SAFETY DATA SHEET
Betco Symplicity Sanibet Multi-Range

Section 1. Identification

GHS product identifier : Betco Symplicity Sanibet Multi-Range
Product code : 237
Other means of identification : Not available.
Product type : Liquid.

Relevant identified uses of the substance or mixture and uses advised against

<table>
<thead>
<tr>
<th>Identified uses</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sanitizer</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Uses advised against</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>For Industrial and Institutional Use Only</td>
<td>-</td>
</tr>
</tbody>
</table>

Supplier's details : Betco Corporation
400 Van Camp Road
Bowling Green, Ohio 43402
www.betco.com
888-462-3826

Emergency telephone number (with hours of operation) : Chemtrec (800) 424-9300
24 hour

EPA Details : EPA Statement:
This chemical is a product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-EPA registered chemicals. Below is the signal word as required on the label:

EPA Establishment Number : 4170
EPA Registration Number : 6836-266
EPA Signal Word : Danger

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 : ACUTE TOXICITY (oral) - Category 4
SKIN CORROSION - Category 1
SERIOUS EYE DAMAGE - Category 1

GHS label elements
Hazard pictograms : 

Signal word : Danger
Hazard statements : Harmful if swallowed.
Causes severe skin burns and eye damage.

Precautionary statements
Section 2. Hazards identification

Prevention:
Wear protective gloves. Wear eye or face protection: Recommended: splash goggles. Wear protective clothing: Recommended: Chemical resistant gloves. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.

Response:
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or physician. IF SWALLOWED: Immediately call a POISON CENTER or physician. 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
Other means of identification: Not available.

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>%</th>
<th>CAS number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides</td>
<td>≤5</td>
<td>68424-85-1</td>
</tr>
<tr>
<td>decyldimethyloctylammonium chloride</td>
<td>≤5</td>
<td>32426-11-2</td>
</tr>
<tr>
<td>didecyldimethylammonium chloride</td>
<td>≤3</td>
<td>7173-51-5</td>
</tr>
<tr>
<td>ethanol</td>
<td>≤3</td>
<td>64-17-5</td>
</tr>
<tr>
<td>dimethyldioctylammonium chloride</td>
<td>≤3</td>
<td>5538-94-3</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. Flush contaminated skin with plenty of 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.
Section 4. First aid measures

**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.

**Protection of first-aiders**: No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are present, remove to fresh air. Use a mask or self-contained breathing apparatus. Do not attempt to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

**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.

**Potential acute health effects**

- **Eye contact**: Causes serious eye damage.
- **Inhalation**: No known significant effects or critical hazards.
- **Skin contact**: Causes severe burns.
- **Ingestion**: Harmful if swallowed.

**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.
Section 5. Fire-fighting measures

Hazardous thermal decomposition products: Decomposition products may include the following materials:
- carbon dioxide
- carbon monoxide
- nitrogen oxides
- halogenated compounds
- metal oxide/oxides

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.

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. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Section 7. Handling and storage

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. See Section 10 for incompatible materials before handling or use.

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>Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides</td>
<td>None.</td>
</tr>
<tr>
<td>decyldimethyloctylammonium chloride</td>
<td>None.</td>
</tr>
<tr>
<td>didecyldimethylammonium chloride</td>
<td>None.</td>
</tr>
<tr>
<td>ethanol</td>
<td>ACGIH TLV (United States, 3/2018).</td>
</tr>
<tr>
<td></td>
<td>STEL: 1000 ppm 15 minutes.</td>
</tr>
<tr>
<td></td>
<td>TWA: 1000 ppm 8 hours.</td>
</tr>
<tr>
<td></td>
<td>TWA: 1900 mg/m³ 8 hours.</td>
</tr>
<tr>
<td></td>
<td>NIOSH REL (United States, 10/2016).</td>
</tr>
<tr>
<td></td>
<td>TWA: 1000 ppm 10 hours.</td>
</tr>
<tr>
<td></td>
<td>TWA: 1900 mg/m³ 10 hours.</td>
</tr>
<tr>
<td></td>
<td>OSHA PEL (United States, 5/2018).</td>
</tr>
<tr>
<td></td>
<td>TWA: 1000 ppm 8 hours.</td>
</tr>
<tr>
<td></td>
<td>TWA: 1900 mg/m³ 8 hours.</td>
</tr>
<tr>
<td>dimethyldioctylammonium chloride</td>
<td>None.</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. 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

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.

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. Recommended: splash goggles

Skin 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.

Date of issue/Date of revision : 4/3/2020  Date of previous issue : 4/2/2020  Version : 1.11
Section 8. Exposure controls/personal protection

**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. Recommended: Chemical resistant gloves

**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**: Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

**Personal protective equipment (Pictograms)**:

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Section 9. Physical and chemical properties

**Appearance**

**Physical state**: Liquid.

**Color**: Clear. Red.-Pink

**Odor**: Mild. Sweetish.

**Odor threshold**: Not available.

**pH**: 6 to 9

**Melting point**: Not available.

**Boiling point**: Not available.

**Flash point**: Closed cup: >65°C (>149°F) [Product does not sustain combustion.]

**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**: 0.98

**Solubility**: Easily soluble in the following materials: cold water and hot water.

**Solubility in water**: Not available.

**Partition coefficient: n-octanol/water**: Not available.

**Auto-ignition temperature**: Not available.

**Decomposition temperature**: Not available.

**Viscosity**: Not available.

**Flow time (ISO 2431)**: Not available.

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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.
Section 10. Stability and reactivity

Incompatible materials : Not available.

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>Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides didecyldimethylammonium chloride ethanol</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>426 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides didecyldimethylammonium chloride ethanol</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>84 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>ethanol</td>
<td>LC50 Inhalation Vapor</td>
<td>Rat</td>
<td>124700 mg/m³</td>
<td>4 hours</td>
</tr>
<tr>
<td>ethanol</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>7 g/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>Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides didecyldimethylammonium chloride ethanol</td>
<td>Skin - Severe irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>25 milligrams</td>
<td>-</td>
</tr>
<tr>
<td>Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides didecyldimethylammonium chloride ethanol</td>
<td>Skin - Severe irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>500 milligrams</td>
<td>-</td>
</tr>
<tr>
<td>Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides didecyldimethylammonium chloride ethanol</td>
<td>Eyes - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 milligrams</td>
<td>-</td>
</tr>
<tr>
<td>Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides didecyldimethylammonium chloride ethanol</td>
<td>Eyes - Moderate irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>0.066666667 minutes 100 milligrams</td>
<td>-</td>
</tr>
<tr>
<td>Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides didecyldimethylammonium chloride ethanol</td>
<td>Eyes - Moderate irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>100 microliters</td>
<td>-</td>
</tr>
<tr>
<td>Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides didecyldimethylammonium chloride ethanol</td>
<td>Eyes - Severe irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>500 milligrams</td>
<td>-</td>
</tr>
<tr>
<td>Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides didecyldimethylammonium chloride ethanol</td>
<td>Skin - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>400 milligrams</td>
<td>-</td>
</tr>
<tr>
<td>Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides didecyldimethylammonium chloride ethanol</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.

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>ethanol</td>
<td>-</td>
<td>1</td>
<td>-</td>
</tr>
</tbody>
</table>

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

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Section 11. Toxicological information

<table>
<thead>
<tr>
<th>Name</th>
<th>Category</th>
<th>Route of exposure</th>
<th>Target organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>dimethyldioctylammonium chloride</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Respiratory tract irritation</td>
</tr>
</tbody>
</table>

Specific target organ toxicity (repeated exposure)
Not available.

Aspiration hazard
Not available.

Information on the likely routes of exposure
Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

- **Eye contact**: Causes serious eye damage.
- **Inhalation**: No known significant effects or critical hazards.
- **Skin contact**: Causes severe burns.
- **Ingestion**: Harmful if swallowed.

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
- **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**: 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>500 mg/kg</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>Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides</td>
<td>Acute EC50 37 ppb Fresh water</td>
<td>Daphnia - Daphnia magna</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 64 ppb Fresh water</td>
<td>Fish - Oncorhynchus mykiss</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 4.15 ppb Fresh water</td>
<td>Daphnia - Daphnia magna</td>
<td>21 days</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 32.2 ppb</td>
<td>Fish - Pimephales promelas</td>
<td>34 days</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 110 µg/l Fresh water</td>
<td>Algae - Chlorella pyrenoidosa - Exponential growth phase</td>
<td>72 hours</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 14.22 ppb Fresh water</td>
<td>Algae - Pseudokirchneriella subcapitata</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 18 ppb Fresh water</td>
<td>Daphnia - Daphnia magna</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 39 µg/l Marine water</td>
<td>Crustaceans - Americanymysis bahia - Juvenile (Fledgling, Hatchling, Weanling)</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 0.01 µg/l Fresh water</td>
<td>Fish - Acipenser transmontanus - Larvae</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 25 µg/l Fresh water</td>
<td>Algae - Pseudokirchneriella subcapitata - Exponential growth phase</td>
<td>72 hours</td>
</tr>
<tr>
<td>didecyldimethylammonium chloride</td>
<td>Chronic NOEC 125 µg/l Fresh water</td>
<td>Daphnia - Daphnia magna</td>
<td>21 days</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 17.921 mg/l Marine water</td>
<td>Algae - Ulva pertusa</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 2000 µg/l Fresh water</td>
<td>Daphnia - Daphnia magna</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 25500 µg/l Marine water</td>
<td>Crustaceans - Artemia franciscana - Larvae</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 42000 µg/l Fresh water</td>
<td>Fish - Oncorhynchus mykiss</td>
<td>4 days</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 4.995 mg/l Marine water</td>
<td>Algae - Ulva pertusa</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 100 ul/L Fresh water</td>
<td>Daphnia - Daphnia magna - Neonate</td>
<td>21 days</td>
</tr>
<tr>
<td>ethanol</td>
<td>Chronic NOEC 0.375 ul/L Fresh water</td>
<td>Fish - Gambusia holbrooki - Larvae</td>
<td>12 weeks</td>
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<td></td>
<td>Acute EC50 0.1 ppm Fresh water</td>
<td>Daphnia - Daphnia magna</td>
<td>48 hours</td>
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<tr>
<td>dimethyldioctylammonium chloride</td>
<td>Acute LC50 0.7 ppm Fresh water</td>
<td>Fish - Oncorhynchus mykiss</td>
<td>96 hours</td>
</tr>
</tbody>
</table>

### Persistence and degradability

Not available.

### Bioaccumulative potential

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>LogP_{ow}</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>ethanol</td>
<td>-0.35</td>
<td>-</td>
<td>low</td>
</tr>
</tbody>
</table>

### Mobility in soil

- **Soil/water partition coefficient (K_{OC}):** 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.

Section 14. Transport information

<table>
<thead>
<tr>
<th>DOT Classification</th>
<th>TDG Classification</th>
<th>Mexico Classification</th>
<th>ADR/RID</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
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<tbody>
<tr>
<td>UN number</td>
<td>UN1903</td>
<td>UN1903</td>
<td>UN1903</td>
<td>UN1903</td>
<td>UN1903</td>
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<tr>
<td>UN proper shipping name</td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>Transport hazard class(es)</td>
<td>8</td>
<td>8</td>
<td>8</td>
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<td>8</td>
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<tr>
<td>Packing group</td>
<td>II</td>
<td>II</td>
<td>II</td>
<td>II</td>
<td>II</td>
</tr>
<tr>
<td>Environmental hazards</td>
<td>Yes.</td>
<td>Yes.</td>
<td>Yes. The environmentally hazardous substance mark is not required.</td>
<td>Yes.</td>
<td>Yes. The environmentally hazardous substance mark is not required.</td>
</tr>
</tbody>
</table>

Additional information

DOT Classification

This product is not regulated as a marine pollutant when transported on inland waterways in sizes of ≤5 L or ≤5 kg or by road, rail, or inland air in non-bulk sizes, provided the packagings meet the general provisions of §§ 173.24 and 173.24a.

TDG Classification

Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.40-2.42 (Class 8), 2.7 (Marine pollutant mark). The marine pollutant mark is not required when transported by road or rail. Explosive Limit and Limited Quantity Index 5

Date of issue/Date of revision : 4/3/2020
Date of previous issue : 4/2/2020
Version : 1.11
10/14
Section 14. Transport information

**ADR/RID** : The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.

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

**IATA** : The environmentally hazardous substance mark may appear if required by other transportation regulations.

**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 and the IBC Code** : Not available.

Section 15. Regulatory information

**U.S. Federal regulations** : **TSCA 4(a) proposed test rules**: Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals.

**Signal word**: DANGER!

**Hazard statements**: Harmful if swallowed Harmful if absorbed through skin Corrosive Causes skin burns Corrosive Causes irreversible eye damage

**WHMIS Classification**: E: Corrosive Material B2: Flammable liquid

**TSCA 8(a) CDR Exempt/Partial exemption**: Not determined

**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**

Date of issue/Date of revision : 4/3/2020  Date of previous issue : 4/2/2020  Version : 1.11  11/14
Section 15. Regulatory information

**Classification**

<table>
<thead>
<tr>
<th>Name</th>
<th>%</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quaternary ammonium compounds, benzyl-C12-16-alkylidimethyl, chlorides</td>
<td>≤5</td>
<td>ACUTE TOXICITY (oral) - Category 4</td>
</tr>
<tr>
<td>decyldimethyloctylammonium chloride</td>
<td>≤5</td>
<td>SKIN CORROSION - Category 1B</td>
</tr>
<tr>
<td>didecyldimethylammonium chloride</td>
<td>≤3</td>
<td>SERIOUS EYE DAMAGE - Category 1</td>
</tr>
<tr>
<td>ethanol</td>
<td>≤3</td>
<td>ACUTE TOXICITY (oral) - Category 4</td>
</tr>
<tr>
<td>dimethyldioctylammonium chloride</td>
<td>≤3</td>
<td>SKIN CORROSION - Category 1B</td>
</tr>
<tr>
<td>dimethyldioctylammonium chloride</td>
<td>≤3</td>
<td>SERIOUS EYE DAMAGE - Category 1</td>
</tr>
<tr>
<td>dimethyldioctylammonium chloride</td>
<td>≤3</td>
<td>ACUTE TOXICITY (oral) - Category 4</td>
</tr>
<tr>
<td>dimethyldioctylammonium chloride</td>
<td>≤3</td>
<td>SKIN CORROSION - Category 1B</td>
</tr>
<tr>
<td>dimethyldioctylammonium chloride</td>
<td>≤3</td>
<td>SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE)</td>
</tr>
<tr>
<td>dimethyldioctylammonium chloride</td>
<td>≤3</td>
<td>(Respiratory tract irritation) - Category 3</td>
</tr>
<tr>
<td>ethanol</td>
<td>≤3</td>
<td>FLAMMABLE LIQUIDS - Category 2</td>
</tr>
<tr>
<td>dimethyldioctylammonium chloride</td>
<td>≤3</td>
<td>EYE IRRITATION - Category 2A</td>
</tr>
<tr>
<td>dimethyldioctylammonium chloride</td>
<td>≤3</td>
<td>SKIN IRRITATION - Category 2</td>
</tr>
<tr>
<td>dimethyldioctylammonium chloride</td>
<td>≤3</td>
<td>EYE IRRITATION - Category 2A</td>
</tr>
<tr>
<td>dimethyldioctylammonium chloride</td>
<td>≤3</td>
<td>SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE)</td>
</tr>
<tr>
<td>dimethyldioctylammonium chloride</td>
<td>≤3</td>
<td>(Respiratory tract irritation) - Category 3</td>
</tr>
</tbody>
</table>

**State regulations**

**Massachusetts**

The following components are listed: ETHYL ALCOHOL; DENATURED ALCOHOL

**New York**

None of the components are listed.

**New Jersey**

The following components are listed: ETHYL ALCOHOL; ALCOHOL

**Pennsylvania**

The following components are listed: DENATURED ALCOHOL; ETHANOL

**California Prop. 65**

This product does not require a Safe Harbor warning under California Prop. 65.

**International regulations**

**Chemical Weapon Convention List Schedules I, II & III Chemicals**

Not listed.

**Montreal Protocol**

Not listed.

**Stockholm Convention on Persistent Organic Pollutants**

Not listed.

**Rotterdam Convention on Prior Informed Consent (PIC)**

Not listed.

**UNECE Aarhus Protocol on POPs and Heavy Metals**

Not listed.

**Inventory list**

**Australia**

Not determined.

**Canada**

All components are listed or exempted.

**China**

All components are listed or exempted.

**Europe**

All components are listed or exempted.

**Japan**

**Japan inventory (ENCS):** Not determined.

**Japan inventory (ISHL):** Not determined.

**Malaysia**

Not determined

**New Zealand**

All components are listed or exempted.

**Philippines**

All components are listed or exempted.

**Republic of Korea**

All components are listed or exempted.

**Taiwan**

All components are listed or exempted.
Section 15. Regulatory information

Thailand : Not determined.
Turkey : Not determined.
United States : All components are listed or exempted.
Viet Nam : Not determined.

Section 16. Other information

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

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Physical hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>3</td>
<td>0</td>
</tr>
</tbody>
</table>

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

**National Fire Protection Association (U.S.A.)**

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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

Procedure used to derive the classification

<table>
<thead>
<tr>
<th>Classification</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACUTE TOXICITY (oral) - Category 4</td>
<td>Expert judgment</td>
</tr>
<tr>
<td>SKIN CORROSION - Category 1</td>
<td>Expert judgment</td>
</tr>
<tr>
<td>SERIOUS EYE DAMAGE - Category 1</td>
<td>Expert judgment</td>
</tr>
</tbody>
</table>

**History**

- Date of printing : 4/3/2020
- Date of issue/Date of revision : 4/3/2020
- Date of previous issue : 4/2/2020
- Version : 1.11
- 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
Section 16. Other information

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.

UN = United Nations

Notice to reader

Indicates information that has changed from previously issued version.

References

Not available.