

# SAFETY DATA SHEET

Lysol Brand IC Quaternary Disinfectant Cleaner



HEALTH • HYGIENE • HOME

## 1. Product and company identification

**Product name** : Lysol Brand IC Quaternary Disinfectant Cleaner

**Distributed by** : Reckitt Benckiser LLC.  
Morris Corporate Center IV  
399 Interpace Parkway (P.O. Box 225)  
Parsippany, New Jersey 07054-0225  
+1 973 404 2600

**Emergency telephone number (Medical)** : 1-800-338-6167

**Emergency telephone number (Transport)** : 1-800-424-9300 (U.S. & Canada) CHEMTREC  
Outside U.S. and Canada (North America), call Chemtrec:703-527-3887

**Website:** : <http://www.rbnainfo.com>

**Product use** : Professional use Disinfectant.

This SDS is designed for workplace employees, emergency personnel and for other conditions and situations where there is greater potential for large-scale or prolonged exposure, in accordance with the requirements of USDOL Occupational Safety and Health Administration.

This SDS is not applicable for consumer use of our products. For consumer use, all precautionary and first aid language is provided on the product label in accordance with the applicable government regulations, and shown in Section 15 of this SDS.

**SDS #** : 366519PSDS v3.0

**Formulation #:** : 1990-019 (366519 v4.0)

**EPA ID No.** : 47371-129-675

**UPC Code / Sizes** : 36241-74983-01 (128 Fl. oz. / 1 Gallon / 3.79 L.) HDPE Container

## 2. Hazards identification

**Classification of the substance or mixture** : FLAMMABLE LIQUIDS - Category 4  
ACUTE TOXICITY (oral) - Category 4  
ACUTE TOXICITY (inhalation) - Category 4  
SKIN CORROSION/IRRITATION - Category 1C  
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1  
SKIN SENSITIZATION - Category 1

### GHS label elements

**Hazard pictograms** :



**Signal word** : Danger

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## 2. Hazards identification

|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Hazard statements</b>                | : Combustible liquid.<br>Harmful if swallowed or if inhaled.<br>Causes severe skin burns and eye damage.<br>May cause an allergic skin reaction.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Precautionary statements</b>         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>General</b>                          | : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Prevention</b>                       | : Wear protective gloves. Wear eye or face protection. Wear protective clothing. Keep away from flames and hot surfaces. - No smoking. Use only outdoors or in a well-ventilated area. Avoid breathing vapor. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.                                                                                                                                                                                                                                                                                                                                                               |
| <b>Response</b>                         | : 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. If skin irritation or rash occurs: Get medical attention. 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. |
| <b>Storage</b>                          | : Store locked up. Store in a well-ventilated place. Keep cool.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Disposal</b>                         | : Dispose of contents and container in accordance with all local, regional, national and international regulations.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Supplemental label elements</b>      | : None known.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Hazards not otherwise classified</b> | : None known.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

## 3. Composition/information on ingredients

**Substance/mixture** : Mixture

| Ingredient name                                                | %       | CAS number |
|----------------------------------------------------------------|---------|------------|
| didecyldimethylammonium chloride                               | 10 - 15 | 7173-51-5  |
| Quaternary ammonium compounds, alkylbenzyltrimethyl, chlorides | 5 - 10  | 8001-54-5  |
| Ethyl alcohol                                                  | 2.5 - 5 | 64-17-5    |
| sodium hydroxide                                               | 1 - 2.5 | 1310-73-2  |
| d-Limonene                                                     | 0.1 - 1 | 5989-27-5  |

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.**

## 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. In the event of any complaints or symptoms, avoid further exposure. 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

#### Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : Harmful 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. May cause an allergic skin reaction.
- Ingestion** : Harmful 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

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## 4. First aid measures

**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)

## 5. Fire-fighting measures

### Extinguishing media

**Suitable extinguishing media** : Use dry chemical, CO<sub>2</sub>, water spray (fog) or foam.

**Unsuitable extinguishing media** : Do not use water jet.

**Specific hazards arising from the chemical** : Combustible liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard.

**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. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

**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.

## 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. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

## 6. Accidental release measures

**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. Use spark-proof tools and explosion-proof equipment. 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. Use spark-proof tools and explosion-proof equipment. 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.

## 7. Handling and storage

### Precautions for safe handling

**Protective measures** : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. 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. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous. Do not reuse container.

**Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in a segregated and approved area. 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. Eliminate all ignition sources. Separate from oxidizing materials. 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.

## 8. Exposure controls/personal protection

### Control

#### Occupational exposure limits

| Ingredient name  | Exposure limits                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ethyl alcohol    | <b>ACGIH TLV (United States, 6/2013).</b><br>STEL: 1000 ppm 15 minutes.<br><b>OSHA PEL 1989 (United States, 3/1989).</b><br>TWA: 1000 ppm 8 hours.<br>TWA: 1900 mg/m <sup>3</sup> 8 hours.<br><b>NIOSH REL (United States, 10/2013).</b><br>TWA: 1000 ppm 10 hours.<br>TWA: 1900 mg/m <sup>3</sup> 10 hours.<br><b>OSHA PEL (United States, 2/2013).</b><br>TWA: 1000 ppm 8 hours.<br>TWA: 1900 mg/m <sup>3</sup> 8 hours. |
| sodium hydroxide | <b>ACGIH TLV (United States, 6/2013).</b><br>C: 2 mg/m <sup>3</sup><br><b>OSHA PEL 1989 (United States, 3/1989).</b><br>CEIL: 2 mg/m <sup>3</sup><br><b>NIOSH REL (United States, 10/2013).</b><br>CEIL: 2 mg/m <sup>3</sup><br><b>OSHA PEL (United States, 2/2013).</b><br>TWA: 2 mg/m <sup>3</sup> 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. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

#### 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. Contaminated work clothing should not be allowed out of the workplace. 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.

##### Skin protection

## 8. Exposure controls/personal 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.

## 9. Physical and chemical properties

### Appearance

- Physical state** : Liquid. [Clear.]
- Color** : Amber.
- Odor** : Mild.
- Odor threshold** : Not available.
- pH** : 7.2 to 8.2 [Conc. (% w/w): 100%]
- Melting point** : Not available.
- Boiling point** : Not available.
- Flash point** : Closed cup: 71.111°C (160°F) [Tagliabue.]
- 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** : 0.99 to 1.01
- Solubility** : Easily soluble in the following materials: cold water and hot water.
- Partition coefficient: n-octanol/water** : Not available.
- Auto-ignition temperature** : Not available.
- Decomposition temperature** : Not available.
- Viscosity** : Not available.

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## 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** : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
- Incompatible materials** : Reactive or incompatible with the following materials:  
oxidizing materials  
Do not mix with household chemicals.
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

| Product/ingredient name                                        | Result                | Species | Dose                     | Exposure |
|----------------------------------------------------------------|-----------------------|---------|--------------------------|----------|
| didecyldimethylammonium chloride                               | LD50 Oral             | Rat     | 84 mg/kg                 | -        |
| Quaternary ammonium compounds, alkylbenzyl dimethyl, chlorides | LD50 Oral             | Rat     | 240 mg/kg                | -        |
| Ethyl alcohol                                                  | LC50 Inhalation Vapor | Rat     | 124700 mg/m <sup>3</sup> | 4 hours  |
| d-Limonene                                                     | LD50 Oral             | Rat     | 7 g/kg                   | -        |
|                                                                | LD50 Dermal           | Rabbit  | >5000 mg/kg              | -        |
|                                                                | LD50 Oral             | Rat     | 4400 mg/kg               | -        |

**Conclusion/Summary** : Harmful if swallowed.

#### Irritation/Corrosion

| Product/ingredient name                                        | Result                   | Species | Score | Exposure                             | Observation |
|----------------------------------------------------------------|--------------------------|---------|-------|--------------------------------------|-------------|
| didecyldimethylammonium chloride                               | Skin - Severe irritant   | Rabbit  | -     | 500 milligrams                       | -           |
| Quaternary ammonium compounds, alkylbenzyl dimethyl, chlorides | Eyes - Severe irritant   | Human   | -     | 50 Micrograms                        | -           |
|                                                                | Eyes - Severe irritant   | Monkey  | -     | 24 hours 2 milligrams                | -           |
|                                                                | Eyes - Mild irritant     | Rabbit  | -     | 10 milligrams                        | -           |
|                                                                | Eyes - Severe irritant   | Rabbit  | -     | 24 hours 1 milligrams                | -           |
|                                                                | Skin - Mild irritant     | Human   | -     | 72 hours 150 Micrograms Intermittent | -           |
|                                                                | Skin - Mild irritant     | Human   | -     | 24 hours 3 Percent                   | -           |
|                                                                | Skin - Moderate irritant | Human   | -     | 48 hours 1 Percent                   | -           |
|                                                                | Skin - Moderate irritant | Rabbit  | -     | 24 hours 50 milligrams               | -           |
|                                                                | Skin - Moderate irritant | Woman   | -     | 0.1 Percent                          | -           |

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## 11. Toxicological information

|                  |                          |        |   |                                    |   |
|------------------|--------------------------|--------|---|------------------------------------|---|
| Ethyl alcohol    | Eyes - Moderate irritant | Rabbit | - | 0.066666667 minutes 100 milligrams | - |
|                  | Eyes - Mild irritant     | Rabbit | - | 24 hours 500 milligrams            | - |
|                  | Eyes - Moderate irritant | Rabbit | - | 100 microliters                    | - |
|                  | Eyes - Severe irritant   | Rabbit | - | 500 milligrams                     | - |
|                  | Skin - Mild irritant     | Rabbit | - | 400 milligrams                     | - |
|                  | Skin - Moderate irritant | Rabbit | - | 24 hours 20 milligrams             | - |
|                  |                          |        |   |                                    |   |
| sodium hydroxide | Eyes - Severe irritant   | Monkey | - | 24 hours 1 Percent                 | - |
|                  | Eyes - Mild irritant     | Rabbit | - | 400 Micrograms                     | - |
|                  | Eyes - Severe irritant   | Rabbit | - | 24 hours 50 Micrograms             | - |
|                  | Eyes - Severe irritant   | Rabbit | - | 1 Percent                          | - |
|                  | Eyes - Severe irritant   | Rabbit | - | 0.5 minutes 1 milligrams           | - |
|                  | Skin - Mild irritant     | Human  | - | 24 hours 2 Percent                 | - |
|                  | Skin - Severe irritant   | Rabbit | - | 24 hours 500 milligrams            | - |
| d-Limonene       | Skin - Mild irritant     | Rabbit | - | 24 hours 10 Percent                | - |

### Conclusion/Summary

- Skin** : Corrosive to the skin. Causes burns.
- Eyes** : Corrosive to eyes. Direct contact with the eyes can cause irreversible damage, including blindness.
- Respiratory** : Harmful if inhaled.

### Sensitization

Not available.

### Mutagenicity

Not available.

### Carcinogenicity

Not available.

### Classification

| Product/ingredient name | OSHA | IARC | NTP |
|-------------------------|------|------|-----|
| Ethyl alcohol           | -    | 1    | -   |
| d-Limonene              | -    | 3    | -   |

### Reproductive toxicity

Not available.

### Teratogenicity

Not available.

### Specific target organ toxicity (single exposure)

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## 11. Toxicological information

Not available.

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

| Name       | Result                         |
|------------|--------------------------------|
| d-Limonene | ASPIRATION HAZARD - Category 1 |

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

### Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : Harmful 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. May cause an allergic skin reaction.
- Ingestion** : Harmful 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
- 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** : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
- Carcinogenicity** : No known significant effects or critical hazards.

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## 11. Toxicological information

|                              |                                                     |
|------------------------------|-----------------------------------------------------|
| <b>Mutagenicity</b>          | : No known significant effects or critical hazards. |
| <b>Teratogenicity</b>        | : No known significant effects or critical hazards. |
| <b>Developmental effects</b> | : No known significant effects or critical hazards. |
| <b>Fertility effects</b>     | : No known significant effects or critical hazards. |

### Numerical measures of toxicity

#### Acute toxicity estimates

| Route | ATE value   |
|-------|-------------|
| Oral  | 671.8 mg/kg |

## 12. Ecological information

### Toxicity

| Product/ingredient name                                        | Result                               | Species                                                                      | Exposure |
|----------------------------------------------------------------|--------------------------------------|------------------------------------------------------------------------------|----------|
| didecyldimethylammonium chloride                               | Acute EC50 110 µg/l Fresh water      | Algae - Chlorella pyrenoidosa - Exponential growth phase                     | 72 hours |
|                                                                | Acute EC50 14.22 ppb Fresh water     | Algae - Pseudokirchneriella subcapitata                                      | 96 hours |
|                                                                | Acute EC50 18 ppb Fresh water        | Daphnia - Daphnia magna                                                      | 48 hours |
|                                                                | Acute LC50 39 µg/l Marine water      | Crustaceans - Americamysis bahia - Juvenile (Fledgling, Hatchling, Weanling) | 48 hours |
|                                                                | Acute LC50 0.01 µg/l Fresh water     | Fish - Acipenser transmontanus - Larvae                                      | 96 hours |
|                                                                | Chronic NOEC 25 µg/l Fresh water     | Algae - Pseudokirchneriella subcapitata - Exponential growth phase           | 72 hours |
| Quaternary ammonium compounds, alkylbenzyl dimethyl, chlorides | Chronic NOEC 125 µg/l Fresh water    | Daphnia - Daphnia magna                                                      | 21 days  |
|                                                                | Acute EC50 56 µg/l Fresh water       | Algae - Chlorella pyrenoidosa - Exponential growth phase                     | 72 hours |
|                                                                | Acute EC50 56 µg/l Fresh water       | Algae - Chlorella pyrenoidosa - Exponential growth phase                     | 96 hours |
| Ethyl alcohol                                                  | Acute EC50 18 µg/l Fresh water       | Daphnia - Daphnia magna                                                      | 48 hours |
|                                                                | Acute EC50 750 µg/l Fresh water      | Fish - Oryzias latipes                                                       | 96 hours |
|                                                                | Acute EC50 17.921 mg/l Marine water  | Algae - Ulva pertusa                                                         | 96 hours |
|                                                                | Acute EC50 2000 µg/l Fresh water     | Daphnia - Daphnia magna                                                      | 48 hours |
|                                                                | Acute LC50 25500 µg/l Marine water   | Crustaceans - Artemia franciscana - Larvae                                   | 48 hours |
|                                                                | Acute LC50 42000 µg/l Fresh water    | Fish - Oncorhynchus mykiss                                                   | 4 days   |
| d-Limonene                                                     | Chronic NOEC 4.995 mg/l Marine water | Algae - Ulva pertusa                                                         | 96 hours |
|                                                                | Chronic NOEC 0.375 µl/L Fresh water  | Fish - Gambusia holbrooki - Larvae                                           | 12 weeks |
|                                                                | Acute EC50 421 µg/l Fresh water      | Daphnia - Daphnia magna                                                      | 48 hours |
|                                                                | Acute EC50 688 µg/l Fresh water      | Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling)       | 96 hours |

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## 12. Ecological information

### Persistence and degradability

Not available.

### Bioaccumulative potential

| Product/ingredient name | LogP <sub>ow</sub> | BCF  | Potential |
|-------------------------|--------------------|------|-----------|
| Ethyl alcohol           | -0.35              | -    | low       |
| d-Limonene              | 4.38               | 1022 | high      |

### Mobility in soil

**Soil/water partition coefficient (K<sub>oc</sub>)** : Not available.

**Other adverse effects** : No known significant effects or critical hazards.

## 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. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## 14. Transport information

| Regulatory information    | UN number | Proper shipping name                                                                                                                       | Classes | PG* | Label                                                                                 | Additional information  |
|---------------------------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------|---------|-----|---------------------------------------------------------------------------------------|-------------------------|
| <b>DOT Classification</b> | UN1903    | Disinfectants, liquid, corrosive n.o.s. (didecyldimethylammonium chloride, Quaternary ammonium compounds, alkylbenzyl dimethyl, chlorides) | 8       | III |  | <b>Limited quantity</b> |
|                           |           |                                                                                                                                            |         |     |                                                                                       |                         |

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## 14. Transport information

|                              |        |                                                                                                                                                                   |   |     |  |                         |
|------------------------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|-----|--|-------------------------|
| <b>TDG Classification</b>    | UN1903 | DISINFECTANT,<br>LIQUID,<br>CORROSIVE, N.O.S.<br>(didecyldimethylammonium<br>chloride, Quaternary<br>ammonium<br>compounds,<br>alkylbenzyldimethyl,<br>chlorides) | 8 | III |  | <u>Limited quantity</u> |
| <b>Mexico Classification</b> | UN1903 | DESINFECTANTE<br>LIQUIDO<br>CORROSIVO, N.E.P.<br>(didecyldimethylammonium<br>chloride, Quaternary<br>ammonium<br>compounds,<br>alkylbenzyldimethyl,<br>chlorides) | 8 | III |  | <u>Limited quantity</u> |
| <b>IMDG Class</b>            | UN1903 | DISINFECTANT,<br>LIQUID,<br>CORROSIVE, N.O.S.<br>(didecyldimethylammonium<br>chloride, Ammonium,<br>alkyldimethylbenzyl-,<br>chloride)                            | 8 | III |  | <u>Limited quantity</u> |
| <b>IATA-DGR Class</b>        | UN1903 | Disinfectant, liquid,<br>corrosive, n.o.s.<br>(didecyldimethylammonium<br>chloride, Quaternary<br>ammonium<br>compounds,<br>alkylbenzyldimethyl,<br>chlorides)    | 8 | III |  | <u>See DG List</u>      |

PG\* : Packing group

## 15. Regulatory information

**U.S. Federal regulations** : TSCA 8(a) PAIR: 2-methylundecanal; 3-p-cumenyl-2-methylpropionaldehyde  
TSCA 8(a) CDR Exempt/Partial exemption: Not determined  
United States inventory (TSCA 8b): Not determined.  
Clean Water Act (CWA) 311: sodium hydroxide; edetic acid

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

**Clean Air Act Section 602 Class I Substances** : Not listed

**Clean Air Act Section 602 Class II Substances** : Not listed

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## 15. Regulatory information

DEA List I Chemicals : Not listed  
(Precursor Chemicals)

DEA List II Chemicals : Not listed  
(Essential Chemicals)

### SARA 302/304

#### Composition/information on ingredients

| Name              | %     | EHS  | SARA 302 TPQ |           | SARA 304 RQ |           |
|-------------------|-------|------|--------------|-----------|-------------|-----------|
|                   |       |      | (lbs)        | (gallons) | (lbs)       | (gallons) |
| hydrogen peroxide | < 0.1 | Yes. | 1000         | 106.1     | 1000        | 106.1     |

**SARA 304 RQ** : 6250000 lbs / 2837500 kg [749588.2 gal / 2837500 L]

### SARA 311/312

**Classification** : Fire hazard  
Immediate (acute) health hazard

#### Composition/information on ingredients

| Name                                                           | %       | Fire hazard | Sudden release of pressure | Reactive | Immediate (acute) health hazard | Delayed (chronic) health hazard |
|----------------------------------------------------------------|---------|-------------|----------------------------|----------|---------------------------------|---------------------------------|
| didecyldimethylammonium chloride                               | 10 - 15 | No.         | No.                        | No.      | Yes.                            | No.                             |
| Quaternary ammonium compounds, alkylbenzyl dimethyl, chlorides | 5 - 10  | No.         | No.                        | No.      | Yes.                            | No.                             |
| Ethyl alcohol                                                  | 2.5 - 5 | Yes.        | No.                        | No.      | Yes.                            | No.                             |
| sodium hydroxide                                               | 1 - 2.5 | No.         | No.                        | No.      | Yes.                            | No.                             |
| d-Limonene                                                     | 0.1 - 1 | Yes.        | No.                        | No.      | Yes.                            | No.                             |

### State regulations

- Massachusetts** : The following components are listed: ETHYL ALCOHOL; SODIUM HYDROXIDE; ETHYLENEDIAMINE TETRAACETIC ACID (EDTA)
- New York** : The following components are listed: Sodium hydroxide; Ethylenediamine tetraacetic acid
- New Jersey** : The following components are listed: ETHYL ALCOHOL; ALCOHOL; SODIUM HYDROXIDE; CAUSTIC SODA; ETHYLENEDIAMINETETRAACETIC ACID; GLYCINE, N,N'-1,2-ETHANEDIYLBIS[N-(CARBOXYMETHYL)-]; EDTA
- Pennsylvania** : The following components are listed: DENATURED ALCOHOL; SODIUM HYDROXIDE (NA(OH)); GLYCINE, N,N'-1,2-ETHANEDIYLBIS[N-(CARBOXYMETHYL)-]

### Label elements

**Signal word:** : Danger

**Hazard statements** : Harmful if swallowed.  
Harmful if inhaled.

Corrosive Causes irreversible eye damage

Corrosive CAUSES SKIN BURNS.

**Precautionary measures** : Wear protective gloves/protective clothing/eye protection/face protection. Wash thoroughly after handling. Wash with soap and water. Remove contaminated clothing and wash it before reuse. Keep out of reach of children.

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## 16. Other information

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

|                     |   |
|---------------------|---|
| Health              | 3 |
| Flammability        | 2 |
| Physical hazards    | 0 |
| Personal protection | D |

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 are not required on MSDSs 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 mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

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

**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.

**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  
 MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
 UN = United Nations

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## 16. Other information

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**Revision comments** : Update as per US GHS.

✔ Indicates information that has changed from previously issued version.

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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.



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