SAFETY DATA SHEET
Phenol:Chloroform:Isoamyl Alcohol (25:24:1)

Section 1. Identification

<table>
<thead>
<tr>
<th>GHS product identifier</th>
<th>Phenol:Chloroform:Isoamyl Alcohol (25:24:1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code</td>
<td>75831</td>
</tr>
<tr>
<td>Other means of identification</td>
<td>Not available.</td>
</tr>
<tr>
<td>Trade name</td>
<td>Phenol:Chloroform:Isoamyl Alcohol (25:24:1)</td>
</tr>
<tr>
<td>Supplier/Manufacturer</td>
<td>3420 Central Expressway, Santa Clara CA 95051</td>
</tr>
<tr>
<td>In case of emergency</td>
<td>Chemtrec: 1 800 424 9300 Outside USA &amp; Canada: +1 703 527 3887</td>
</tr>
</tbody>
</table>

Section 2. Hazards identification

<table>
<thead>
<tr>
<th>OSHA/HCS status</th>
<th>This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).</th>
</tr>
</thead>
</table>
| Classification of the substance or mixture | ACUTE TOXICITY (oral) - Category 3  
                           ACUTE TOXICITY (dermal) - Category 4  
                           ACUTE TOXICITY (inhalation) - Category 2  
                           SKIN CORROSION/IRRITATION - Category 1B  
                           SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2A  
                           GERM CELL MUTAGENICITY - Category 2  
                           CARCINOGENICITY - Category 2  
                           SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2 |
| GHS label elements           |                                                                                                  |
| Hazard pictograms            |                                                                                                  |
| Signal word                  | Danger                                                                                           |
| Hazard statements            | Fatal if inhaled.  
                           Toxic if swallowed.  
                           Harmful in contact with skin.  
                           Causes severe skin burns and eye damage.  
                           Suspected of causing genetic defects.  
                           Suspected of causing cancer.  
                           May cause damage to organs through prolonged or repeated exposure. |
| Precautionary statements     |                                                                                                  |
| Prevention                   | Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wear protective gloves. Wear eye or face protection. Wear respiratory protection. Use only outdoors or in a well-ventilated area. Do not breathe vapor. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. |
| Response                     | Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention. 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 ON SKIN: Wash with plenty of soap and water. Call a POISON CENTER or physician if you feel unwell. 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. If eye
Section 2. Hazards identification

Phenol:Chloroform:Isoamyl Alcohol (25:24:1)

irritation persists: Get medical attention.

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

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>%</th>
<th>CAS number</th>
</tr>
</thead>
<tbody>
<tr>
<td>phenol; carbolic acid</td>
<td>25 - 50</td>
<td>108-95-2</td>
</tr>
<tr>
<td>trichloromethane; chloroform</td>
<td>25 - 50</td>
<td>67-66-3</td>
</tr>
<tr>
<td>pentanol isomers</td>
<td>1 - 10</td>
<td>123-51-3</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. Check for and remove any contact lenses. Continue to rinse for at least 10 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. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. 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.

Skin contact: Get medical attention immediately. Call a poison center or physician. Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 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 dentures if any. 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. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. 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. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed
Section 4. First aid measures

Potential acute health effects

**Eye contact**
- Causes serious eye damage.

**Inhalation**
- Fatal if inhaled. 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. Harmful in contact with skin.

**Ingestion**
- Toxic if swallowed. 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 specific data.

**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**
- Use an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing media**
- None known.

**Specific hazards arising from the chemical**
- In a fire or if heated, a pressure increase will occur and the container may burst.

**Hazardous thermal decomposition products**
- Decomposition products may include the following materials:
  - carbon dioxide
  - carbon monoxide
  - halogenated compounds
  - carbonyl halides

**Special protective actions for fire-fighters**
- Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Section 5. Fire-fighting measures

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 specialised 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). Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. 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. Remove contaminated clothing and protective equipment before entering eating areas. 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.
### Control parameters

#### Occupational exposure limits

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Exposure limits</th>
</tr>
</thead>
</table>
| phenol; carbolic acid | ACGIH TLV (United States, 3/2015).  
Absorbed through skin.  
TWA: 5 ppm 8 hours.  
TWA: 19 mg/m³ 8 hours.  
Absorbed through skin.  
TWA: 5 ppm 8 hours.  
TWA: 19 mg/m³ 8 hours.  
NIOSH REL (United States, 10/2013).  
Absorbed through skin.  
TWA: 5 ppm 10 hours.  
TWA: 19 mg/m³ 10 hours.  
CEIL: 15.6 ppm 15 minutes.  
CEIL: 60 mg/m³ 15 minutes.  
OSHA PEL (United States, 2/2013).  
Absorbed through skin.  
TWA: 5 ppm 8 hours.  
TWA: 19 mg/m³ 8 hours. |
| trichloromethane; chloroform | ACGIH TLV (United States, 3/2015).  
TWA: 10 ppm 8 hours.  
TWA: 49 mg/m³ 8 hours.  
TWA: 2 ppm 8 hours.  
TWA: 9.78 mg/m³ 8 hours.  
NIOSH REL (United States, 10/2013).  
STEL: 2 ppm 60 minutes.  
STEL: 9.78 mg/m³ 60 minutes.  
OSHA PEL (United States, 2/2013).  
CEIL: 50 ppm  
CEIL: 240 mg/m³ |
| pentanol isomers | ACGIH TLV (United States, 3/2015).  
TWA: 100 ppm 8 hours.  
TWA: 361 mg/m³ 8 hours.  
STEL: 125 ppm 15 minutes.  
STEL: 452 mg/m³ 15 minutes.  
TWA: 100 ppm 8 hours.  
TWA: 360 mg/m³ 8 hours.  
STEL: 125 ppm 15 minutes.  
STEL: 450 mg/m³ 15 minutes.  
NIOSH REL (United States, 10/2013).  
TWA: 100 ppm 10 hours.  
TWA: 360 mg/m³ 10 hours.  
STEL: 125 ppm 15 minutes.  
STEL: 450 mg/m³ 15 minutes.  
OSHA PEL (United States, 2/2013).  
TWA: 100 ppm 8 hours.  
TWA: 360 mg/m³ 8 hours. |

### Appropriate engineering controls

Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
### Section 8. Exposure controls/personal protection

#### Environmental exposure controls
- Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

#### Individual protection measures

**Hand protection**
- Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates a risk of exposure to liquid splashes, mists, gases or dusts. If inhalation hazards exist, a full-face respirator may be required instead.

**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 Inhalation hazards exist, a full-face respirator may be required instead.

**Skin protection**

**Hand protection**
- Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

**Body protection**
- Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**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 air-fed 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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical state</strong></td>
<td>Liquid</td>
</tr>
<tr>
<td><strong>Flash point</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Auto-ignition temperature</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Flammable limits</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Molecular weight</strong></td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>Molecular formula</strong></td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Boiling/condensation point</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Melting/freezing point</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Relative density</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Vapor pressure</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Vapor density</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Volatility</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Evaporation rate</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Viscosity</strong></td>
<td>Not available.</td>
</tr>
</tbody>
</table>
Section 9. Physical and chemical properties

Solubility: 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.

Conditions to avoid: No specific data.

Incompatible materials: No specific data.

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>Phenol; carbolic acid</td>
<td>LC50 Inhalation Vapor</td>
<td>Rat</td>
<td>316 mg/m³</td>
<td>4 hours</td>
</tr>
<tr>
<td></td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>630 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Dermal</td>
<td>Rat</td>
<td>669 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>317 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Trichloromethane; chloroform</td>
<td>LC50 Inhalation Vapor</td>
<td>Rat</td>
<td>47702 mg/m³</td>
<td>4 hours</td>
</tr>
<tr>
<td></td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>&gt;20 g/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>300 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Pentanol isomers</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>1300 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>Phenol; carbolic acid</td>
<td>Eyes - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>0.5 minutes 5 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Eyes - Severe irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>5 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Severe irritant</td>
<td>Pig</td>
<td>-</td>
<td>0.5 minutes 400 microliters</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>100 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Severe irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>535 milligrams</td>
<td>-</td>
</tr>
<tr>
<td>Trichloromethane; chloroform</td>
<td>Eyes - Moderate irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 20 milligrams</td>
<td>-</td>
</tr>
<tr>
<td>Pentanol isomers</td>
<td>Skin - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Eyes - Moderate irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 20 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Moderate irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 20 milligrams</td>
<td>-</td>
</tr>
</tbody>
</table>

Sensitization

Not available.
Section 11. Toxicological information

**Mutagenicity**
Not available.

**Carcinogenicity**
Not available.

**Classification**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>OSHA</th>
<th>IARC</th>
<th>NTP</th>
</tr>
</thead>
<tbody>
<tr>
<td>phenol; carbolic acid</td>
<td>-</td>
<td>3</td>
<td>2B</td>
</tr>
<tr>
<td>trichloromethane; chloroform</td>
<td>-</td>
<td></td>
<td>-</td>
</tr>
</tbody>
</table>

Reasonably anticipated to be a human carcinogen.

**Reproductive toxicity**
Not available.

**Teratogenicity**
Not available.

**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>pentanol isomers</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Respiratory tract irritation</td>
</tr>
</tbody>
</table>

**Specific target organ toxicity (repeated exposure)**

<table>
<thead>
<tr>
<th>Name</th>
<th>Category</th>
<th>Route of exposure</th>
<th>Target organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>phenol; carbolic acid</td>
<td>Category 2</td>
<td>Not determined</td>
<td>Not determined</td>
</tr>
<tr>
<td>trichloromethane; chloroform</td>
<td>Category 2</td>
<td>Not determined</td>
<td>Not determined</td>
</tr>
</tbody>
</table>

**Aspiration hazard**
Not available.

**Information on the likely routes of exposure**: Not available.

**Potential acute health effects**

**Eye contact**: Causes serious eye damage.

**Inhalation**: Fatal if inhaled. 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. Harmful in contact with skin.

**Ingestion**: Toxic if swallowed. 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 specific data.

**Skin contact**: Adverse symptoms may include the following:
- pain or irritation
- redness
- blistering may occur
Section 11. Toxicological information

**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**: Not available.
- **Potential delayed effects**: Not available.

**Long term exposure**
- **Potential immediate effects**: Not available.
- **Potential delayed effects**: Not available.

**Potential chronic health effects**
Not available.

**General**
May cause damage to organs through prolonged or repeated exposure.

**Carcinogenicity**
Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

**Mutagenicity**
Suspected of causing genetic defects.

**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**

<table>
<thead>
<tr>
<th>Route</th>
<th>ATE value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>151.2 mg/kg</td>
</tr>
<tr>
<td>Dermal</td>
<td>1260 mg/kg</td>
</tr>
<tr>
<td>Inhalation (vapors)</td>
<td>0.6313 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>phenol; carbolic acid</td>
<td>Acute EC50 61.1 µg/l Fresh water</td>
<td>Algae - Pseudokirchneriella subcapitata</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 36 mg/l Marine water</td>
<td>Algae - Hormosira banksii - Gamete</td>
<td>72 hours</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 94 mg/l Fresh water</td>
<td>Aquatic plants - Lemna aequinoctialis</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 4200 µg/l Fresh water</td>
<td>Daphnia - Daphnia magna</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 800 µg/l Marine water</td>
<td>Crustaceans - Archaeomysis kokuboi - Juvenile (Fledgling, Hatchling, Weanling)</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 1.75 µg/l Fresh water</td>
<td>Fish - Cyprinus carpio - Larvae</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Chronic EC10 969 µg/l Fresh water</td>
<td>Algae - Pseudokirchneriella subcapitata - Exponential growth phase</td>
<td>72 hours</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 1.5 mg/l Fresh water</td>
<td>Daphnia - Daphnia magna</td>
<td>21 days</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 118 µg/l Fresh water</td>
<td>Fish - Oncorhynchus mykiss</td>
<td>90 days</td>
</tr>
</tbody>
</table>
Section 12. Ecological information

<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>phenol; carbolic acid</td>
<td>1.47</td>
<td>647</td>
<td>high</td>
</tr>
<tr>
<td>trichloromethane; chloroform</td>
<td>1.97</td>
<td>690</td>
<td>high</td>
</tr>
<tr>
<td>pentanol isomers</td>
<td>1.35</td>
<td>-</td>
<td>low</td>
</tr>
</tbody>
</table>

Persistence and degradability

Not available.

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>Acute EC50 13.3 mg/l Fresh water</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute EC50 2.803 mg/l Fresh water</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute LC50 29000 µg/l Fresh water</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute LC50 13300 µg/l Fresh water</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chronic EC10 3.61 mg/l Fresh water</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chronic NOEC 1.8 mg/l Fresh water</td>
<td></td>
<td></td>
<td></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 at all times 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 emptied 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.

United States - RCRA Toxic hazardous waste "U" List

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS #</th>
<th>Status</th>
<th>Reference number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenol</td>
<td>108-95-2</td>
<td>Listed</td>
<td>U188</td>
</tr>
<tr>
<td>Chloroform; Methane, trichloro-</td>
<td>67-66-3</td>
<td>Listed</td>
<td>U044</td>
</tr>
</tbody>
</table>
## Section 14. Transport information

<table>
<thead>
<tr>
<th>UN number</th>
<th>DOT Classification</th>
<th>TDG Classification</th>
<th>Mexico Classification</th>
<th>ADR/RID</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN2810</td>
<td>UN2810</td>
<td>UN2810</td>
<td>UN2810</td>
<td>UN2810</td>
<td>UN2810</td>
<td>UN2810</td>
</tr>
</tbody>
</table>

**UN proper shipping name**

Toxic liquid, organic, n.o.s. (Phenol, Chloroform Solution)

**Transport hazard class(es)**

- 6.1

**Packing group**

- II

**Environmental hazards**

- No.

**Additional information**

- Reportable quantity
  20.833 lbs / 9.4583 kg
  Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.

- The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.

- Tunnel code (D/E)

- The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.

- The environmentally hazardous substance mark may appear if required by other transportation regulations.

**Passenger and Cargo Aircraft**

- Quantity limitation: 5 L

**Cargo Aircraft Only**

- Quantity limitation: 60 L

**Limited Quantities - Passenger Aircraft**

- Quantity limitation: 1 L

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**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.

- Not available.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

11/14
Section 15. Regulatory information

U.S. Federal regulations: TSCA 8(a) CDR Exempt/Partial exemption: Not determined
United States inventory (TSCA 8b): All components are listed or exempted.
Clean Water Act (CWA) 307: phenol; trichloromethane
Clean Water Act (CWA) 311: phenol; trichloromethane

Clean Air Act (CAA) 112 regulated toxic substances: trichloromethane

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs): 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

<table>
<thead>
<tr>
<th>Name</th>
<th>%</th>
<th>EHS</th>
<th>SARA 302 TPQ</th>
<th>SARA 304 RQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>phenol; carbolic acid trichloromethane; chloroform</td>
<td>25 - 50</td>
<td>Yes. Yes.</td>
<td>500 / 10000 10000</td>
<td>1000 - 0.8</td>
</tr>
<tr>
<td>SARA 304 RQ</td>
<td></td>
<td></td>
<td>20.8 lbs / 9.5 kg</td>
<td></td>
</tr>
</tbody>
</table>

SARA 311/312
Classification: Immediate (acute) health hazard
Delayed (chronic) 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>
</table>

SARA 313

<table>
<thead>
<tr>
<th>Product name</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form R - Reporting requirements</td>
<td>phenol 108-95-2 67-66-3</td>
<td>25 - 50</td>
</tr>
<tr>
<td></td>
<td>trichloromethane 67-66-3</td>
<td>25 - 50</td>
</tr>
<tr>
<td>Supplier notification</td>
<td>phenol 108-95-2 67-66-3</td>
<td>25 - 50</td>
</tr>
<tr>
<td></td>
<td>trichloromethane 67-66-3</td>
<td>25 - 50</td>
</tr>
</tbody>
</table>

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations
Massachusetts: The following components are listed: PHENOL; CHLOROFORM; ISOAMYL ALCOHOL
Section 15. Regulatory information

**New York**
- The following components are listed: Phenol; Carbolic acid; Chloroform; Methane, trichloro-

**New Jersey**
- The following components are listed: PHENOL; CARBOLIC ACID; CHLOROFORM; METHANE, TRICHLORO-; Isoamyl Alcohol; 1-BUTANOL, 3-METHYL-

**Pennsylvania**
- The following components are listed: PHENOL; METHANE, TRICHLORO-; 1-BUTANOL, 3-METHYL-

**California Prop. 65**
**WARNING:** This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Cancer</th>
<th>Reproductive</th>
<th>No significant risk level</th>
<th>Maximum acceptable dosage level</th>
</tr>
</thead>
<tbody>
<tr>
<td>trichloromethane</td>
<td>Yes</td>
<td>Yes</td>
<td>20 µg/day (ingestion)</td>
<td>40 µg/day (inhalation)</td>
</tr>
</tbody>
</table>

International regulations

**Chemical Weapon Convention List Schedules I, II & III Chemicals**
- Not listed.

**Montreal Protocol (Annexes A, B, C, E)**
- Not listed.

**Stockholm Convention on Persistent Organic Pollutants**
- Not listed.

**Rotterdam Convention on Prior Inform Consent (PIC)**
- Not listed.

**UNECE Aarhus Protocol on POPs and Heavy Metals**
- Not listed.

**Canada**

**WHMIS (Canada)**
- Class D-1A: Material causing immediate and serious toxic effects (Very toxic).
- Class D-2A: Material causing other toxic effects (Very toxic).
- Class E: Corrosive material

**Canadian lists**
- **Canadian NPRI**
  - The following components are listed: Phenol (and its salts); Chloroform
- **CEPA Toxic substances**
  - None of the components are listed.
- **Canada inventory**
  - All components are listed or exempted.

Section 16. Other information

**Hazardous Material Information System (U.S.A.)**

- **Health**: 2
- **Flammability**: 0
- **Physical hazards**: 0

The customer is responsible for determining the PPE code for this material.

**National Fire Protection Association (U.S.A.)**
Section 16. Other information

History
- Date of issue/Date of revision: 06/13/2016.
- Date of previous issue: 05/04/2015.
- Version: 2

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.