SAFETY DATA SHEET
Dyna-Plex 21C Syn-Tek 525

Section 1. Identification

GHS product identifier : Dyna-Plex 21C Syn-Tek 525
Other means of identification : Not available.
Product type : Liquid.

Identified uses
Not available.

Supplier's details : Miller Industrial Fluids, A PetroChoice Company
1751 W. Raymond Street
Indianapolis, IN 46221
Tel.: (317) 634-7300
Fax: (317) 636-6761
Email: customerservice@millerif.com
Web: www.petrochoice.com

Emergency telephone number (with hours of operation) : CHEMTREC, U.S.: 1-800-424-9300 International: +1-703-527-3887 (24/7)
Emergency phone: (317) 634-7300, After Hours: (CHEMTREC)
Emergency email: customerservice@millerif.com
Hours of operation: 8am – 5pm

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture : SKIN CORROSION/IRRITATION - Category 1B
 : SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1

GHS label elements
Hazard pictograms :

Signal word : Danger
Hazard statements : Causes severe skin burns and eye damage.
Precautionary statements
General : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.
Prevention : Wear protective gloves. Wear eye or face protection. Wear protective clothing. Wash hands thoroughly after handling.
Section 2. Hazards identification

Response:
- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or physician. IF SWALLOWED: Immediately call a POISON CENTER or physician. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or 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 CENTER or physician.

Storage: Store locked up.

Disposal: Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified: None known.

Section 3. Composition/information on ingredients

Substance/mixture: Mixture

CAS number/other identifiers

CAS number: Not applicable.

Product code: Not available.

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>%</th>
<th>CAS number</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,2',2''-Nitrilotriethanol</td>
<td>10 - 30</td>
<td>102-71-6</td>
</tr>
<tr>
<td>Dialkyl phosphate</td>
<td>1 - 5</td>
<td>Confidential</td>
</tr>
<tr>
<td>Monoalkyl phosphate</td>
<td>1 - 5</td>
<td>Confidential</td>
</tr>
<tr>
<td>2-Aminoethanol</td>
<td>1 - 5</td>
<td>141-43-5</td>
</tr>
<tr>
<td>Dodecanedioic acid</td>
<td>1 - 5</td>
<td>693-23-2</td>
</tr>
<tr>
<td>Undecanedioic acid</td>
<td>1 - 5</td>
<td>1852-04-6</td>
</tr>
<tr>
<td>Ethanolamine and triethanolamine borate</td>
<td>1 - 5</td>
<td>68512-53-8</td>
</tr>
<tr>
<td>Octanoic acid</td>
<td>1 - 5</td>
<td>124-07-2</td>
</tr>
<tr>
<td>2,2',2'''-(Hexahydro-1,3,5-triazine-1,3,5-triyl)triethanol</td>
<td>1 - 5</td>
<td>4719-04-4</td>
</tr>
<tr>
<td>Poly[oxy-1,2-ethanediyl(dimethyliminio)-1,2-ethanediyl(dimethyliminio)-1,2-ethanediyl chloride]</td>
<td>0.1 - 1</td>
<td>31512-74-0</td>
</tr>
</tbody>
</table>

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact: Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Continue to rinse for at least 20 minutes. Chemical burns must be treated promptly by a physician.

Inhalation: Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Section 4. First aid measures

**Skin contact**
- Get medical attention immediately. Call a poison center or physician. Flush contaminated skin with plenty of water. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 20 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.

**Ingestion**
- Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately.

**Get medical attention immediately. Call a poison center or physician. Flush contaminated skin with plenty of water. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 20 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.**

**Most important symptoms/effects, acute and delayed**

**Potential acute health effects**
- **Eye contact**: Causes serious eye damage.
- **Inhalation**: May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
- **Skin contact**: Causes severe burns.
- **Ingestion**: May cause burns to mouth, throat and stomach.

**Over-exposure signs/symptoms**
- **Eye contact**: Adverse symptoms may include the following:
  - pain
  - watering
  - redness
- **Inhalation**: No known significant effects or critical hazards.
- **Skin contact**: Adverse symptoms may include the following:
  - pain or irritation
  - redness
  - blistering may occur
- **Ingestion**: Adverse symptoms may include the following:
  - stomach pains

**Indication of immediate medical attention and special treatment needed, if necessary**

- **Notes to physician**: In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- **Specific treatments**: No specific treatment.
- **Protection of first-aiders**: No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)
Section 5. Fire-fighting measures

**Extinguishing media**

- **Suitable extinguishing media**: In case of fire, use water spray (fog), foam, dry chemical or CO₂.
- **Unsuitable extinguishing media**: None known.

**Specific hazards arising from the chemical**

- **Hazardous thermal decomposition products**: Decomposition products may include the following materials:
  - Carbon dioxide
  - Carbon monoxide
  - Nitrogen oxides
  - Phosphorus oxides

- **No specific fire or explosion hazard.**

**Special protective actions for fire-fighters**

- **Special protective equipment for fire-fighters**: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

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

- **For non-emergency personnel**: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

- **For emergency responders**: If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**Environmental precautions**

- **Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).**

**Methods and materials for containment and cleaning up**

- **Small spill**: Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

- **Large spill**: Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.
Section 7. Handling and storage

Precautions for safe handling

**Protective measures**: Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

**Advice on general occupational hygiene**: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. See also Section 8 for additional information on hygiene measures.

**Conditions for safe storage, including any incompatibilities**: Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

**Occupational exposure limits**

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Exposure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,2',2''-Nitrilotriethanol</td>
<td>ACGIH TLV (United States, 4/2014). TWA: 5 mg/m³ 8 hours.</td>
</tr>
<tr>
<td></td>
<td>ACGIH TLV (United States, 4/2014). STEL: 15 mg/m³ 15 minutes.</td>
</tr>
<tr>
<td></td>
<td>ACGIH TLV (United States, 4/2014). STEL: 6 ppm 15 minutes.</td>
</tr>
<tr>
<td></td>
<td>ACGIH TLV (United States, 4/2014). TWA: 7.5 mg/m³ 8 hours.</td>
</tr>
<tr>
<td></td>
<td>ACGIH TLV (United States, 4/2014). TWA: 3 ppm 8 hours.</td>
</tr>
<tr>
<td>2-Aminoethanol</td>
<td>NIOSH REL (United States, 10/2013). STEL: 15 mg/m³ 15 minutes.</td>
</tr>
<tr>
<td></td>
<td>NIOSH REL (United States, 10/2013). STEL: 6 ppm 15 minutes.</td>
</tr>
<tr>
<td></td>
<td>NIOSH REL (United States, 10/2013). TWA: 8 mg/m³ 10 hours.</td>
</tr>
<tr>
<td></td>
<td>NIOSH REL (United States, 10/2013). TWA: 3 ppm 10 hours.</td>
</tr>
<tr>
<td></td>
<td>OSHA PEL (United States, 2/2013). TWA: 6 mg/m³ 8 hours.</td>
</tr>
<tr>
<td></td>
<td>OSHA PEL (United States, 2/2013). TWA: 3 ppm 8 hours.</td>
</tr>
</tbody>
</table>

**Appropriate engineering controls**: If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

**Environmental exposure controls**: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

**Individual protection measures**

**Hygiene measures**: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
Section 8. Exposure controls/personal protection

**Eye/face protection**: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

**Skin protection**
- **Hand protection**: Recommended: Oil impervious gloves.
- **Body protection**: Recommended: Oil impermeable apron.
- **Other skin protection**: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- **Respiratory protection**: Use a properly fitted, air-purifying or supplied air respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

**Appearance**
- **Physical state**: Liquid.
- **Color**: Yellow.
- **Odor**: Mild.
- **Odor threshold**: Not available.
- **pH**: 9 to 10
- **Melting point**: 0°C (32°F)
- **Boiling point**: 100°C (212°F)
- **Flash point**: Not available.
- **Evaporation rate**: Not available.
- **Flammability (solid, gas)**: Not available.
- **Lower and upper explosive (flammable) limits**: Not available.
- **Vapor pressure**: Not available.
- **Vapor density**: Not available.
- **Relative density**: 1.03
- **Solubility**: Miscible in water.
- **Partition coefficient: n-octanol/water**: Not available.
- **Auto-ignition temperature**: Not available.
- **Decomposition temperature**: Not available.
- **Viscosity**: Not available.

Section 10. Stability and reactivity

**Reactivity**: No specific test data related to reactivity available for this product or its ingredients.

**Chemical stability**: The product is stable.

**Possibility of hazardous reactions**: Under normal conditions of storage and use, hazardous reactions will not occur.
Section 10. Stability and reactivity

Conditions to avoid: No specific data.

Incompatible materials: Reactive or incompatible with the following materials: oxidizing materials, acids and alkalis.

Hazardous decomposition products: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,2',2''-Nitrilotriethanol</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>7.39 g/kg</td>
<td>-</td>
</tr>
<tr>
<td>2-Aminoethanol</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>1720 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Octanoic acid</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>&gt;6000 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>2,2',2''-(Hexahydro-1,3,5-triazine-1,3,5-triy)triethanol</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>&gt;5000 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Poly[oxy-1,2-ethanediyl(dimethyliminio)-1,2-ethanediyl(dimethyliminio)-1,2-ethanediyl chloride]</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>1283 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rabbit</td>
<td>&gt;763 mg/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

Irritation/Corrosion

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Score</th>
<th>Exposure</th>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,2',2''-Nitrilotriethanol</td>
<td>Eyes - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>10 mg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Eyes - Severe irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>20 mg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Mild irritant</td>
<td>Human</td>
<td>-</td>
<td>72 hours 15 mg intermittent</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Severe irritant</td>
<td>Mouse</td>
<td>-</td>
<td>50%</td>
<td>-</td>
</tr>
<tr>
<td>2-Aminoethanol</td>
<td>Eyes - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 560 mg</td>
<td>-</td>
</tr>
<tr>
<td>Octanoic acid</td>
<td>Eyes - Severe irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>250 mg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Moderate irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>505 mg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Eyes - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>0.1 mL</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Moderate irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 mg</td>
<td>-</td>
</tr>
</tbody>
</table>

Sensitization

There is no data available.

Carcinogenicity

Classification

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>OSHA</th>
<th>IARC</th>
<th>NTP</th>
<th>ACGIH</th>
<th>EPA</th>
<th>NIOSH</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,2',2''-Nitrilotriethanol</td>
<td>-</td>
<td>3</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Specific target organ toxicity (single exposure)

<table>
<thead>
<tr>
<th>Name</th>
<th>Category</th>
<th>Route of exposure</th>
<th>Target organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Aminoethanol</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Respiratory tract irritation</td>
</tr>
</tbody>
</table>
Section 11. Toxicological information

Specific target organ toxicity (repeated exposure)
There is no data available.

Aspiration hazard
There is no data available.

Information on the likely routes of exposure

Potential acute health effects

Eye contact : Causes serious eye damage.

Inhalation : May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Skin contact : Causes severe burns.

Ingestion : May cause burns to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
- pain
- watering
- redness

Inhalation : No known significant effects or critical hazards.

Skin contact : Adverse symptoms may include the following:
- pain or irritation
- redness
- blistering may occur

Ingestion : Adverse symptoms may include the following:
- stomach pains

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : No known significant effects or critical hazards.

Potential delayed effects : No known significant effects or critical hazards.

Long term exposure

Potential immediate effects : No known significant effects or critical hazards.

Potential delayed effects : No known significant effects or critical hazards.

Potential chronic health effects

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates
**Section 11. Toxicological information**

<table>
<thead>
<tr>
<th>Route</th>
<th>ATE value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>3165 mg/kg</td>
</tr>
<tr>
<td>Dermal</td>
<td>6705.7 mg/kg</td>
</tr>
<tr>
<td>Inhalation (vapors)</td>
<td>457.6 mg/L</td>
</tr>
</tbody>
</table>

**Section 12. Ecological information**

### Toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,2',2''-Nitrilotriethanol</td>
<td>Acute LC50 100000 µg/L Marine water</td>
<td>Crustaceans - Crangon crangon - Adult</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 11800000 µg/L Fresh water</td>
<td>Fish - Pimephales promelas</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 16000 µg/L Fresh water</td>
<td>Daphnia - Daphnia magna</td>
<td>21 days</td>
</tr>
<tr>
<td>2-Aminoethanol</td>
<td>Acute EC50 800000 µg/L Fresh water</td>
<td>Algae - Isochrysis galbana</td>
<td>96 hours</td>
</tr>
<tr>
<td>Octanoic acid</td>
<td>Acute LC50 &gt;1000000 µg/L Marine water</td>
<td>Daphnia - Daphnia magna</td>
<td>48 hours</td>
</tr>
<tr>
<td>2,2',2''-(Hexahydro-1,3,5-triazine-1,3,5-triyl)triethanol</td>
<td>Acute LC50 170000 µg/L Fresh water</td>
<td>Fish - Carassius auratus</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Acute IC50 144 mg/L</td>
<td>Algae - Magna</td>
<td>72 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 110 mg/L</td>
<td>Fish - Brachydanio rerio</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 26.1 ppm Fresh water</td>
<td>Daphnia - Daphnia magna</td>
<td>48 hours</td>
</tr>
<tr>
<td>Poly(oxy-1,2-ethanediyl(dimethyliminio)-1,2-ethanediyl(dimethyliminio)-1,2-ethanediyl chloride)</td>
<td>Acute LC50 39 ppm Fresh water</td>
<td>Fish - Lepomis macrochirus</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 266 ppm Fresh water</td>
<td>Daphnia - Daphnia magna</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 218 µg/L Fresh water</td>
<td>Crustaceans - Ceriodaphnia dubia - Neonate</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 47 ppb Fresh water</td>
<td>Fish - Oncorhynchus mykiss</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 12 ppb Marine water</td>
<td>Daphnia - Daphnia magna</td>
<td>21 days</td>
</tr>
</tbody>
</table>

### Persistence and degradability

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Test</th>
<th>Result</th>
<th>Dose</th>
<th>Inoculum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Octanoic acid</td>
<td>-</td>
<td>70 % - 28 days</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Aquatic half-life</th>
<th>Photolysis</th>
<th>Biodegradability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Octanoic acid</td>
<td>-</td>
<td>-</td>
<td>Readily</td>
</tr>
</tbody>
</table>

### Bioaccumulative potential

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>LogP&lt;sub&gt;ow&lt;/sub&gt;</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,2',2''-Nitrilotriethanol</td>
<td>-1</td>
<td>&lt;3.9</td>
<td>low</td>
</tr>
<tr>
<td>2-Aminoethanol</td>
<td>-1.31</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>Dodecanedioic acid</td>
<td>3.2</td>
<td>3.162</td>
<td>low</td>
</tr>
<tr>
<td>Octanoic acid</td>
<td>3.05</td>
<td>238 to 288</td>
<td>low</td>
</tr>
<tr>
<td>2,2',2''-(Hexahydro-1,3,5-triazine-1,3,5-triyl)triethanol</td>
<td>-2</td>
<td>-</td>
<td>low</td>
</tr>
</tbody>
</table>

### Mobility in soil

**Soil/water partition coefficient (K<sub>oc</sub>)**

: Not available.

**Other adverse effects**

: No known significant effects or critical hazards.
Section 13. Disposal considerations

Disposal methods: The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling empty containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

<table>
<thead>
<tr>
<th>DOT Classification</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN proper shipping name</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Transport hazard class(es)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Packing group</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Environmental hazards</td>
<td>No.</td>
<td>No.</td>
</tr>
<tr>
<td>Additional information</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

AERG: Not applicable.

Special precautions for user: Transport within user’s premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

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

Section 15. Regulatory information

U.S. Federal regulations: TSCA 4(a) final test rules: 2,2',2"-(Hexahydro-1,3,5-triazine-1,3,5-triyl)trietanol TSCA 8(a) CDR Exempt/Partial exemption: Not determined Commerce control list precursor: 2,2',2"-Nitrioloetriethanol United States inventory (TSCA 8b): All components are listed or exempted. Clean Water Act (CWA) 311: Sodium hydroxide
Section 15. Regulatory information

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)
- Not listed

Clean Air Act Section 602 Class I Substances
- Not listed

Clean Air Act Section 602 Class II Substances
- Not listed

DEA List I Chemicals (Precursor Chemicals)
- Not listed

DEA List II Chemicals (Essential Chemicals)
- Not listed

SARA 302/304

Composition/information on ingredients
No products were found.

SARA 304 RQ
- Not applicable.

SARA 311/312

Classification
- Immediate (acute) health hazard

Composition/information on ingredients

<table>
<thead>
<tr>
<th>Name</th>
<th>%</th>
<th>Fire hazard</th>
<th>Sudden release of pressure</th>
<th>Reactive</th>
<th>Immediate (acute) health hazard</th>
<th>Delayed (chronic) health hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Butyl dihydrogen phosphate</td>
<td>1 - 5</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
<td>Yes.</td>
<td>No.</td>
</tr>
<tr>
<td>2-Aminoethanol</td>
<td>1 - 5</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
<td>Yes.</td>
<td>No.</td>
</tr>
<tr>
<td>Dodecanedioic acid</td>
<td>1 - 5</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
<td>Yes.</td>
<td>No.</td>
</tr>
<tr>
<td>Undecanedioic acid</td>
<td>1 - 5</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
<td>Yes.</td>
<td>No.</td>
</tr>
<tr>
<td>Ethanolamine and triethanolamine borate</td>
<td>1 - 5</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
<td>Yes.</td>
<td>No.</td>
</tr>
<tr>
<td>Octanoic acid</td>
<td>1 - 5</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
<td>Yes.</td>
<td>No.</td>
</tr>
<tr>
<td>2,2',2''-(Hexahydro-1,3,5-triazine-1,3,5-triyl) triethanol</td>
<td>1 - 5</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
<td>Yes.</td>
<td>No.</td>
</tr>
</tbody>
</table>

SARA 313

No products were found.

State regulations

Massachusetts
- The following components are listed: 2,2',2''-Nitrilotriethanol; 2-Aminoethanol

New York
- None of the components are listed.

New Jersey
- The following components are listed: 2,2',2''-Nitrilotriethanol; 2-Aminoethanol

Pennsylvania
- The following components are listed: 2,2',2''-Nitrilotriethanol; 2-Aminoethanol

California Prop. 65
- No products were found.
Section 16. Other information

**History**

- **Date of issue mm/dd/yyyy**: 09/21/2015
- **Version**: 1
- **Revised Section(s)**: Not applicable.

**Key to abbreviations**

- ATE = Acute Toxicity Estimate
- BCF = Bioconcentration Factor
- GHS = Globally Harmonized System of Classification and Labelling of Chemicals
- IATA = International Air Transport Association
- IBC = Intermediate Bulk Container
- IMDG = International Maritime Dangerous Goods
- LogPow = logarithm of the octanol/water partition coefficient
- UN = United Nations

**Notice to reader**

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.