



# Safety Data Sheet

Issue Date: 06-Sep-2011

Revision Date: 29-Jul-2016

Version 1

## 1. IDENTIFICATION

### Product Identifier

**Product Name** PC ROT TERMINATOR, RESIN

### Other means of identification

**SDS #** 130519-12R-CA

**Synonyms** None

### Recommended use of the chemical and restrictions on use

**Recommended Use** Adhesives

**Uses Advised Against** No information available

### Details of the supplier of the safety data sheet

### Initial Supplier Address

THIS SAFETY DATA SHEET  
IS NOT COMPLIANT UNLESS  
CANADIAN ADDRESS IS USED

### Emergency Telephone Number

**Emergency Telephone (24 hr)** INFOTRAC 1-352-323-3500 (International)  
1-800-535-5053 (North America)

## 2. HAZARDS IDENTIFICATION

**Appearance** Colorless liquid

**Physical state** Liquid.

**Odour** Epoxy

### Classification

|                                   |            |
|-----------------------------------|------------|
| Skin corrosion/irritation         | Category 2 |
| Serious eye damage/eye irritation | Category 2 |
| Skin sensitisation                | Category 1 |

### Label Elements

### Signal word

Warning

**Hazard statements**

Causes skin irritation  
 Causes serious eye irritation  
 May cause an allergic skin reaction

**Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling  
 Wear protective gloves/protective clothing/eye protection/face protection  
 Avoid breathing dust/fume/gas/mist/vapours/spray  
 Contaminated work clothing should not be allowed out of the workplace

**Precautionary Statements - Response**

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 ON SKIN: Wash with plenty of soap and water  
 Take off contaminated clothing and wash it before reuse  
 If skin irritation or rash occurs: Get medical advice/attention

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Other Information**

**Unknown acute toxicity** 70 % of the mixture consists of ingredient(s) of unknown toxicity

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Substance**

| Chemical Name                     | CAS No     | Weight-% | Hazardous Material Information Review Act registry number (HMIRA registry #) | Date HMIRA filed and date exemption granted (if applicable) |
|-----------------------------------|------------|----------|--|---|
| Neopentyl Glycol diglycidyl ether | 17557-23-2 | 15       | -  | -   |
| Alkyl (C12-14) glycidyl ether     | 68609-97-2 | 15       | -  | -   |

### 4. FIRST AID MEASURES

**First Aid Measures****General advice**

Provide this SDS to medical personnel for treatment. After first aid, get appropriate in-plant, paramedic, or community medical support.

**Eye contact**

Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. If eye irritation persists: Get medical advice/attention.

|                     |  |
|---------------------|--|
| <b>Skin contact</b> | Wash with soap and water. Remove and wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical advice/attention.                                       |
| <b>Inhalation</b>   | Remove to fresh air. If breathing is difficult, give oxygen. If breathing has stopped, give artificial respiration. Get medical attention immediately.                               |
| <b>Ingestion</b>    | Clean mouth with water and drink afterwards plenty of water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Immediate medical attention is required. |

#### **Most important symptoms and effects**

|                 |  |
|-----------------|--|
| <b>Symptoms</b> | Causes eye irritation. Causes skin irritation. Direct contact may cause temporary redness and discomfort. May cause respiratory irritation. Ingestion may cause nausea, vomiting, dizziness, and headache. |
|-----------------|--|

#### **Indication of any immediate medical attention and special treatment needed**

|                        |  |
|------------------------|--|
| <b>Note to doctors</b> | Skin and eye conditions may be aggravated by long term exposure. |
|------------------------|--|

### **5. FIRE-FIGHTING MEASURES**

|   |  |
|---|--|
| <b>Suitable Extinguishing Media</b>                   | Carbon dioxide (CO <sub>2</sub> ). Dry chemical. Alcohol foam.   |
| <b>Unsuitable extinguishing media</b>                 | Not determined.  |
| <b>Specific hazards arising from the chemical</b>     | May generate toxic or irritating combustion products. May generate carbon monoxide gas.  |
| <b>Hazardous Combustion Products</b>                  | Carbon monoxide. Carbon dioxide (CO <sub>2</sub> ), Phenolic compounds.  |
| <b>Explosion Data</b>                                 |  |
| <b>Sensitivity to Mechanical Impact</b>               | None.  |
| <b>Sensitivity to Static Discharge</b>                | None.  |
| <b>Special protective equipment for fire-fighters</b> | Keep containers cool with water spray. Wear butyl rubber boots, gloves, and bodysuit. As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Do not release runoff from fire control methods to sewers or waterways. |

### **6. ACCIDENTAL RELEASE MEASURES**

#### **Personal precautions, protective equipment and emergency procedures**

|                             |  |
|-----------------------------|--|
| <b>Personal precautions</b> | Wear protective gloves/protective clothing and eye/face protection. Remove any contaminated clothing and wash thoroughly before reuse. |
|-----------------------------|--|

#### **Environmental precautions**

|                                  |   |
|----------------------------------|---|
| <b>Environmental precautions</b> | See Section 12 for additional Ecological Information. |
|----------------------------------|---|

#### **Methods and material for containment and cleaning up**

|                                |  |
|--------------------------------|--|
| <b>Methods for containment</b> | Prevent further leakage or spillage if safe to do so. For large spills, dike far ahead of liquid spill for later disposal. |
|--------------------------------|--|

|  |  |
|--|--|
| <b>Methods for cleaning up</b>         | Dispose of contents/container to an approved waste disposal plant. Soak up in adsorbent material such as sand and collect in suitable containers. Residual resin may be removed using steam or hot soapy water. For waste disposal, see section 13 of the SDS. |
| <b>Prevention of secondary hazards</b> | Clean contaminated objects and areas thoroughly observing environmental regulations.   |

## 7. HANDLING AND STORAGE

### Precautions for safe handling

|                                |   |
|--------------------------------|---|
| <b>Advice on safe handling</b> | Handle in accordance with good industrial hygiene and safety practice. Use personal protection recommended in Section 8. Avoid breathing vapours or mists. Do not eat, drink or smoke when handling this product. Wash face, hands and any exposed skin thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. |
|--------------------------------|---|

### Conditions for safe storage, including any incompatibilities

|                               |   |
|-------------------------------|---|
| <b>Storage Conditions</b>     | Keep containers tightly closed in a dry, cool and well-ventilated place. Store contents under <90F (32C). |
| <b>Incompatible Materials</b> | Bases, Oxidizing agents   |

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

|                        |   |
|------------------------|---|
| <b>Exposure Limits</b> | This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies. |
|------------------------|---|

### Appropriate engineering controls

|                             |  |
|-----------------------------|--|
| <b>Engineering controls</b> | Maintain eye wash fountain and quick-drench facilities in work area. Provide general or local exhaust ventilation systems if possible. |
|-----------------------------|--|

### Individual protection measures, such as personal protective equipment

|                                       |  |
|---------------------------------------|--|
| <b>Eye/face protection</b>            | Chemical safety goggles/faceshield.  |
| <b>Skin and body protection</b>       | Wear chemically protective gloves to prevent skin contact. Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.  |
| <b>Respiratory protection</b>         | Ensure adequate ventilation, especially in confined areas. If warranted, wear an appropriate NIOSH/MSHA approved respirator.   |
| <b>General hygiene considerations</b> | Avoid contact with skin, eyes and clothing. After handling this product, wash hands before eating, drinking, or smoking. If contact occurs, remove contaminated clothing. If needed, take first aid action shown on section 4 of this SDS. Launder contaminated clothing before reuse. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

|                 |                          |
|-----------------|--------------------------|
| Physical state  | Liquid                   |
| Appearance      | Colorless liquid         |
| Colour          | Colourless               |
| Odour           | Epoxy                    |
| Odour Threshold | No information available |

| <u>Property</u>              | <u>Values</u>             | <u>Remarks • Method</u> |
|------------------------------|---------------------------|-------------------------|
| pH                           | Not determined            |                         |
| Melting Point/Freezing Point | 0 °C / 32 °F              |                         |
| Boiling Point/Boiling Range  | > 148.88 °C / >300 °F     |                         |
| Flash Point                  | 177 °C / 350 °F           | CC (closed cup)         |
| Evaporation Rate             | Not determined            |                         |
| Flammability (Solid, Gas)    | Not determined            |                         |
| Flammability Limits in Air   |                           |                         |
| Upper Flammability Limits    | Not available             |                         |
| Lower Flammability Limit     | Not available             |                         |
| Vapour Pressure              | 0.06 mm Hg                | @ 21 ° C (70 ° F)       |
| Vapour Density               | Not data                  |                         |
| Relative Density             | 1.11 @ 4 °C               | (1=Water)               |
| Water Solubility             | Insoluble in water        |                         |
| Solubility in other solvents | Not determined            |                         |
| Partition Coefficient        | Not determined            |                         |
| Auto-ignition Temperature    | Not available             |                         |
| Decomposition Temperature    | Not determined            |                         |
| Kinematic Viscosity          | Same as water             |                         |
| Dynamic Viscosity            | Same as water             |                         |
| Explosive properties         | No information available. |                         |
| Oxidising properties         | No information available. |                         |

### Other Information

|                  |                          |
|------------------|--------------------------|
| Softening Point  | No information available |
| Molecular weight | No information available |
| VOC Content (%)  | No information available |
| Density          | No information available |
| Bulk Density     | No information available |

## 10. STABILITY AND REACTIVITY

|                                    |  |
|------------------------------------|--|
| Reactivity                         | Not reactive under normal conditions.                          |
| Chemical Stability                 | Stable under normal conditions.                                |
| Possibility of Hazardous Reactions | None under normal processing.                                  |
| Hazardous Polymerisation           | Hazardous polymerisation does not occur.                       |
| Conditions to Avoid                | Keep out of reach of children.                                 |
| Incompatible Materials             | Bases. Oxidising agent.  |
| Hazardous Decomposition Products   | Thermal oxidative decomposition can produce CO, CO2 in a fire. |

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

#### Product Information

|                     |  |
|---------------------|--|
| <b>Eye contact</b>  | Causes serious eye irritation.                               |
| <b>Skin contact</b> | Causes skin irritation. May cause an allergic skin reaction. |
| <b>Inhalation</b>   | May cause irritation of respiratory tract.                   |
| <b>Ingestion</b>    | May cause nausea, vomiting, stomach ache, and diarrhea.      |

### Information on physical, chemical and toxicological effects

**Symptoms** Please see section 4 of this SDS for symptoms.

#### Acute Toxicity

The following values are calculated based on chapter 3.1 of the GHS document .

**ATEmix (oral)** 7,125.00

**Unknown acute toxicity** 70 % of the mixture consists of ingredient(s) of unknown toxicity

| Chemical Name                                   | ATEmix (oral)         | ATEmix (dermal) | Inhalation LC50 |
|---|-----------------------|-----------------|-----------------|
| Neopentyl Glycol diglycidyl ether<br>17557-23-2 | = 4500 mg/kg ( Rat )  | -               | -               |
| Alkyl (C12-14) glycidyl ether<br>68609-97-2     | = 17100 mg/kg ( Rat ) | -               | -               |

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Respiratory or skin sensitisation** May cause an allergic skin reaction.

**Carcinogenicity** Based on the information provided, this product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity** An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

**Persistence/Degradability** No information available.

**Bioaccumulation** No information available.

**Other Adverse Effects** No information available.

### 13. DISPOSAL CONSIDERATIONS

#### Waste Treatment Methods

|  |   |
|--|---|
| <b>Waste from residues/unused products</b> | Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation. |
| <b>Contaminated packaging</b>              | Do not reuse empty containers.  |

### 14. TRANSPORT INFORMATION

|                    |               |
|--------------------|---------------|
| <b><u>TDG</u></b>  | Not regulated |
| <b><u>DOT</u></b>  | Not regulated |
| <b><u>IATA</u></b> | Not regulated |
| <b><u>IMDG</u></b> | Not regulated |

### 15. REGULATORY INFORMATION

#### International Regulations

|   |                |
|---|----------------|
| <b>Ozone-depleting substances (ODS)</b> | Not applicable |
| <b>Persistent Organic Pollutants</b>    | Not applicable |
| <b>Export Notification requirements</b> | Not applicable |

#### International Inventories

| Chemical Name                              | TSCA | DSL/NDSL | EINECS/ELI<br>NCS | ENCS    | IECSC | KECL    | PICCS | AICS |
|--|------|----------|-------------------|---------|-------|---------|-------|------|
| Polymer of epichlorohydrin and bisphenol A | X    | X        |                   | Present | X     | Present | X     | X    |
| Alkyl (C12-14) glycidyl ether              | X    | X        | X                 | Present | X     | Present | X     | X    |
| Neopentyl Glycol diglycidyl ether          | X    | X        | X                 | Present | X     | Present | X     | X    |

#### **Legend:**

- TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List  
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances  
**ENCS** - Japan Existing and New Chemical Substances  
**IECSC** - China Inventory of Existing Chemical Substances  
**KECL** - Korean Existing and Evaluated Chemical Substances  
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances  
**AICS** - Australian Inventory of Chemical Substances

**16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION**

|             |                       |                     |                         |                              |
|-------------|-----------------------|---------------------|-------------------------|------------------------------|
| <u>NFPA</u> | <b>Health Hazards</b> | <b>Flammability</b> | <b>Instability</b>      | <b>Special Hazards</b>       |
|             | 1                     | 1                   | 0                       | Not determined               |
| <u>HMIS</u> | <b>Health Hazards</b> | <b>Flammability</b> | <b>Physical hazards</b> | <b>Personal Protection</b>   |
|             | 1                     | 1                   | 0                       | B- Safety Glasses,<br>Gloves |

**Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

|         |                             |      |                                  |
|---------|-----------------------------|------|----------------------------------|
| TWA     | TWA (time-weighted average) | STEL | STEL (Short Term Exposure Limit) |
| Ceiling | Maximum limit value         | *    | Skin designation                 |

Issue Date: 06-Sep-2011  
 Revision Date: 29-Jul-2016  
 Revision Note: New format.

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

**End of Safety Data Sheet**





# Safety Data Sheet

Issue Date: 03-Jul-2014

Revision Date: 29-Jul-2016

Version 1

## 1. IDENTIFICATION

### Product Identifier

Product Name PC ROT TERMINATOR, HARDENER

### Other means of identification

SDS # 140703-13R-CA

Synonyms None  
UN/ID No UN2735

### Recommended use of the chemical and restrictions on use

Recommended Use Adhesives

Uses Advised Against No information available

### Details of the supplier of the safety data sheet

#### Initial Supplier Address

THIS SAFETY DATA SHEET  
IS NOT COMPLIANT UNLESS  
CANADIAN ADDRESS IS USED

### Emergency Telephone Number

Emergency Telephone (24 hr) INFOTRAC 1-352-323-3500 (International)  
1-800-535-5053 (North America)

## 2. HAZARDS IDENTIFICATION

Appearance Amber liquid

Physical state Liquid.

Odour Ammonia

### Classification

|                                   |                           |
|-----------------------------------|---------------------------|
| Skin corrosion/irritation         | Category 1 Sub-category C |
| Serious eye damage/eye irritation | Category 1                |
| Skin sensitisation                | Category 1                |

### Label Elements

#### Signal word

Danger

**Hazard statements**

Causes severe skin burns and eye damage  
May cause an allergic skin reaction

**Precautionary Statements - Prevention**

Do not breathe dust/fume/gas/mist/vapours/spray  
Wash face, hands and any exposed skin thoroughly after handling  
Wear protective gloves/protective clothing/eye protection/face protection  
Contaminated work clothing should not be allowed out of the workplace

**Precautionary Statements - Response**

Immediately call a poison centre or doctor/physician  
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 centre or doctor/physician  
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower  
Wash contaminated clothing before reuse  
If skin irritation or rash occurs: Get medical advice/attention  
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
Immediately call a poison centre or doctor/physician  
IF SWALLOWED: rinse mouth. Do NOT induce vomiting

**Precautionary Statements - Storage**

Store locked up

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Other Information**

Harmful to aquatic life with long lasting effects

**Unknown acute toxicity** 95 % of the mixture consists of ingredient(s) of unknown toxicity

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Substance**

| Chemical Name          | CAS No   | Weight-% | Hazardous Material Information Review Act registry number (HMIRA registry #) | Date HMIRA filed and date exemption granted (if applicable) |
|------------------------|----------|----------|--|---|
| Tetraethylenepentamine | 112-57-2 | 5        | -  | -   |

## 4. FIRST AID MEASURES

### First Aid Measures

|                       |  |
|-----------------------|--|
| <b>General advice</b> | Provide this SDS to medical personnel for treatment. After first aid, get appropriate in-plant, paramedic, or community medical support.   |
| <b>Eye contact</b>    | Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Seek medical attention.   |
| <b>Skin contact</b>   | Wash with soap and water. Remove and wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical advice/attention.   |
| <b>Inhalation</b>     | Remove to fresh air. If breathing has stopped or is labored, give assisted respirations. Supplemental oxygen may be indicated. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation immediately. |
| <b>Ingestion</b>      | Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Seek medical attention.   |

### Most important symptoms and effects

|                 |   |
|-----------------|---|
| <b>Symptoms</b> | May cause severe burns to skin, eyes and other body tissue. Inhalation of vapours and/or aerosols in high concentration may cause irritation of respiratory system. May cause nose, throat, and lung irritation. If absorbed through the skin, may cause central nervous system effects, such as headache, nausea, dizziness, confusion, breathing difficulties. May cause delayed lung injury. |
|-----------------|---|

### Indication of any immediate medical attention and special treatment needed

|                        |  |
|------------------------|--|
| <b>Note to doctors</b> | Skin and eye conditions may be aggravated by long term exposure.<br>Medical Conditions Aggravated by Long-Term Exposure: skin disorders, asthma, allergies and eye conditions. |
|------------------------|--|

## 5. FIRE-FIGHTING MEASURES

|   |  |
|---|--|
| <b>Suitable Extinguishing Media</b>                   | Alcohol-resistant foam, Carbon dioxide (CO <sub>2</sub> ), Dry chemical, Dry sand and Limestone powder.  |
| <b>Unsuitable extinguishing media</b>                 | Water.   |
| <b>Specific hazards arising from the chemical</b>     | May generate ammonia gas. May generate toxic nitrogen oxide gases. Use of water may result in the formation of very toxic aqueous solutions. Do not allow run-off from fire fighting to enter drains or water courses. Incomplete combustion may form carbon monoxide. Downward personnel must be evacuated. Burning produces obnoxious and toxic fumes.               |
| <b>Hazardous Combustion Products</b>                  | CO, CO <sub>2</sub> , ammonia, and nitrogen compounds.   |
| <b>Explosion Data</b>                                 |  |
| <b>Sensitivity to Mechanical Impact</b>               | None.  |
| <b>Sensitivity to Static Discharge</b>                | None.  |
| <b>Special protective equipment for fire-fighters</b> | As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Wear butyl rubber boots, gloves, and bodysuit. Keep containers cool with water spray. Wear positive pressure self-contained breathing apparatus (SCBA). Do not release runoff from fire control methods to sewers or waterways. |

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

**Personal precautions** Wear protective clothing as described in Section 8 of this safety data sheet. Avoid breathing vapors, mist or gas. Remove any contaminated clothing and wash thoroughly before reuse. Evacuate personnel to safe areas.

### Environmental precautions

**Environmental precautions** See Section 12 for additional Ecological Information.

### Methods and material for containment and cleaning up

**Methods for containment** Prevent further leakage or spillage if safe to do so. For large spills, dike far ahead of liquid spill for later disposal.

**Methods for cleaning up** Soak up in adsorbent material such as sand and collect in suitable containers. Residual resin may be removed using steam or hot soapy water. Dispose of contents/container to an approved waste disposal plant. For waste disposal, see section 13 of the SDS.

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

**Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice. Use personal protection recommended in Section 8. Do not eat, drink or smoke when using this product. Wash face, hands and any exposed skin thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Do not breathe vapors or spray mist.

### Conditions for safe storage, including any incompatibilities

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place. Store contents under <90F (32C). Store locked up.

**Incompatible Materials** CAUTION! N-Nitrosamines, many of which are known to be potent carcinogens, may be formed when the product comes in contact with nitrous acid, nitrites or atmospheres with high nitrous oxide concentrations. Nitrous acid and other nitro sating agents. Organic acids (i.e. acetic acid, citric acid etc.). Mineral acids. Sodium hypochlorite. Product slowly corrodes copper, aluminum, zinc and galvanized surfaces. Reaction with peroxides may result in violent decomposition of peroxide possibly creating an explosion. Oxidizing agents

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

**Exposure Limits** This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

### Appropriate engineering controls

**Engineering controls** Maintain eye wash fountain and quick-drench facilities in work area. Provide general or local exhaust ventilation if product is sanded or ground.

**Individual protection measures, such as personal protective equipment**

|                                       |  |
|---------------------------------------|--|
| <b>Eye/face protection</b>            | Chemical safety goggles/faceshield.  |
| <b>Skin and body protection</b>       | Wear protective gloves and protective clothing. Long sleeve shirts and trousers without cuffs.<br><br>Butyl-rubber, Nitrile rubber, Neoprene gloves, Polyvinyl Alcohol Gloves (PVA), Impervious gloves, The breakthrough time of the selected glove(s) must be greater than the intended use period. |
| <b>Respiratory protection</b>         | Ensure adequate ventilation, especially in confined areas. If warranted, wear an appropriate NIOSH/MSHA approved respirator.   |
| <b>General hygiene considerations</b> | Avoid contact with skin, eyes and clothing. After handling this product, wash hands before eating, drinking, or smoking. If contact occurs, remove contaminated clothing. If needed, take first aid action shown on section 4 of this SDS. Launder contaminated clothing before reuse.               |

**9. PHYSICAL AND CHEMICAL PROPERTIES****Information on basic physical and chemical properties**

|                        |                          |
|------------------------|--------------------------|
| <b>Physical state</b>  | Liquid                   |
| <b>Appearance</b>      | Amber liquid             |
| <b>Colour</b>          | Amber                    |
| <b>Odour</b>           | Ammonia                  |
| <b>Odour Threshold</b> | No information available |

| <b><u>Property</u></b>              | <b><u>Values</u></b>      | <b><u>Remarks • Method</u></b> |
|-------------------------------------|---------------------------|--------------------------------|
| <b>pH</b>                           | Not determined            |                                |
| <b>Melting Point/Freezing Point</b> | Not data                  |                                |
| <b>Boiling Point/Boiling Range</b>  | > 200 °C / >390 °F        |                                |
| <b>Flash Point</b>                  | 195 °C / 383 °F           | CC (closed cup)                |
| <b>Evaporation Rate</b>             | Not determined            |                                |
| <b>Flammability (Solid, Gas)</b>    | Not determined            |                                |
| <b>Flammability Limits in Air</b>   |                           |                                |
| <b>Upper Flammability Limits</b>    | Not available             |                                |
| <b>Lower Flammability Limit</b>     | Not available             |                                |
| <b>Vapour Pressure</b>              | <21 mm Hg                 | @ 25°C (77°F)                  |
| <b>Vapour Density</b>               | Not data                  |                                |
| <b>Relative Density</b>             | Not determined            |                                |
| <b>Water Solubility</b>             | Negligible                |                                |
| <b>Solubility in other solvents</b> | Not determined            |                                |
| <b>Partition Coefficient</b>        | Not determined            |                                |
| <b>Auto-ignition Temperature</b>    | Not available             |                                |
| <b>Decomposition Temperature</b>    | Not determined            |                                |
| <b>Kinematic Viscosity</b>          | Not determined            |                                |
| <b>Dynamic Viscosity</b>            | Not determined            |                                |
| <b>Explosive properties</b>         | No information available. |                                |
| <b>Oxidising properties</b>         | No information available. |                                |

**Other Information**

|                         |                          |
|-------------------------|--------------------------|
| <b>Softening Point</b>  | No information available |
| <b>Molecular weight</b> | No information available |
| <b>VOC Content (%)</b>  | No information available |
| <b>Density</b>          | No information available |
| <b>Bulk Density</b>     | 8.5 lbs/gallon @ 25°C    |

## 10. STABILITY AND REACTIVITY

|   |   |
|---|---|
| <b>Reactivity</b>                         | Not reactive under normal conditions.   |
| <b>Chemical Stability</b>                 | Stable under normal conditions.   |
| <b>Possibility of Hazardous Reactions</b> | None under normal processing.   |
| <b>Hazardous Polymerisation</b>           | Hazardous polymerisation does not occur.  |
| <b>Conditions to Avoid</b>                | Keep out of reach of children.  |
| <b>Incompatible Materials</b>             | CAUTION! N-Nitrosamines, many of which are known to be potent carcinogens, may be formed when the product comes in contact with nitrous acid, nitrites or atmospheres with high nitrous oxide concentrations. Nitrous acid and other nitro sating agents. Organic acids (i.e. acetic acid, citric acid etc.). Mineral acids. Sodium hypochlorite. Product slowly corrodes copper, aluminum, zinc and galvanized surfaces. Reaction with peroxides may result in violent decomposition of peroxide possibly creating an explosion. Oxidizing agents. |
| <b>Hazardous Decomposition Products</b>   | Nitric acid. Ammonia Nitrogen oxides (NOx). Nitrogen oxide can react with water vapors to form corrosive nitric acid. Carbon monoxide. Carbon dioxide (CO2). Nitrosamine.   |

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

#### Product Information

|                     |  |
|---------------------|--|
| <b>Eye contact</b>  | Causes severe eye damage.                                      |
| <b>Skin contact</b> | Causes severe skin burns. May cause an allergic skin reaction. |
| <b>Inhalation</b>   | May cause irritation of respiratory tract.                     |
| <b>Ingestion</b>    | May be harmful if swallowed.                                   |

### Information on physical, chemical and toxicological effects

**Symptoms** Please see section 4 of this SDS for symptoms.

### Numerical measures of toxicity

Product Information

#### Acute Toxicity

**Unknown acute toxicity** 95 % of the mixture consists of ingredient(s) of unknown toxicity

**ATEmix (oral)** > 3,500 mg/kg (rat)  
**ATEmix (dermal)** 8,000 mg/kg (rat)  
**Inhalation LC50** No Data

### Component Information

| Chemical Name                      | ATEmix (oral)        | ATEmix (dermal)        | Inhalation LC50 |
|------------------------------------|----------------------|------------------------|-----------------|
| Tetraethylenepentamine<br>112-57-2 | = 3990 mg/kg ( Rat ) | = 660 µL/kg ( Rabbit ) | -               |

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Respiratory or skin sensitisation** May cause an allergic skin reaction.

**Carcinogenicity** Based on the information provided, this product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

**Target organ effects** Digestive System, Eyes, Skin.

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity** Harmful to aquatic life with long lasting effects.

| Chemical Name                      | Algae/aquatic plants                                   | Fish  | Toxicity to microorganisms | Crustacea                             |
|------------------------------------|--|---|----------------------------|---------------------------------------|
| Tetraethylenepentamine<br>112-57-2 | 2.1: 72 h Pseudokirchneriella<br>subcapitata mg/L EC50 | 420: 96 h Poecilia reticulata<br>mg/L LC50 static |                            | 24.1: 48 h Daphnia magna<br>mg/L EC50 |

**Persistence/Degradability** No information available.

**Bioaccumulation** No information available.

**Mobility** .

| Chemical Name                      | Partition Coefficient |
|------------------------------------|-----------------------|
| Tetraethylenepentamine<br>112-57-2 | 1                     |

**Other Adverse Effects** No information available.

## 13. DISPOSAL CONSIDERATIONS

### Waste Treatment Methods

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Do not reuse empty containers.

## 14. TRANSPORT INFORMATION

### TDG

**UN/ID No** UN2735  
**Proper Shipping Name** Amines, liquid, corrosive, n.o.s. (Tetraethylenepentamine)  
**Hazard Class** 8  
**Packing Group** III

### DOT

**UN/ID No** UN2735  
**Proper Shipping Name** Amines, liquid, corrosive, n.o.s. (Tetraethylenepentamine)  
**Hazard Class** 8  
**Packing Group** III

**IATA**

UN/ID No UN2735  
 Proper Shipping Name Amines, liquid, corrosive, n.o.s. (Tetraethylenepentamine)  
 Hazard Class 8  
 Packing Group III

**IMDG**

UN/ID No UN2735  
 Proper Shipping Name Amines, liquid, corrosive, n.o.s. (Tetraethylenepentamine)  
 Hazard Class 8  
 Packing Group III

|                                   |
|-----------------------------------|
| <b>15. REGULATORY INFORMATION</b> |
|-----------------------------------|

**International Regulations**

**Ozone-depleting substances (ODS)** Not applicable

**Persistent Organic Pollutants** Not applicable

**Export Notification requirements** Not applicable

**International Inventories**

| Chemical Name                     | TSCA | DSL/NDSL | EINECS/ELI<br>NCS | ENCS    | IECSC | KECL    | PICCS | AICS |
|-----------------------------------|------|----------|-------------------|---------|-------|---------|-------|------|
| TOFA, reaction products with TEPA | X    | X        | X                 | Present | X     | Present | X     | X    |
| Tetraethylenepentamine            | X    | X        | X                 | Present | X     | Present | X     | X    |

**Legend:**

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

**ENCS** - Japan Existing and New Chemical Substances

**IECSC** - China Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**AICS** - Australian Inventory of Chemical Substances



**16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION**

|             |                       |                     |                         |                              |
|-------------|-----------------------|---------------------|-------------------------|------------------------------|
| <u>NFPA</u> | <b>Health Hazards</b> | <b>Flammability</b> | <b>Instability</b>      | <b>Special Hazards</b>       |
|             | 3                     | 1                   | 0                       | Not determined               |
| <u>HMIS</u> | <b>Health Hazards</b> | <b>Flammability</b> | <b>Physical hazards</b> | <b>Personal Protection</b>   |
|             | 3                     | 1                   | 0                       | B- Safety Glasses,<br>Gloves |

**Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

|         |                             |      |                                  |
|---------|-----------------------------|------|----------------------------------|
| TWA     | TWA (time-weighted average) | STEL | STEL (Short Term Exposure Limit) |
| Ceiling | Maximum limit value         | *    | Skin designation                 |

Issue Date: 03-Jul-2014  
 Revision Date: 29-Jul-2016  
 Revision Note: New format.

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

**End of Safety Data Sheet**