

# SAFETY DATA SHEET

## 1. Identification

|   |   |              |  |
|---|---|--------------|--|
| <b>Product identifier</b>                                     | <b>EX-88- Hardener</b>                              |              |  |
| <b>Other means of identification</b>                          |   |              |  |
| <b>SDS number</b>   | 01188   |              |  |
| <b>Product code</b>   | 01188, 01188C, 01288, 01288C, 01287, 01183          |              |  |
| <b>Recommended use</b>  | High Gloss Coating                                  |              |  |
| <b>Recommended restrictions</b>                               | None known.   |              |  |
| <b>Manufacturer/Importer/Supplier/Distributor information</b> |   |              |  |
| <b>Company name</b>   | Environmental Technology, Inc.                      |              |  |
| <b>Address</b>  | 300 S. Bay Depot Road<br>Fields Landing<br>CA 95537 |              |  |
| <b>Telephone</b>  | Telephone number                                    | 707-443-9323 |  |
| <b>E-mail</b>   | mail@eti-usa.com                                    |              |  |
| <b>Contact person</b>   | Technical Director                                  |              |  |
| <b>Emergency phone number</b>                                 | CHEMTREC  | 800-424-9300 |  |

## 2. Hazard(s) identification

|                             |   |            |
|-----------------------------|---|------------|
| <b>Physical hazards</b>     | Not classified.                                     |            |
| <b>Health hazards</b>       | Acute toxicity, oral                                | Category 4 |
|                             | Skin corrosion/irritation                           | Category 1 |
|                             | Serious eye damage/eye irritation                   | Category 1 |
|                             | Sensitization, skin                                 | Category 1 |
|                             | Reproductive toxicity (fertility, the unborn child) | Category 2 |
| <b>OSHA defined hazards</b> | Not classified.                                     |            |

### Label elements



|  |   |
|--|---|
| <b>Signal word</b>                               | Danger  |
| <b>Hazard statement</b>                          | Harmful if swallowed. Causes severe skin burns and eye damage. May cause an allergic skin reaction. Suspected of damaging fertility. Suspected of damaging the unborn child.  |
| <b>Precautionary statement</b>                   |   |
| <b>Prevention</b>                                | Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection.   |
| <b>Response</b>                                  | If swallowed: Rinse mouth. Do not induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. Specific treatment (see this label). |
| <b>Storage</b>                                   | Store locked up.  |
| <b>Disposal</b>                                  | Dispose of contents/container in accordance with local/regional/national/international regulations.   |
| <b>Hazard(s) not otherwise classified (HNOC)</b> | None known.   |
| <b>Supplemental information</b>                  | None known.   |

### 3. Composition/information on ingredients

#### Mixtures

| Chemical name           | CAS number  | %     |
|-------------------------|-------------|-------|
| Polyoxypropylenediamine | Proprietary | 20-60 |
| Nonyl phenol            | Proprietary | 10-60 |
| Alkyl Ether Amine       | Proprietary | 1-25  |
| N-Aminoethylpiperazine  | Proprietary | 1-25  |

The identities of the materials in this product are withheld as a trade secret (29CFR1910.1210(i)) and are available to a physician or paramedical personnel in an emergency situation.

**Composition comments** All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

### 4. First-aid measures

|   |   |
|---|---|
| <b>Inhalation</b>   | If inhaled, remove to fresh air. For breathing difficulties, oxygen may be necessary. Get medical attention immediately.  |
| <b>Skin contact</b>   | Wash contaminated clothing before reuse. Rinse skin thoroughly with lukewarm water for at least 15 minutes. Call a physician or poison control center immediately.  |
| <b>Eye contact</b>  | Immediately flush eyes with plenty of water for at least 15 minutes, lifting upper and lower eyelids occasionally. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.   |
| <b>Ingestion</b>  | Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Call a physician or Poison Control Center immediately.   |
| <b>Most important symptoms/effects, acute and delayed</b>                     | Ingestion may produce burns to the lips, oral cavity, upper airway, esophagus and possibly the digestive tract. May cause an allergic skin reaction. Dermatitis. Rash. Contact can cause corrosive burns, corneal damage, and blindness. Itching, redness, swelling, burning or blistering of skin. |
| <b>Indication of immediate medical attention and special treatment needed</b> | Exposure may aggravate pre-existing skin disorders. Treat symptomatically. Keep victim under observation. Symptoms may be delayed.  |
| <b>General information</b>  | Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.   |

### 5. Fire-fighting measures

|  |   |
|--|---|
| <b>Suitable extinguishing media</b>                                  | Water fog. Foam. Dry chemical powder. Carbon dioxide (CO <sub>2</sub> ).                      |
| <b>Unsuitable extinguishing media</b>                                | Water. Do not use water jet as an extinguisher, as this will spread the fire.                 |
| <b>Specific hazards arising from the chemical</b>                    | During fire, gases hazardous to health may be formed.   |
| <b>Special protective equipment and precautions for firefighters</b> | Self-contained breathing apparatus and full protective clothing must be worn in case of fire. |
| <b>Fire-fighting equipment/instructions</b>                          | Move container from fire area if it can be done without risk.                                 |
| <b>Specific methods</b>  | Use standard firefighting procedures and consider the hazards of other involved materials.    |
| <b>General fire hazards</b>  | No unusual fire or explosion hazards noted.   |

### 6. Accidental release measures

|  |  |
|--|--|
| <b>Personal precautions, protective equipment and emergency procedures</b> | Ensure adequate ventilation. Do not breathe mist or vapor. Avoid contact with skin and eyes. Keep unnecessary personnel away. Keep out of low areas. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.  |
| <b>Methods and materials for containment and cleaning up</b>               | 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. Absorb in vermiculite, dry sand or earth and place into containers. Collect and dispose of spillage as indicated in section 13 of the SDS. Prevent entry into waterways, sewer, basements or confined areas.<br><br>Never return spills to original containers for re-use. |

**Environmental precautions** Avoid discharge into drains, water courses or onto the ground. Contact local authorities in case of spillage to drain/aquatic environment.

## 7. Handling and storage

**Precautions for safe handling** Do not handle until all safety precautions have been read and understood. Do not breathe mist or vapor. Do not get this material in your eyes, on your skin, or on your clothing. Avoid contact during pregnancy/while nursing. Provide adequate ventilation. Use personal protective equipment as required. Wash contaminated clothing before reuse. When using, do not eat, drink or smoke. Wash hands thoroughly after handling. Avoid release to the environment. Keep out of reach of children.

**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. Store away from incompatible materials, see Section 10 of the SDS.

## 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 (typically 10 air changes per hour) 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.

**Other** Wear appropriate chemical resistant clothing. The most suitable glove must be chosen in consultation with the gloves supplier, who can inform about the breakthrough time of the glove material. Wear appropriate chemical resistant clothing to prevent any possibility of skin contact.

**Respiratory protection** If ventilation is insufficient, suitable respiratory protection must be provided.

**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 and using the toilet.

## 9. Physical and chemical properties

**Appearance** Viscous liquid.

**Physical state** Liquid.

**Form** Liquid. Pourable liquid.

**Color** Clear.

**Odor** Minimal. Not distinct. Ammonia-like.

**Odor threshold** Not available.

**pH**  $\geq 11.7$

**Melting point/freezing point** Not available.

**Initial boiling point and boiling range** Not available.

**Flash point**  $> 249.8 \text{ }^\circ\text{F}$  ( $> 121.0 \text{ }^\circ\text{C}$ ) Closed Cup

**Evaporation rate** Not available.

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

### Upper/lower flammability or explosive limits

**Flammability limit - lower (%)** Not available.

**Flammability limit - upper (%)** Not available.

|  |                           |
|--|---------------------------|
| <b>Explosive limit - lower (%)</b>             | Not available.            |
| <b>Explosive limit - upper (%)</b>             | Not available.            |
| <b>Vapor pressure</b>                          | Not available.            |
| <b>Vapor density</b>                           | > 1 ( Air=1)              |
| <b>Relative density</b>                        | 1.15                      |
| <b>Solubility(ies)</b>                         |                           |
| <b>Solubility (water)</b>                      | Slightly soluble (0.1-1%) |
| <b>Partition coefficient (n-octanol/water)</b> | Not available.            |
| <b>Auto-ignition temperature</b>               | Not available.            |
| <b>Decomposition temperature</b>               | Not available.            |
| <b>Viscosity</b>                               | Not available.            |

## 10. Stability and reactivity

|   |  |
|---|--|
| <b>Reactivity</b>                         | The product is stable and non-reactive under normal conditions of use, storage and transport. Read and follow manufacturer's recommendations.  |
| <b>Chemical stability</b>                 | Stable under normal temperature conditions and recommended use.  |
| <b>Possibility of hazardous reactions</b> | Hazardous polymerization does not occur.   |
| <b>Conditions to avoid</b>                | Avoid temperatures exceeding the flash point. Reacts violently with strong acids. This product may react with oxidizing agents. Do not mix with other chemicals. Contact with incompatible materials. Avoid incompatible materials and intense heat. |
| <b>Incompatible materials</b>             | Acids. Strong oxidizing agents. Oxidizing agents.  |
| <b>Hazardous decomposition products</b>   | None expected under normal conditions of use.  |

## 11. Toxicological information

### Information on likely routes of exposure

|   |   |
|---|---|
| <b>Ingestion</b>  | Under normal conditions of intended use, this material does not pose a risk to health. Harmful if swallowed. Causes digestive tract burns.  |
| <b>Inhalation</b>   | Under normal conditions of intended use, this material is not expected to be an inhalation hazard. When heated, the vapors/fumes given off may cause respiratory tract irritation.  |
| <b>Skin contact</b>   | Causes severe skin burns. May cause an allergic skin reaction. May be harmful if absorbed through skin.   |
| <b>Eye contact</b>  | Causes eye burns. Causes serious eye damage.  |
| <b>Symptoms related to the physical, chemical and toxicological characteristics</b> | Ingestion may produce burns to the lips, oral cavity, upper airway, esophagus and possibly the digestive tract. May cause an allergic skin reaction. Dermatitis. Rash. Contact can cause corrosive burns, corneal damage, and blindness. Itching, redness, swelling, burning or blistering of skin. |

### Information on toxicological effects

**Acute toxicity** Harmful if swallowed. May be harmful if absorbed through skin. May cause digestive tract burns.

| Components                               | Species | Test Results |
|--|---------|--------------|
| N-Aminoethylpiperazine (CAS Proprietary) |         |              |
| <b>Acute</b>                             |         |              |
| <i>Dermal</i>                            |         |              |
| LD50                                     | Rabbit  | 880 mg/kg    |

\* Estimates for product may be based on additional component data not shown.

|  |   |
|--|---|
| <b>Skin corrosion/irritation</b>         | Corrosive to skin and eyes.   |
| <b>Serious eye damage/eye irritation</b> | Causes eye burns. Causes serious eye damage.                                |
| <b>Respiratory or skin sensitization</b> |   |
| <b>Respiratory sensitization</b>         | Due to partial or complete lack of data the classification is not possible. |
| <b>Skin sensitization</b>                | May cause an allergic skin reaction.  |

|   |  |
|---|--|
| <b>Germ cell mutagenicity</b>                             | No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic. |
| <b>Carcinogenicity</b>                                    | This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.                                  |
| <b>Reproductive toxicity</b>                              | Possible reproductive hazard. Possible risk of harm to the unborn child. Possible risk of impaired fertility.    |
| <b>Specific target organ toxicity - single exposure</b>   | Not classified.  |
| <b>Specific target organ toxicity - repeated exposure</b> | Not classified.  |
| <b>Aspiration hazard</b>                                  | Due to the high viscosity the product is not an aspiration hazard.   |
| <b>Chronic effects</b>                                    | Prolonged exposure may cause chronic effects. Possible adverse reproductive and developmental effects.           |

## 12. Ecological information

**Ecotoxicity** Expected to be very toxic to aquatic organisms. May cause long-term adverse effects in the environment.

| Components                                | Species | Test Results   |
|---|---------|--|
| N-Aminoethylpiperazine (CAS Proprietary)  |         |  |
| <b>Aquatic</b>                            |         |  |
| Fish                                      | LC50    | Fathead minnow ( <i>Pimephales promelas</i> ) 1950 - 2460 mg/l, 96 hours |
| Nonyl phenol (CAS Proprietary)            |         |  |
| <b>Aquatic</b>                            |         |  |
| Crustacea                                 | EC50    | Clam ( <i>Mulinia lateralis</i> ) 0.0379 mg/l, 48 hours                  |
| Fish                                      | LC50    | Winter flounder ( <i>Pleuronectes americanus</i> ) 0.017 mg/l, 96 hours  |
| Polyoxypropylenediamine (CAS Proprietary) |         |  |
| <b>Aquatic</b>                            |         |  |
| <i>Chronic</i>                            |         |  |
| Algae                                     | NOEC    | Algae 0.32 mg/l, 72 hours  |

\* Estimates for product may be based on additional component data not shown.

|                                      |  |
|--------------------------------------|--|
| <b>Persistence and degradability</b> | No data is available on the degradability of this product. |
| <b>Bioaccumulative potential</b>     | No data available on bioaccumulation.                      |
| <b>Mobility in soil</b>              | No data available.   |
| <b>Other adverse effects</b>         | None known.  |

## 13. Disposal considerations

|  |  |
|--|--|
| <b>Disposal instructions</b>                 | Dispose in accordance with applicable federal, state, and local regulations.   |
| <b>Local disposal regulations</b>            | Dispose in accordance with all applicable regulations.   |
| <b>Hazardous waste code</b>                  | The waste code should be assigned in discussion between the user, the producer and the waste disposal company.   |
| <b>Waste from residues / unused products</b> | Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions). Do not allow this material to drain into sewers/water supplies. |
| <b>Contaminated packaging</b>                | Dispose in accordance with applicable federal, state, and local regulations.   |

## 14. Transport information

|                                     |                           |
|-------------------------------------|---------------------------|
| <b>DOT</b>                          |                           |
| <b>UN number</b>                    | UN1760                    |
| <b>UN proper shipping name</b>      | Corrosive liquids, n.o.s. |
| <b>Transport hazard class(es)</b>   |                           |
| <b>Class</b>                        | 8                         |
| <b>Subsidiary risk</b>              | -                         |
| <b>Packing group</b>                | III                       |
| <b>Special precautions for user</b> | Not available.            |
| <b>Special provisions</b>           | IB3, T7, TP1, TP28        |

Packaging exceptions 154  
Packaging non bulk 203  
Packaging bulk 241

#### IATA

UN number UN1760  
UN proper shipping name Corrosive liquids, n.o.s.  
Transport hazard class(es)  
    Class 8  
    Subsidiary risk -  
    Label(s) 8  
Packing group III  
Packaging exceptions: 2.7.2.1  
Environmental hazards Yes  
Special precautions for user Not available.

#### IMDG

UN number UN1760  
UN proper shipping name Corrosive liquids, n.o.s.  
Transport hazard class(es)  
    Class 8  
    Subsidiary risk -  
    Label(s) 8  
Packing group III  
Special provisions: 223, 274  
Packaging exceptions: 3.4.1  
Environmental hazards  
    Marine pollutant Yes  
EmS F-A, S-B  
Special precautions for user Not available.

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

## 15. Regulatory information

**US federal regulations** This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.  
All components are on the U.S. EPA TSCA Inventory List.

#### TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

#### US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

#### CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

#### Superfund Amendments and Reauthorization Act of 1986 (SARA)

**Hazard categories** Immediate Hazard - Yes  
Delayed Hazard - Yes  
Fire Hazard - No  
Pressure Hazard - No  
Reactivity Hazard - No

#### SARA 302 Extremely hazardous substance

Not listed.

**SARA 311/312 Hazardous chemical** Yes

#### SARA 313 (TRI reporting)

Not regulated.

#### Other federal regulations

##### Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

##### Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

**Safe Drinking Water Act (SDWA)** Not regulated.

#### US state regulations

##### US. Massachusetts RTK - Substance List

N-Aminoethylpiperazine (CAS Proprietary)

##### US. New Jersey Worker and Community Right-to-Know Act

N-Aminoethylpiperazine (CAS Proprietary)

##### US. Pennsylvania Worker and Community Right-to-Know Law

N-Aminoethylpiperazine (CAS Proprietary)

##### US. Rhode Island RTK

Not regulated.

##### US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

##### US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Not listed.

#### International Inventories

| Country(s) or region        | Inventory name   | On inventory (yes/no)* |
|-----------------------------|--|------------------------|
| Australia                   | Australian Inventory of Chemical Substances (AICS)                     | No                     |
| Canada                      | Domestic Substances List (DSL)   | No                     |
| Canada                      | Non-Domestic Substances List (NDSL)                                    | Yes                    |
| China                       | Inventory of Existing Chemical Substances in China (IECSC)             | Yes                    |
| Europe                      | European Inventory of Existing Commercial Chemical Substances (EINECS) | No                     |
| 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                    |
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory                          | Yes                    |

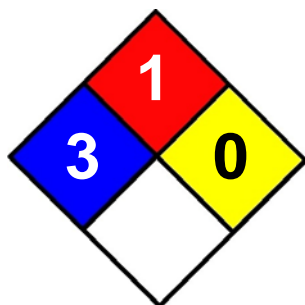
\*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

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, including date of preparation or last revision

**Issue date** 06-May-2014  
**Revision date** -  
**Version #** 01

#### NFPA Ratings



#### 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**

The information in the sheet was written based on the best knowledge and experience currently available.