SAFETY DATA SHEET

1. Identification
Product identifier EX-88 - Resin
Other means of identification
SDS number 01188
Product code 01188, 01288, 01287, 01179, 01183, 01488, 01189, 01188R, 120
Recommended use High Gloss Coating
Recommended restrictions None known.
Manufacturer/Importer/Supplier/Distributor information
Manufacturer
Company name Environmental Technology, Inc.
Address 300 S. Bay Depot Road
Fields Landing
CA 95537, USA.
Telephone number 001 707-443-9323
E-mail mail@eti-usa.com
Contact person Technical Director
Emergency phone number 800-424-9300 (CHEMTREC)

2. Hazard identification
Physical hazards Not classified.
Health hazards Skin corrosion/irritation Category 2
Serious eye damage/eye irritation Category 2A
Sensitization, skin Category 1
Germ cell mutagenicity Category 2
Environmental hazards Hazardous to the aquatic environment, acute hazard Category 2

Label elements
Signal word Warning
Hazard statement Causes skin irritation. Causes serious eye irritation. May cause an allergic skin reaction. Suspected of causing genetic defects.

Precautionary statement
Prevention Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid breathing mist or vapour. Wear protective gloves/protective clothing/eye protection/face protection. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.

Response IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. IF exposed or concerned: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.

Storage Store locked up.
Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.
Other hazards None known.
Supplemental information None.
3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Mixtures</th>
<th>Chemical name</th>
<th>Common name and synonyms</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1,4-BIS[(2,3-EPOXYPROPOXY)METHYL]CYCLOHEXANE</td>
<td></td>
<td>14228-73-0</td>
<td>1-5% wt/wt</td>
</tr>
<tr>
<td></td>
<td>o-Cresyl Glycidyl Ether</td>
<td></td>
<td>2210-79-9</td>
<td>5-10% wt/wt</td>
</tr>
<tr>
<td></td>
<td>reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight &lt;= 700)</td>
<td></td>
<td>25068-38-6</td>
<td>60-100% wt/wt</td>
</tr>
</tbody>
</table>

Composition comments: All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume. The exact concentrations of the above listed chemicals are being withheld as a trade secret.

4. First-aid measures

Inhalation: Move to fresh air. Call a physician if symptoms develop or persist. Get medical attention if any discomfort continues.

Skin contact: Remove contaminated clothing. Wash skin thoroughly with soap and water for several minutes. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.

Eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Get medical attention if irritation develops and persists.

Ingestion: Contact may produce eye irritation with associated redness, swelling, tears and pain. Contact causes skin irritation. May cause sensitisation by skin contact. Symptoms include redness, itching and pain. Rash. Dermatitis. Most important symptoms/effects, acute and delayed: Exposure may aggravate pre-existing skin disorders. Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

5. Fire-fighting measures


Unsuitable extinguishing media: Water. Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical: During fire, gases hazardous to health may be formed such as: Carbon oxides. Nitrogen Oxides

Special protective equipment and precautions for firefighters: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions: In case of fire do not breathe fumes. Move container from fire area if it can be done without risk.

Specific methods: Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards: No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Avoid contact with skin and eyes. Avoid inhalation of vapours or mists. Ensure adequate ventilation. Wear protective clothing as described in section 8 of this safety data sheet. Keep unnecessary personnel away. Local authorities should be advised if significant spillages cannot be contained.
Methods and materials for containment and cleaning up

Keep unnecessary personnel away. This product is miscible in water. Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water.

Never return spills to original containers for re-use.

Environmental precautions

Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Keep out of reach of children. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid breathing mist or vapour. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Should be handled in closed systems, if possible. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash thoroughly after handling. Wash contaminated clothing before reuse. Avoid release to the environment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Keep out of the reach of children. Store locked up. Store in tightly closed original container in a dry, cool and well-ventilated place. Keep away from heat, sparks and open flame. Store away from incompatible materials (see Section 10 of the SDS). Read and follow manufacturer's recommendations.

8. Exposure controls/personal protection

Occupational exposure limits

No exposure limits noted for ingredient(s).

Biological limit values

No biological exposure limits noted for the ingredient(s).

Exposure guidelines

No exposure standards allocated. Use personal protective equipment as required. Keep working clothes separately.

Appropriate engineering controls

Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection

Chemical resistant gloves. The most suitable glove must be chosen in consultation with the gloves supplier, who can inform about the breakthrough time of the glove material.

Other

Wear appropriate chemical resistant clothing to prevent any possibility of skin contact.

Respiratory protection

No specific recommendation made, but respiratory protection may still be required under exceptional circumstances when excessive air contamination exists.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace. Wash at the end of each work shift and before eating, smoking or using the toilet.

9. Physical and chemical properties

Appearance

Liquid.

Physical state

Liquid.

Form

Viscous liquid.

Colour

Clear.

Odour

Minimal. Not distinct.

Odour threshold

Not available.

pH

Not available.

Melting point/freezing point

Not available.

Initial boiling point and boiling range

> 176.7 °C (> 350 °F)

Flash point

> 93.3 °C (> 200.0 °F)

Evaporation rate

Not available.
Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammability limit - lower (%)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flammability limit - upper (%)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Explosive limit - lower (%)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Explosive limit – upper (%)</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

Vapour pressure Not available.

Vapour density > 1

Relative density Not available.

Solubility(ies)

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solubility (water)</td>
<td>Slightly soluble (0.1-1%).</td>
</tr>
<tr>
<td>Partition coefficient (n-octanol/water)</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

Auto-ignition temperature Not available.

Decomposition temperature Not available.

Viscosity Not available.

Other information

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explosive properties</td>
<td>Not explosive.</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>Not oxidising.</td>
</tr>
<tr>
<td>VOC</td>
<td>0 %</td>
</tr>
</tbody>
</table>

10. Stability and reactivity

Reactivity

The product is stable and non-reactive under normal conditions of use, storage and transport. Read and follow manufacturer's recommendations.

Chemical stability

Stable under normal temperature conditions and recommended use.

Possibility of hazardous reactions

Hazardous polymerisation does not occur.

Conditions to avoid

Contact with incompatible materials. Avoid high temperatures. Heating this resin above 300°F in the presence of air may cause slow oxidative decomposition.

Incompatible materials

Strong oxidising agents. Reacts violently with strong acids. Reacts violently with strong bases. Avoid contact with water and liquids. Do not allow molten product to contact water or other liquids. This can cause violent reactions.

Hazardous decomposition products

None expected under normal conditions of use.

11. Toxicological information

Information on likely routes of exposure

<table>
<thead>
<tr>
<th>Route</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation</td>
<td>Inhalation of vapours or mists of the product may be irritating to the respiratory system.</td>
</tr>
<tr>
<td>Skin contact</td>
<td>Causes skin irritation. May cause an allergic skin reaction.</td>
</tr>
<tr>
<td>Eye contact</td>
<td>Causes serious eye irritation.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>May cause discomfort if swallowed.</td>
</tr>
</tbody>
</table>

Symptoms related to the physical, chemical and toxicological characteristics

Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.

Information on toxicological effects

Acute toxicity
o-Cresyl Glycidyl Ether (CAS 2210-79-9)

**Components**

**Species**

**Test Results**

<table>
<thead>
<tr>
<th>Acute</th>
<th>Inhalation</th>
<th>Rat</th>
<th>6.09 mg/kg, 4 hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mist</strong></td>
<td>LC50</td>
<td>Rat</td>
<td>6.09 mg/kg, 4 hours</td>
</tr>
<tr>
<td><strong>Oral</strong></td>
<td>LD50</td>
<td>Rat</td>
<td>4000 mg/kg</td>
</tr>
</tbody>
</table>

reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight <= 700) (CAS 25068-38-6)

**Acute**

<table>
<thead>
<tr>
<th>Dermal</th>
<th>LD50</th>
<th>Rat</th>
<th>&gt; 2000 mg/kg</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Oral</strong></td>
<td>LD50</td>
<td>Rat</td>
<td>15000 mg/kg</td>
</tr>
</tbody>
</table>

**Skin corrosion/irritation**

- Causes skin irritation.
- Causes serious eye irritation.

**Respiratory or skin sensitisation**

- **Respiratory sensitisation**
  - Due to lack of data the classification is not possible.
- **Skin sensitisation**
  - May cause an allergic skin reaction.
- **Germ cell mutagenicity**
  - Suspected of causing genetic defects.
- **Carcinogenicity**
  - This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
- **Reproductive toxicity**
  - This product is not expected to cause reproductive or developmental effects.
- **Specific target organ toxicity - single exposure**
  - Not classified.
- **Specific target organ toxicity - repeated exposure**
  - Not classified.
- **Aspiration hazard**
  - Due to the high viscosity the product is not an aspiration hazard.

**12. Ecological information**

- **Ecotoxicity**
  - Expected to be toxic to aquatic organisms. May cause long-term adverse effects in the environment.
- **Persistence and degradability**
  - No data is available on the degradability of this product.
- **Bioaccumulative potential**
  - No data available on bioaccumulation.
- **Mobility in soil**
  - No data available.
- **Other adverse effects**
  - None known.

**13. Disposal considerations**

- **Disposal instructions**
  - Dispose of in accordance with federal, provincial and local regulations. Do not discharge into drains, water courses or onto the ground.
- **Local disposal regulations**
  - Dispose in accordance with all applicable regulations.
- **Hazardous waste code**
  - Not regulated.
- **Waste from residues / unused products**
  - Dispose of in accordance with local regulations.
- **Contaminated packaging**
  - Dispose in accordance with applicable federal, state, and local regulations.

**14. Transport information**

- **TDG**
  - Not regulated as dangerous goods.
- **IATA**
  - Not regulated as dangerous goods.
- **IMDG**
  - Not regulated as dangerous goods.
15. Regulatory information

Canadian regulations
This product has been classified in accordance with the hazard criteria of the HPR and the SDS contains all the information required by the HPR.

- Controlled Drugs and Substances Act
  Not regulated.
- Export Control List (CEPA 1999, Schedule 3)
  Not listed.
- Greenhouse Gases
  Not listed.
- Precursor Control Regulations
  Not regulated.

International regulations

- Stockholm Convention
  Not applicable.
- Rotterdam Convention
  Not applicable.
- Kyoto Protocol
  Not applicable.
- Montreal Protocol
  Not applicable.
- Basel Convention
  Not applicable.

International Inventories

<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory (yes/no)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Australian Inventory of Chemical Substances (AICS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Domestic Substances List (DSL)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Non-Domestic Substances List (NDSL)</td>
<td>No</td>
</tr>
<tr>
<td>China</td>
<td>Inventory of Existing Chemical Substances in China (IECSC)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European Inventory of Existing Commercial Chemical Substances (EINECS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European List of Notified Chemical Substances (ELINCS)</td>
<td>No</td>
</tr>
<tr>
<td>Japan</td>
<td>Inventory of Existing and New Chemical Substances (ENCS)</td>
<td>No</td>
</tr>
<tr>
<td>Korea</td>
<td>Existing Chemicals List (ECL)</td>
<td>Yes</td>
</tr>
<tr>
<td>New Zealand</td>
<td>New Zealand Inventory</td>
<td>Yes</td>
</tr>
<tr>
<td>Philippines</td>
<td>Philippine Inventory of Chemicals and Chemical Substances (PICCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Taiwan</td>
<td>Taiwan Chemical Substance Inventory (TCSI)</td>
<td>Yes</td>
</tr>
<tr>
<td>United States &amp; Puerto Rico</td>
<td>Toxic Substances Control Act (TSCA) Inventory</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*"Yes" indicates this product complies with the inventory requirements administered by the governing country(s).
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information

Issue date: 17-September-2017
Revision date: 21-July-2019
Version No.: 02
### References

- ACGIH
- EPA: AQUIRE database
- NLM: Hazardous Substances Data Base
- US. IARC Monographs on Occupational Exposures to Chemical Agents
- HSDB® - Hazardous Substances Data Bank
- IARC Monographs. Overall Evaluation of Carcinogenicity
- National Toxicology Program (NTP) Report on Carcinogens
- ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices

### Disclaimer

Environmental Technology, Inc. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user’s responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.