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

1.1. Product identifier
CN-1M 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
Fax: +49(0) 52 23 9 62 76-17
E-mail: info@ceramic-polymer.de
Website: 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 Corr. 1C
Serious eye damage/eye irritation: Eye Dam. 1
Respiratory or skin sensitisation: Skin Sens. 1
Reproductive toxicity: Repr. 1B
Hazardous to the aquatic environment: Aquatic Chronic 2
Hazard Statements:
Causes severe skin burns and eye damage.
May cause an allergic skin reaction.
May damage fertility.
Toxic to aquatic life with long lasting effects.

2.2. Label elements
Regulation (EC) No. 1272/2008
Hazard components for labelling
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol
Reaction mass of 1-(2,3-epoxypropoxy)-2,2-bis ((2,3-epoxypropoxy)methyl) butane and 1-(2,3-epoxypropoxy)-2-((2,3-epoxypropoxy)methyl)-2-hydroxy butane
Phenol, polymer with formaldehyde, glycidether

Signal word: Danger
Pictograms:

Hazard statements
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
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.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P337+P313 If skin irritation or rash occurs: Get medical advice/attention.
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.

Special labelling of certain mixtures

EUH205 Contains epoxy constituents. May produce an allergic reaction.

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>
</tr>
</thead>
<tbody>
<tr>
<td>9003-36-5</td>
<td>Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxy propane and phenol</td>
<td>25-30 %</td>
</tr>
<tr>
<td>30499-70-8</td>
<td>Reaction mass of 1-(2,3-epoxypropoxy)-2,2-bis ((2,3-epoxypropoxy)methyl) butane and 1-(2,3-epoxypropoxy)-2-((2,3-epoxypropoxy)methyl)-2-hydroxy butane</td>
<td>25-30 %</td>
</tr>
<tr>
<td>28064-14-4</td>
<td>Phenol, polymer with formaldehyde, glycidether</td>
<td>15-20 %</td>
</tr>
<tr>
<td>78-93-3</td>
<td>Butanone</td>
<td>1-3 %</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

Exposure limits (EH40)

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Substance</th>
<th>ppm</th>
<th>mg/m³</th>
<th>Category</th>
<th>Origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>78-93-3</td>
<td>Butan-2-one (methyl ethyl ketone)</td>
<td>200</td>
<td>600</td>
<td>TWA (8 h)</td>
<td>WEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>300</td>
<td>899</td>
<td>STEL (15 min)</td>
<td>WEL</td>
</tr>
</tbody>
</table>

Biological Monitoring Guidance Values (EH40)

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Substance</th>
<th>Parameter</th>
<th>Value</th>
<th>Test material</th>
<th>Sampling time</th>
</tr>
</thead>
<tbody>
<tr>
<td>78-93-3</td>
<td>Butan-2-one</td>
<td>butan-2-one</td>
<td>70 µmol/L</td>
<td>urine</td>
<td>Post shift</td>
</tr>
</tbody>
</table>
## DNEL/DMEL values

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Substance</th>
</tr>
</thead>
<tbody>
<tr>
<td>9003-36-5</td>
<td>Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol</td>
</tr>
<tr>
<td>Worker DNEL, long-term</td>
<td>inhalation</td>
</tr>
<tr>
<td>Worker DNEL, long-term</td>
<td>dermal</td>
</tr>
<tr>
<td>Worker DNEL, acute</td>
<td>dermal</td>
</tr>
<tr>
<td>Consumer DNEL, long-term</td>
<td>inhalation</td>
</tr>
<tr>
<td>Consumer DNEL, long-term</td>
<td>dermal</td>
</tr>
<tr>
<td>Consumer DNEL, long-term</td>
<td>oral</td>
</tr>
<tr>
<td>30499-70-8</td>
<td>Reaction mass of 1-(2,3-epoxypropoxy)-2,2-bis ((2,3-epoxypropoxy)methyl) butane and 1-(2,3-epoxypropoxy)-2-(2,3-epoxypropoxy)methyl)-2-hydroxy butane</td>
</tr>
<tr>
<td>Worker DNEL, long-term</td>
<td>inhalation</td>
</tr>
<tr>
<td>Worker DNEL, long-term</td>
<td>dermal</td>
</tr>
<tr>
<td>78-93-3</td>
<td>butanone</td>
</tr>
<tr>
<td>Consumer DNEL, long-term</td>
<td>oral</td>
</tr>
<tr>
<td>Consumer DNEL, long-term</td>
<td>dermal</td>
</tr>
<tr>
<td>Worker DNEL, long-term</td>
<td>inhalation</td>
</tr>
<tr>
<td>Worker DNEL, long-term</td>
<td>dermal</td>
</tr>
<tr>
<td>Worker DNEL, long-term</td>
<td>dermal</td>
</tr>
</tbody>
</table>
### 8.2. Exposure controls

**Appropriate engineering controls**
- Provide adequate ventilation as well as local exhaust 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

Physical state: liquid
Colour: characteristic
Odour: characteristic

Test method
pH-Value: not determined

Changes in the physical state
Melting point: not determined
Initial boiling point and boiling range: not determined
Sublimation point: not determined
Softening point: not determined
Pour point: not determined
Flash point: > 100 °C

Flammability
Solid: not determined
Gas: not determined

Explosive properties
No information available.
Lower explosion limits: not determined
Upper explosion limits: not determined
Ignition temperature: not determined

Auto-ignition temperature
Solid: not determined
Gas: not determined

Decomposition temperature: not determined

Oxidizing properties
No information available.
Vapour pressure: not determined
Density (at 20 °C): ~1.3 g/cm³
Water solubility: not determined

Solubility in other solvents
No information available.
Partition coefficient: not determined
Viscosity / dynamic: not determined
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
The substance is chemically stable under recommended conditions of storage, use and temperature.

10.3. Possibility of hazardous reactions
Reacts 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>9003-36-5</td>
<td>Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol</td>
<td>oral</td>
<td>LD50</td>
<td>&gt;5000 mg/kg</td>
<td>ECHA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>dermal</td>
<td>LD50</td>
<td>&gt;2000 mg/kg</td>
<td>ECHA</td>
</tr>
<tr>
<td>30499-70-8</td>
<td>Reaction mass of 1-(2,3-epoxypropoxy)-2,2-bis ((2,3-epoxypropoxy)methyl) butane and 1-(2,3-epoxypropoxy)-2-((2,3-epoxypropoxy)methyl)-2-hydroxy butane</td>
<td>oral</td>
<td>LD50</td>
<td>3398 mg/kg</td>
<td>OECD Guideline 401</td>
</tr>
<tr>
<td></td>
<td></td>
<td>dermal</td>
<td>LD50</td>
<td>&gt; 3170 mg/kg</td>
<td>OECD Guideline 402</td>
</tr>
<tr>
<td>78-93-3</td>
<td>Butanone</td>
<td>oral</td>
<td>LD50</td>
<td>3300 mg/kg</td>
<td>IUCLID</td>
</tr>
<tr>
<td></td>
<td></td>
<td>dermal</td>
<td>LD50</td>
<td>6400 - 8000 mg/kg</td>
<td>Supplier</td>
</tr>
<tr>
<td></td>
<td></td>
<td>inhalative (4 h) aerosol</td>
<td>LC50</td>
<td>34,5 mg/l</td>
<td>Rat</td>
</tr>
</tbody>
</table>

Irritation and corrosivity
Causes severe skin burns and eye damage.

Sensitising effects
May cause an allergic skin reaction. (Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol), (Reaction mass of 1-(2,3-epoxypropoxy)-2,2-bis ((2,3-epoxypropoxy)methyl) butane and 1-(2,3-epoxypropoxy)-2-((2,3-epoxypropoxy)methyl)-2-hydroxy butane), (Phenol, polymer with formaldehyde, glycidether)

Carcinogenic/mutagenic/toxic effects for reproduction
May damage fertility. (Reaction mass of 1-(2,3-epoxypropoxy)-2,2-bis ((2,3-epoxypropoxy)methyl) butane and 1-(2,3-epoxypropoxy)-2-((2,3-epoxypropoxy)methyl)-2-hydroxy butane)
Germ cell mutagenicity: Based on available data, the classification criteria are not met.
Carcinogenicity: 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

<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>78-93-3</td>
<td>butanone</td>
<td>Acute fish toxicity</td>
<td>LC50</td>
<td>2993 mg/l</td>
<td>96 h</td>
<td>Pimephales promelas</td>
<td>OECD Guideline 203</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute algae toxicity</td>
<td>ErC50</td>
<td>2029 mg/l</td>
<td>96 h</td>
<td>Selenastrum capricornutum</td>
<td>OECD Guideline 201</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute crustacea toxicity</td>
<td>EC50</td>
<td>308 mg/l</td>
<td>48 h</td>
<td>Daphnia magna</td>
<td>OECD Guideline 202</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute bacteria toxicity</td>
<td>(1150 mg/l)</td>
<td></td>
<td></td>
<td>Pseudomonas putida</td>
<td>Supplier</td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability
No information available.

12.3. Bioaccumulative potential
No information available.

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 1760

14.2. UN proper shipping name: CORROSIVE LIQUID, N.O.S. (epoxy resin)

14.3. Transport hazard class(es): 8

14.4. Packing group: III

Hazard label: 8
Classification code: C9
Special Provisions: 274
Limited quantity: 5 L
Excepted quantity: E1
Transport category: 3
Hazard No: 80
Tunnel restriction code: E

Inland waterways transport (ADN)

14.1. UN number: UN 1760
14.2. UN proper shipping name: CORROSIVE LIQUID, N.O.S. (epoxy resin)

14.3. Transport hazard class(es): 8

14.4. Packing group: III

14.4. Physisical properties:
- Hazard label: 8
- Classification code: C9
- Special Provisions: 274
- Limited quantity: 5 L
- Excepted quantity: E1

Marine transport (IMDG)

14.1. UN number: UN 1760

14.2. UN proper shipping name: CORROSIVE LIQUID, N.O.S. (epoxy resin)

14.3. Transport hazard class(es): 8

14.4. Packing group: III

Marine pollutant: 223, 274

Special Provisions: E1

Air transport (ICAO)

14.1. UN number: UN 1760

14.2. UN proper shipping name: CORROSIVE LIQUID, N.O.S. (epoxy resin)

14.3. Transport hazard class(es): 8

14.4. Packing group: III

Hazard label: 8

Marine pollutant: p

Special Provisions: A3 A803

Limited quantity: 5 L

Excepted quantity: E1

EmS: F-A, S-B

14.5. Environmental hazards

ENVIRONMENTALLY 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

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:

- Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol
- Reaction mass of 1-(2,3-epoxypropoxy)-2,2-bis ((2,3-epoxypropoxy)methyl) butane and 1-(2,3-epoxypropoxy)-2-((2,3-epoxypropoxy)methyl)-2-hydroxy butanone

### SECTION 16: Other information

**Changes**

This data sheet contains changes from the previous version in section(s): 1.

**Abbreviations and acronyms**

- **ADR:** Accord européen sur le transport des marchandises dangereuses par Route (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:** Effectice 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)**

<table>
<thead>
<tr>
<th>H</th>
<th>EUH</th>
</tr>
</thead>
<tbody>
<tr>
<td>H225</td>
<td>Highly flammable liquid and vapour.</td>
</tr>
<tr>
<td>H314</td>
<td>Causes severe skin burns and eye damage.</td>
</tr>
<tr>
<td>H315</td>
<td>Causes skin irritation.</td>
</tr>
<tr>
<td>H317</td>
<td>May cause an allergic skin reaction.</td>
</tr>
<tr>
<td>H318</td>
<td>Causes serious eye damage.</td>
</tr>
<tr>
<td>H319</td>
<td>Causes serious eye irritation.</td>
</tr>
<tr>
<td>H336</td>
<td>May cause drowsiness or dizziness.</td>
</tr>
<tr>
<td>H360F</td>
<td>May damage fertility.</td>
</tr>
<tr>
<td>H411</td>
<td>Toxic to aquatic life with long lasting effects.</td>
</tr>
<tr>
<td>EUH066</td>
<td>Repeated exposure may cause skin dryness or cracking.</td>
</tr>
<tr>
<td>EUH205</td>
<td>Contains epoxy constituents. May produce an allergic reaction.</td>
</tr>
</tbody>
</table>

**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.)