

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

Mixtures

Chemical name	Common name and synonyms	CAS number	%
1,4-BIS[(2,3-EPOXYPROPOXY)METHYL]CYCLOHEXANE		14228-73-0	1-5% wt/wt
o-Cresyl Glycidyl Ether		2210-79-9	5-10% wt/wt
reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecularweight <= 700)		25068-38-6	60-100% wt/wt

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	Rinse mouth. Never give anything by mouth to a victim who is unconscious or is having convulsions. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	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.
Indication of immediate medical attention and special treatment needed	Exposure may aggravate pre-existing skin disorders. Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂).
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 breath 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.
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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	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit – upper (%)	Not available.
Vapour pressure	Not available.
Vapour density	> 1
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Slightly soluble (0.1-1%).
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Explosive properties	Not explosive.
Oxidising properties	Not oxidising.
VOC	0 %

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

Inhalation	Inhalation of vapours or mists of the product may be irritating to the respiratory system.
Skin contact	Causes skin irritation. May cause an allergic skin reaction.
Eye contact	Causes serious eye irritation.
Ingestion	May cause discomfort if swallowed.

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

Components	Species	Test Results
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o-Cresyl Glycidyl Ether (CAS 2210-79-9)

Acute

Inhalation

Mist

LC50 Rat 6.09 mg/kg, 4 hours

Oral

LD50 Rat 4000 mg/kg

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

Acute

Dermal

LD50 Rat > 2000 mg/kg

Oral

LD50 Rat 15000 mg/kg

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/eye 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.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

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

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

*A "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

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