary statements
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P309+P311 IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician.
STP-ep-hv Cartridge Part A

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

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P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P337+P313 If eye irritation persists: Get medical advice/attention.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P362+P364 Take off contaminated clothing and wash it before reuse.
P273 Avoid release to the environment.
P270 Do not eat, drink or smoke when using this product.
P403+P235 Store in a well-ventilated place. Keep cool.

2.3. Other hazards
No information available.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Quantity</th>
<th>EC No</th>
<th>Index No</th>
<th>REACH No</th>
</tr>
</thead>
<tbody>
<tr>
<td>9003-36-5</td>
<td>epoxy resin (number average molecular weight &lt;= 700), reaction product: bisphenol-F- (epichlorhydrin)</td>
<td>30-35 %</td>
<td></td>
<td>500-006-8</td>
<td>01-2119454392-40</td>
</tr>
<tr>
<td>16096-31-4</td>
<td>1,6-bis(2,3-epoxypropoxy)hexane</td>
<td>5-7 %</td>
<td></td>
<td>240-260-4</td>
<td>01-2119463471-41</td>
</tr>
<tr>
<td>9072-62-2</td>
<td>Polypropyleneglycol-Epichlorhydrine-Copolymer</td>
<td>1-5 %</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Full text of H and EUH statements: see section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information
Change contaminated, saturated clothing. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

After inhalation
In case of inhalation of decomposition products, affected person should be moved into fresh air and kept still.

After contact with skin
After contact with skin, wash immediately with plenty of water and soap. Seek medical advice immediately. Do not wash with: Solvents/Thinner

After contact with eyes
After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

After ingestion
If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention. Do NOT induce vomiting.

4.2. Most important symptoms and effects, both acute and delayed
Immediate medical treatment required because corrosive injuries that are not treated are hard to cure.
Symptoms may develop several hours following exposure; medical observation therefore necessary for at least 48 hours.

4.3. Indication of any immediate medical attention and special treatment needed
First Aid, decontamination, treatment of symptoms.
After contact with skin, wash immediately with plenty of Lutrol.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media
Dry extinguishing powder. Carbon dioxide (CO2). alcohol resistant foam. Water spray jet

Unsuitable extinguishing media
High power water jet

5.2. Special hazards arising from the substance or mixture
Carbon monoxide Carbon dioxide (CO2). Nitrogen oxides (NOx)

5.3. Advice for firefighters
Special protective equipment for firefighters Protective clothing. In case of fire: Wear self-contained breathing apparatus.
Co-ordinate fire-fighting measures to the fire surroundings.

Additional information
Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
See protective measures under point 7 and 8.
Provide adequate ventilation.
Personal protection equipment: see section 8
Remove persons to safety.

6.2. Environmental precautions
Do not allow to enter into surface water or drains. Cover drains. Adverse environmental effects

6.3. Methods and material for containment and cleaning up
Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

6.4. Reference to other sections
See protective measures under point 7 and 8. Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling
See section 8. Wear personal protection equipment (refer to section 8). Keep container tightly closed.

Advice on protection against fire and explosion
Keep away from sources of heat (e.g. hot surfaces), sparks and open flames.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels
Keep container tightly closed in a cool, well-ventilated place. Keep/Store only in original container.

Advice on storage compatibility
Keep away from:
Food and feedingstuffs
Oxidising agent
Further information on storage conditions
Keep away from:
  • Frost
  • Heat
  • Humidity

7.3. Specific end use(s)
No information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

DNEL/DMEL values

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Substance</th>
</tr>
</thead>
<tbody>
<tr>
<td>9003-36-5</td>
<td>epoxy resin (number average molecular weight &lt;= 700), reaction product: bisphenol-F-(epichlorhydrin)</td>
</tr>
<tr>
<td></td>
<td>Worker DNEL, long-term inhalation systemic</td>
</tr>
<tr>
<td></td>
<td>Value 29.39 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Worker DNEL, long-term dermal systemic</td>
</tr>
<tr>
<td></td>
<td>Value 104.15 mg/kg bw/day</td>
</tr>
<tr>
<td></td>
<td>Worker DNEL, long-term dermal local</td>
</tr>
<tr>
<td></td>
<td>Value 0.0083 mg/cm²</td>
</tr>
<tr>
<td></td>
<td>Consumer DNEL, long-term inhalation systemic</td>
</tr>
<tr>
<td></td>
<td>Value 8.7 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Consumer DNEL, long-term dermal systemic</td>
</tr>
<tr>
<td></td>
<td>Value 62.5 mg/kg bw/day</td>
</tr>
<tr>
<td></td>
<td>Consumer DNEL, long-term oral systemic</td>
</tr>
<tr>
<td></td>
<td>Value 6.25 mg/kg bw/day</td>
</tr>
</tbody>
</table>

| 16096-31-4 | 1,6-bis(2,3-epoxypropoxy)hexane                                            |
|            | Consumer DNEL, acute inhalation systemic                                   |
|            | Value 2.9 mg/m³                                                          |
|            | Consumer DNEL, long-term inhalation local                                 |
|            | Value 0.27 mg/m³                                                         |
|            | Consumer DNEL, long-term dermal systemic                                  |
|            | Value 1.7 mg/kg bw/day                                                   |
|            | Consumer DNEL, acute dermal systemic                                      |
|            | Value 1.7 mg/kg bw/day                                                   |
|            | Consumer DNEL, long-term dermal local                                     |
|            | Value 0.0136 mg/cm²                                                      |
|            | Consumer DNEL, acute dermal local                                         |
|            | Value 0.0136 mg/cm²                                                      |
|            | Consumer DNEL, long-term oral systemic                                    |
|            | Value 0.83 mg/kg bw/day                                                  |
|            | Consumer DNEL, acute oral systemic                                        |
|            | Value 0.83 mg/kg bw/day                                                  |

PNEC values

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Substance</th>
</tr>
</thead>
<tbody>
<tr>
<td>9003-36-5</td>
<td>epoxy resin (number average molecular weight &lt;= 700), reaction product: bisphenol-F-(epichlorhydrin)</td>
</tr>
<tr>
<td></td>
<td>Freshwater Value 0.003 mg/l</td>
</tr>
<tr>
<td></td>
<td>Freshwater sediment Value 0.294 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Marine sediment Value 0.029 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Soil Value 0.237 mg/kg</td>
</tr>
</tbody>
</table>

8.2. Exposure controls
### Appropriate engineering controls
Provide adequate ventilation as well as local exhaustion at critical locations.

### Protective and hygiene measures
Work in well-ventilated zones or use proper respiratory protection. Only wear fitting, comfortable and clean protective clothing. Avoid contact with skin, eyes and clothes. Wash hands and face before breaks and after work and take a shower if necessary.

### Eye/face protection
Suitable eye protection:
- Eye glasses with side protection
- Goggles

### Hand protection
Suitable gloves type:
- NBR (Nitrile rubber) DIN EN 374,
- Butyl caoutchouc (butyl rubber) DIN EN 374
- Wear cotton undermitten if possible.

### Skin protection
Protective clothing

### Respiratory protection
If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn.
- Combination filtering device (EN 14387) A-P3
- Self-contained respirator (breathing apparatus) (DIN EN 133)

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Test method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>liquid</td>
</tr>
<tr>
<td>Colour</td>
<td>characteristic</td>
</tr>
<tr>
<td>Odour</td>
<td></td>
</tr>
<tr>
<td>pH-Value</td>
<td>not determined</td>
</tr>
</tbody>
</table>

### Changes in the physical state

<table>
<thead>
<tr>
<th>Property</th>
<th>Test method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melting point</td>
<td>not determined</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>not determined</td>
</tr>
<tr>
<td>Sublimation point</td>
<td>not determined</td>
</tr>
<tr>
<td>Softening point</td>
<td>not determined</td>
</tr>
<tr>
<td>Pour point</td>
<td>not determined</td>
</tr>
<tr>
<td>Flash point</td>
<td>&gt;65 °C</td>
</tr>
</tbody>
</table>

### Flammability

<table>
<thead>
<tr>
<th>Property</th>
<th>Test method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solid</td>
<td>not determined</td>
</tr>
<tr>
<td>Gas</td>
<td>not determined</td>
</tr>
</tbody>
</table>

### Explosive properties
No information available.

<table>
<thead>
<tr>
<th>Property</th>
<th>Test method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower explosion limits</td>
<td>not determined</td>
</tr>
<tr>
<td>Upper explosion limits</td>
<td>not determined</td>
</tr>
<tr>
<td>Ignition temperature</td>
<td>not determined</td>
</tr>
</tbody>
</table>

### Auto-ignition temperature

<table>
<thead>
<tr>
<th>Property</th>
<th>Test method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solid</td>
<td>not determined</td>
</tr>
</tbody>
</table>
Gas: not determined
Decomposition temperature: not determined

**Oxidizing properties**
No information available.

Vapour pressure: not determined
Density: ~1,75 g/cm³
Water solubility: not determined

**Solubility in other solvents**
No information available.

Partition coefficient: not determined
Viscosity / dynamic: ~8000 mPa·s
Vapour density: not determined
Evaporation rate: not determined

**9.2. Other information**
No information available.

### SECTION 10: Stability and reactivity

**10.1. Reactivity**
The product is stable under storage at normal ambient temperatures.

**10.2. Chemical stability**
Does not decompose when used for intended uses. No known hazardous decomposition products.

**10.3. Possibility of hazardous reactions**
Exothermic reaction with: Acid, Oxidising agent

**10.4. Conditions to avoid**
Keep away from sources of heat (e.g. hot surfaces), sparks and open flames.

**10.5. Incompatible materials**
Acid, Oxidising agent

**10.6. Hazardous decomposition products**
Does not decompose when used for intended uses. No known hazardous decomposition products.

### SECTION 11: Toxicological information

**11.1. Information on toxicological effects**

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

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Exposure route</th>
<th>Dose</th>
<th>Species</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>epoxy resin (number average molecular weight &lt;= 700), reaction product: bisphenol-F-(epichlorhydrin)</td>
<td>oral</td>
<td>LD50</td>
<td>&gt;5000 mg/kg</td>
<td>rat (male/female)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>dermal</td>
<td>LD50</td>
<td>&gt;2000 mg/kg</td>
<td>rat (male/female)</td>
</tr>
</tbody>
</table>

**Irritation and corrosivity**
Causes skin irritation.
Serious eye damage/eye irritation: Based on available data, the classification criteria are not met.

**Sensitising effects**
May cause an allergic skin reaction. (epoxy resin (number average molecular weight <= 700), reaction product: bisphenol-F-(epichlorhydrin); 1,6-bis(2,3-epoxypropoxy)hexane; Polypropylene glycol-Epichlorhydrine-Copolymer)

Carcinogenic/mutagenic/toxic effects for reproduction
Based on available data, the classification criteria are not met.

STOT-single exposure
Based on available data, the classification criteria are not met.

STOT-repeated exposure
Based on available data, the classification criteria are not met.

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

SECTION 12: Ecological information

12.1. Toxicity
No information available.

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Aquatic toxicity</th>
<th>Dose</th>
<th>[h]</th>
<th>[d]</th>
<th>Species</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>9003-36-5</td>
<td>epoxy resin (number average molecular weight &lt;= 700), reaction product: bisphenol-F-(epichlorhydrin)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Acute fish toxicity</td>
<td>LC50</td>
<td>2,54 mg/l</td>
<td>96</td>
<td></td>
<td>Leuciscus idus (golden orfe)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Acute crustacea toxicity</td>
<td>EC50</td>
<td>2,55 mg/l</td>
<td>48</td>
<td></td>
<td>Daphnia magna (Big water flea)</td>
<td></td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability
No information available.

12.3. Bioaccumulative potential
No information available.

Partition coefficient n-octanol/water

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>9003-36-5</td>
<td>epoxy resin (number average molecular weight &lt;= 700), reaction product: bisphenol-F-(epichlorhydrin)</td>
<td>3.6</td>
</tr>
</tbody>
</table>

12.4. Mobility in soil
No information 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. Other adverse effects
No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Advice on disposal
Dispose of waste according to applicable legislation.

Contaminated packaging
Non-contaminated packages may be recycled. Dispose of waste according to applicable legislation.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number: UN 3082
### 14.2. UN proper shipping name:
ENVIROMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(epoxy resin)

### 14.3. Transport hazard class(es):
9

### 14.4. Packing group:
III

Hazard label: 9

Classification code: M6

Special Provisions: 274 335 601

Limited quantity: 5 L

Transport category: 3

Hazard No: 90

Tunnel restriction code: E

### Other applicable information (land transport)
E1

### Inland waterways transport (ADN)

#### 14.1. UN number:
UN 3082

#### 14.2. UN proper shipping name:
ENVIROMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(epoxy resin)

#### 14.3. Transport hazard class(es):
9

#### 14.4. Packing group:
III

Hazard label: 9

Classification code: M6

Special Provisions: 274 335 601

Limited quantity: 5 L

### Other applicable information (inland waterways transport)
E1

### Marine transport (IMDG)

#### 14.1. UN number:
UN 3082

#### 14.2. UN proper shipping name:
ENVIROMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(epoxy resin)

#### 14.3. Transport hazard class(es):
9

#### 14.4. Packing group:
III

Hazard label: 9

Marine pollutant: p

Special Provisions: 274, 335

Limited quantity: 5 L

EmS: F-A, S-F

### Other applicable information (marine transport)
E1

### Air transport (ICAO-TI/IATA-DGR)

#### 14.1. UN number:
UN 3082

#### 14.2. UN proper shipping name:
ENVIROMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(epoxy resin)

#### 14.3. Transport hazard class(es):
9

#### 14.4. Packing group:
III

Hazard label: 9

Special Provisions: A97 A158

Limited quantity Passenger: 30 kg G

IATA-packing instructions - Passenger: 964

IATA-max. quantity - Passenger: 450 L
STP-ep-hv Cartridge Part A

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according to Regulation (EC) No 1907/2006

IATA-packing instructions - Cargo: 964
IATA-max. quantity - Cargo: 450 L

Other applicable information (air transport)
E1
Passenger-LQ: Y964

14.5. Environmental hazards
ENVIROMENTALLY HAZARDOUS: yes
Danger releasing substance: epoxy resin

14.6. Special precautions for user
No information available.

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code
No information available.

SECTION 15: Regulatory information

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

EU regulatory information
Information according to 2012/18/EU (SEVESO III):
O1 Substances or mixtures with hazard statement EUH014

National regulatory information
Employment restrictions: Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers. Observe employment restrictions for women of child-bearing age.
Water contaminating class (D): 2 - water contaminating

15.2. Chemical safety assessment
For the following substances of this mixture a chemical safety assessment has been carried out:
epoxy resin (number average molecular weight <= 700), reaction product: bisphenol-F-(epichlorhydrin)

SECTION 16: Other information

Abbreviations and acronyms
ADR: Accord européen sur le transport des marchandises dangereuses par Route
(R European Agreement concerning the International Carriage of Dangerous Goods by Road)
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer
(Regulations Concerning the International Transport of Dangerous Goods by Rail)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organization
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
CAS: Chemical Abstracts Service (division of the American Chemical Society)
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
CLP: Regulation on Classification, Labelling and Packaging of Substances and Mixtures,
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
EC50: Effect concentration, 50 percent
DNEL: Derived No Effect Level
PNEC: Predicted No Effect Concentration
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Relevant H and EUH statements (number and full text)

H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H411 Toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.

Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor’s safety data sheet.)