



# SAFETY DATA SHEET

266 Citrol® (Bulk)

## Section 1. Identification

**GHS product identifier** : 266 Citrol® (Bulk)  
**Other means of identification** : Not available.  
**Product type** : Liquid.

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

**Identified uses** : Citrus based water soluble degreaser.

**Supplier's details** : Schaeffer Mfg. Company  
 102 Barton Street  
 Saint Louis, Missouri 63104  
 Tel: 314-865-4100  
 Fax: 314-865-4107  
 Toll Free: 1-800-325-9962  
 E-Mail: [safety@schaefferoil.com](mailto:safety@schaefferoil.com)  
 Web: <http://www.schaefferoil.com>

**Emergency telephone number (with hours of operation)** : +1 314 865-4105 (24-hour response number)

## 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** : FLAMMABLE LIQUIDS - Category 3  
 SKIN CORROSION/IRRITATION - Category 2  
 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1  
 SKIN SENSITIZATION - Category 1  
 CARCINOGENICITY - Category 2  
 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2  
 AQUATIC HAZARD (ACUTE) - Category 1  
 AQUATIC HAZARD (LONG-TERM) - Category 1

### GHS label elements

**Hazard pictograms** :



**Signal word** : Danger

**Hazard statements** : H226 - Flammable liquid and vapor.  
 H318 - Causes serious eye damage.  
 H315 - Causes skin irritation.  
 H317 - May cause an allergic skin reaction.  
 H351 - Suspected of causing cancer.  
 H373 - May cause damage to organs through prolonged or repeated exposure.  
 H410 - Very toxic to aquatic life with long lasting effects.

### Precautionary statements

## Section 2. Hazards identification

|   |   |
|---|---|
| <b>Prevention</b>                       | : P201 - Obtain special instructions before use.<br>P202 - Do not handle until all safety precautions have been read and understood.<br>P280 - Wear protective gloves. Wear eye or face protection. Wear protective clothing.<br>P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.<br>P241 - Use explosion-proof electrical, ventilating, lighting and all material-handling equipment.<br>P242 - Use only non-sparking tools.<br>P243 - Take precautionary measures against static discharge.<br>P233 - Keep container tightly closed.<br>P273 - Avoid release to the environment.<br>P260 - Do not breathe vapor.<br>P264 - Wash hands thoroughly after handling.<br>P272 (OSHA) - Contaminated work clothing must not be allowed out of the workplace. |
| <b>Response</b>                         | : P391 - Collect spillage.<br>P314 - Get medical attention if you feel unwell.<br>P308 + P313 - IF exposed or concerned: Get medical attention.<br>P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.<br>P302 + P352 + P363 - IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse.<br>P333 + P313 - If skin irritation or rash occurs: Get medical attention.<br>P305 + P351 + P338 + P310 - 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>                          | : P403 - Store in a well-ventilated place.<br>P235 - Keep cool.   |
| <b>Disposal</b>                         | : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.  |
| <b>Hazards not otherwise classified</b> | : None known.   |

## Section 3. Composition/information on ingredients

|                                      |                  |
|--------------------------------------|------------------|
| <b>Substance/mixture</b>             | : Mixture        |
| <b>Other means of identification</b> | : Not available. |

| Ingredient name                                | %       | CAS number  |
|--|---------|-------------|
| (R)-p-mentha-1,8-diene                         | 30 - 60 | 5989-27-5   |
| 2-Butoxyethanol                                | 10 - 30 | 111-76-2    |
| Amides, coco, N,N-bis(hydroxyethyl)            | 5 - 10  | 68603-42-9  |
| 4-Nonylphenol, branched, ethoxylated           | 1 - 5   | 127087-87-0 |
| Diethanolamine                                 | 1 - 5   | 111-42-2    |
| Fatty acids, coco, compds. with diethanolamine | 1 - 5   | 61790-63-4  |
| Dodecylidimethylamine oxide                    | 0.1 - 1 | 1643-20-5   |

**United States:** The exact percentage (concentration) in the composition has been withheld as a trade secret in accordance with paragraph (i) of §1910.1200.

**Canada:** The exact percentage (concentration) in the composition has been withheld as a trade secret in accordance with the amended HPR as of April 2018.

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** : 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 20 minutes. Get medical attention if symptoms persist.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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. Get medical attention if symptoms persist. 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** : Wash with plenty of soap and water. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 20 minutes. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if symptoms persist.
- 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** : No known significant effects or critical hazards.
- Skin contact** : Causes skin irritation. May cause an allergic skin reaction.
- Ingestion** : No known significant effects or critical hazards.

#### Over-exposure signs/symptoms

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

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

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.

## Section 4. First aid measures

- 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 dry chemical, CO<sub>2</sub>, water spray (fog) or foam.

- Unsuitable extinguishing media** : Do not use water jet or water-based fire extinguishers.

- Specific hazards arising from the chemical** : Flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. This material is very toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
nitrogen 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.

## 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. Shut off all ignition sources. No flames, 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.

- 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** : U.S.A. regulations may require reporting spills of this material that could reach any surface waters. Report spills to all applicable Federal, State, Provincial and local authorities and/or the United States National Response Center at (800) 424-8802 as appropriate or required.

### Methods and materials for containment and cleaning up

## Section 6. Accidental release measures

- Small spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. 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. 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). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. 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. Avoid release to the environment. 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. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

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

- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in 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. 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.

## Section 8. Exposure controls/personal protection

### Control parameters

#### United States

#### Occupational exposure limits

| Ingredient name                     | Exposure limits   |
|-------------------------------------|---|
| (R)-p-mentha-1,8-diene              | AIHA WEEL (United States, 7/2018).<br>TWA: 30 ppm 8 hours.  |
| 2-Butoxyethanol                     | ACGIH TLV (United States, 3/2018).<br>TWA: 20 ppm 8 hours.<br>NIOSH REL (United States, 10/2016). Absorbed through skin.<br>TWA: 5 ppm 10 hours.<br>TWA: 24 mg/m <sup>3</sup> 10 hours. |
| Amides, coco, N,N-bis(hydroxyethyl) | OSHA PEL (United States, 5/2018). Absorbed through skin.<br>TWA: 50 ppm 8 hours.<br>TWA: 240 mg/m <sup>3</sup> 8 hours.<br>None.  |

## Section 8. Exposure controls/personal protection

|   |  |
|---|--|
| 4-Nonylphenol, branched, ethoxylated<br>Diethanolamine                        | None.<br><b>NIOSH REL (United States, 10/2016).</b><br>TWA: 3 ppm 10 hours.<br>TWA: 15 mg/m <sup>3</sup> 10 hours.<br><b>ACGIH TLV (United States, 3/2018). Absorbed through skin.</b><br>TWA: 1 mg/m <sup>3</sup> 8 hours. Form: Inhalable fraction and vapor |
| Fatty acids, coco, compds. with diethanolamine<br>Dodecyl dimethylamine oxide | None.<br>None.   |

### Canada

#### Occupational exposure limits

| Ingredient name        | Exposure limits   |
|------------------------|---|
| (R)-p-mentha-1,8-diene | <b>AIHA WEEL (United States, 7/2018).</b><br>TWA: 30 ppm 8 hours.   |
| 2-Butoxyethanol        | <b>CA Alberta Provincial (Canada, 6/2018).</b><br>8 hrs OEL: 97 mg/m <sup>3</sup> 8 hours.<br>8 hrs OEL: 20 ppm 8 hours.<br><b>CA British Columbia Provincial (Canada, 7/2018).</b><br>TWA: 20 ppm 8 hours.<br><b>CA Ontario Provincial (Canada, 1/2018).</b><br>TWA: 20 ppm 8 hours.<br><b>CA Quebec Provincial (Canada, 1/2014).</b><br>TWA/EV: 20 ppm 8 hours.<br>TWA/EV: 97 mg/m <sup>3</sup> 8 hours.<br><b>CA Saskatchewan Provincial (Canada, 7/2013).</b><br>STEL: 30 ppm 15 minutes.<br>TWA: 20 ppm 8 hours.   |
| Diethanolamine         | <b>CA Ontario Provincial (Canada, 1/2018). Absorbed through skin.</b><br>TWA: 1 mg/m <sup>3</sup> 8 hours. Form: Inhalable fraction and vapour.<br><b>CA Alberta Provincial (Canada, 6/2018). Absorbed through skin.</b><br>8 hrs OEL: 2 mg/m <sup>3</sup> 8 hours.<br><b>CA British Columbia Provincial (Canada, 7/2018). Absorbed through skin.</b><br>TWA: 2 mg/m <sup>3</sup> 8 hours.<br><b>CA Quebec Provincial (Canada, 1/2014). Absorbed through skin.</b><br>TWA/EV: 3 ppm 8 hours.<br>TWA/EV: 13 mg/m <sup>3</sup> 8 hours.<br><b>CA Saskatchewan Provincial (Canada, 7/2013). Absorbed through skin.</b><br>STEL: 4 mg/m <sup>3</sup> 15 minutes.<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.

#### 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** : Wear eye protection such as safety glasses, chemical goggles, or face shields if engineering controls or work practices are not adequate to prevent eye contact.

#### Skin protection

**Hand protection** : Use nitrile or oil resistant gloves.

## Section 8. Exposure controls/personal protection

- Body protection** : Personal protective clothing such as gloves, aprons, boots and complete facial protection should be selected based on the task being performed and the risks involved. Users should determine acceptable performance characteristics of protective clothing. Consider physical requirements and other substances present when selecting protective clothing.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved.
- Respiratory protection** : If a risk assessment indicates that respiratory protection is required, use a properly fitted, air-purifying or supplied air respirator that complies with an approved standard. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

## Section 9. Physical and chemical properties

### Appearance

- Physical state** : Liquid. [Clear.]
- Color** : Light yellow to orange.
- Odor** : Citrus.
- Odor threshold** : Not available.
- pH** : 9 to 10
- Melting point** : Not available.
- Boiling point/boiling range** : 97.222°C (207°F)
- Flash point** : Closed cup: 53.333°C (128°F)
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Not available.
- Lower and upper explosive (flammable) limits** : Not available.
- Vapor pressure** : 2.3 kPa (17.5 mm Hg) [@ 20°C (68°F)]
- Vapor density** : >1 [Air = 1]
- Relative density** : 0.9366
- Solubility** : Emulsifiable.
- Partition coefficient: n-octanol/water** : Not available.
- Auto-ignition temperature** : Not available.
- Decomposition temperature** : Not available.
- Viscosity** : Not applicable.
- Flow time (ISO 2431)** : Not available.
- VOC content** : 60 to 65 % (w/w)

## Section 10. Stability and reactivity

- Reactivity** : No specific test data related to reactivity available for this product or its ingredients.
- Chemical stability** : Stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
- Possibility of hazardous reactions** : May react with oxygen and strong oxidizing agents, such as chlorates, peroxides, etc.

## Section 10. Stability and reactivity

**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. Do not allow vapor to accumulate in low or confined areas.

**Incompatible materials** : Strong acids, reducing agents and oxidizers.

**Hazardous decomposition products** : Carbon monoxide, carbon dioxide, aldehydes, ketones.

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

| Product/ingredient name | Result      | Species | Dose        | Exposure |
|-------------------------|-------------|---------|-------------|----------|
| (R)-p-mentha-1,8-diene  | LD50 Dermal | Rabbit  | >5000 mg/kg | -        |
|                         | LD50 Oral   | Rat     | 4400 mg/kg  | -        |
| 2-Butoxyethanol         | LD50 Oral   | Rat     | 917 mg/kg   | -        |

#### Irritation/Corrosion

| Product/ingredient name             | Result                   | Species | Score | Exposure        | Observation |
|-------------------------------------|--------------------------|---------|-------|-----------------|-------------|
| (R)-p-mentha-1,8-diene              | Skin - Mild irritant     | Rabbit  | -     | 24 hours 10%    | -           |
| 2-Butoxyethanol                     | Eyes - Moderate irritant | Rabbit  | -     | 24 hours 100 mg | -           |
|                                     | Eyes - Severe irritant   | Rabbit  | -     | 100 mg          | -           |
|                                     | Skin - Mild irritant     | Rabbit  | -     | 500 mg          | -           |
| Amides, coco, N,N-bis(hydroxyethyl) | Eyes - Severe irritant   | Rabbit  | -     | 100 µl          | -           |
|                                     | Skin - Moderate irritant | Rabbit  | -     | 300 µl          | -           |
| Diethanolamine                      | Eyes - Severe irritant   | Rabbit  | -     | 24 hours 750 µg | -           |
|                                     | Eyes - Severe irritant   | Rabbit  | -     | 5500 mg         | -           |
|                                     | Skin - Mild irritant     | Rabbit  | -     | 24 hours 500 mg | -           |
|                                     | Skin - Mild irritant     | Rabbit  | -     | 50 mg           | -           |
| Dodecyltrimethylamine oxide         | Eyes - Severe irritant   | Rabbit  | -     | 1%              | -           |
|                                     | Skin - Severe irritant   | Rabbit  | -     | 24 hours 2 mg   | -           |

#### Sensitization

There is no data available.

#### Mutagenicity

There is no data available.

#### Carcinogenicity

##### Classification

| Product/ingredient name             | OSHA | IARC | NTP |
|-------------------------------------|------|------|-----|
| (R)-p-mentha-1,8-diene              | -    | 3    | -   |
| 2-Butoxyethanol                     | -    | 3    | -   |
| Amides, coco, N,N-bis(hydroxyethyl) | -    | 2B   | -   |
| Diethanolamine                      | -    | 2B   | -   |

#### Reproductive toxicity

There is no data available.

#### Teratogenicity

There is no data available.

#### Specific target organ toxicity (single exposure)

There is no data available.

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

| Name           | Category   | Target organs  |
|----------------|------------|----------------|
| Diethanolamine | Category 2 | Not determined |

#### Aspiration hazard

There is no data available.



## Section 11. Toxicological information

**Information on the likely routes of exposure** : Dermal contact. Eye contact. Inhalation. Ingestion.

### Potential acute health effects

**Eye contact** : Causes serious eye damage.  
**Inhalation** : No known significant effects or critical hazards.  
**Skin contact** : Causes skin irritation. May cause an allergic skin reaction.  
**Ingestion** : No known significant effects or critical hazards.

### Symptoms related to the physical, chemical and toxicological characteristics

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

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

#### Short term exposure

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

#### Long term exposure

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

#### Potential chronic health effects

**General** : May cause damage to organs through prolonged or repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.  
**Carcinogenicity** : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.  
**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

| Route               | ATE value     |
|---------------------|---------------|
| Oral                | 4306.83 mg/kg |
| Dermal              | 8628.69 mg/kg |
| Inhalation (vapors) | 86.29 mg/L    |

## Section 12. Ecological information

### Toxicity

| Product/ingredient name | Result                               | Species  | Exposure |
|-------------------------|--------------------------------------|--|----------|
| (R)-p-mentha-1,8-diene  | 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 |
| 2-Butoxyethanol         | Acute EC50 >1000 mg/L Fresh water    | Daphnia - Daphnia magna  | 48 hours |
|                         | Acute LC50 800000 µg/L Marine water  | Crustaceans - Crangon crangon  | 48 hours |
| Diethanolamine          | Acute LC50 1250000 µg/L Marine water | Fish - Menidia beryllina   | 96 hours |
|                         | Acute EC50 12 mg/L Fresh water       | Algae - Pseudokirchneriella subcapitata                                | 96 hours |
|                         | Acute LC50 28800 µg/L Fresh water    | Crustaceans - Ceriodaphnia dubia - Neonate                             | 48 hours |
|                         | Acute LC50 55000 µg/L Fresh water    | Daphnia - Daphnia magna  | 48 hours |
|                         | Acute LC50 775 mg/L Fresh water      | Fish - Lepomis macrochirus   | 96 hours |

### Persistence and degradability

There is no data available.

### Bioaccumulative potential

| Product/ingredient name | LogP <sub>ow</sub> | BCF | Potential |
|-------------------------|--------------------|-----|-----------|
| -p-mentha-1,8-diene     | 4.38               | -   | high      |
| 2-butoxyethanol         | 0.81               | -   | low       |
| Diethanolamine          | -1.43              | -   | low       |

### Mobility in soil

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

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








## Section 13. Disposal considerations

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

## Section 14. Transport information

|                         | DOT Classification                                 | TDG Classification                                 | IMDG  | IATA   |
|-------------------------|--|--|---|--|
| UN number               | UN1993   | UN1993   | UN1993  | UN1993   |
| UN proper shipping name | FLAMMABLE LIQUIDS, N.O.S. ((R)-p-mentha-1,8-diene) | FLAMMABLE LIQUIDS, N.O.S. ((R)-p-mentha-1,8-diene) | FLAMMABLE LIQUIDS, N.O.S. ((R)-p-mentha-1,8-diene). Marine pollutant ((R)-p-mentha-1,8-diene) | FLAMMABLE LIQUIDS, N.O.S. ((R)-p-mentha-1,8-diene) |
|                         |  |  |   |  |

## Section 14. Transport information

|                            |  |  |   |  |
|----------------------------|--|--|---|--|
| Transport hazard class(es) | 3<br>  | 3<br>  | 3<br>  | 3<br> |
| Packing group              | III  | III  | III   | III  |
| Environmental hazards      | Yes.   | Yes.   | Yes.  | Yes. The environmentally hazardous substance mark is not required.                       |

AERG : 128

**DOT-RQ Details** : Diethanolamine 100 lbs / 45.4 kg [11.003 gal / 41.651 L]

### Additional information

**DOT Classification** : This product may be re-classified as "Combustible Liquid," unless transported by vessel or aircraft. Non-bulk packages (less than or equal to 119 gal) of combustible liquids, that are marine pollutants, are not regulated as hazardous materials in package sizes less than the product reportable quantity, unless transported by vessel. 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. **Reportable quantity** 3508.8 lbs / 1593 kg [449.31 gal / 1700.8 L]. Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.

**TDG Classification** : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.18-2.19 (Class 3), 2.7 (Marine pollutant mark). The marine pollutant mark is not required when transported by road or rail.

**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.

## Section 15. Regulatory information

**U.S. Federal regulations** : **United States inventory (TSCA 8b):** All components are listed or exempted.  
**Clean Water Act (CWA) 311:** Acetic acid

**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

## Section 15. Regulatory information

| Name           | EHS  | SARA 302 TPQ |           | SARA 304 RQ |           |
|----------------|------|--------------|-----------|-------------|-----------|
|                |      | (lbs)        | (gallons) | (lbs)       | (gallons) |
| Ethylene oxide | Yes. | 1000         | -         | 10          | -         |

**SARA 304 RQ** : 20000000 lbs / 9080000 kg [2561053 gal / 9694640.2 L]

### SARA 311/312

**Classification** : FLAMMABLE LIQUIDS - Category 3  
 SKIN CORROSION/IRRITATION - Category 2  
 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1  
 SKIN SENSITIZATION - Category 1  
 CARCINOGENICITY - Category 2  
 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

### Composition/information on ingredients

| Name   | Classification  |
|--|---|
| (R)-p-mentha-1,8-diene                         | FLAMMABLE LIQUIDS - Category 3<br>SKIN CORROSION/IRRITATION - Category 2<br>SKIN SENSITIZATION - Category 1   |
| 2-Butoxyethanol                                | FLAMMABLE LIQUIDS - Category 4<br>ACUTE TOXICITY (oral) - Category 4<br>ACUTE TOXICITY (dermal) - Category 4<br>ACUTE TOXICITY (inhalation) - Category 4<br>SKIN CORROSION/IRRITATION - Category 2  |
| Amides, coco, N,N-bis(hydroxyethyl)            | SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A<br>SKIN CORROSION/IRRITATION - Category 2<br>SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A<br>CARCINOGENICITY - Category 2                      |
| 4-Nonylphenol, branched, ethoxylated           | SKIN CORROSION/IRRITATION - Category 2<br>SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1   |
| Diethanolamine                                 | ACUTE TOXICITY (oral) - Category 4<br>SKIN CORROSION/IRRITATION - Category 2<br>SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1<br>CARCINOGENICITY - Category 2                                     |
| Fatty acids, coco, compds. with diethanolamine | SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2<br>ACUTE TOXICITY (oral) - Category 4<br>SKIN CORROSION/IRRITATION - Category 2<br>SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A |

### SARA 313


|  | Product name  | CAS number                          |
|--|---|-------------------------------------|
| <b>Form R - Reporting requirements</b> | 2-Butoxyethanol<br>4-Nonylphenol, branched, ethoxylated<br>Diethanolamine | 111-76-2<br>127087-87-0<br>111-42-2 |
| <b>Supplier notification</b>           | 2-Butoxyethanol<br>4-Nonylphenol, branched, ethoxylated<br>Diethanolamine | 111-76-2<br>127087-87-0<br>111-42-2 |

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: 2-Butoxyethanol; Diethanolamine  
**New York** : The following components are listed: Diethanolamine  
**New Jersey** : The following components are listed: 2-Butoxyethanol; Diethanolamine  
**Pennsylvania** : The following components are listed: 2-Butoxyethanol; Diethanolamine

### California Prop. 65

 **WARNING:** This product can expose you to chemicals including Ethylene oxide, which is known to the State of California to cause cancer and birth defects or other reproductive harm. This product can expose you to chemicals including Amides, coco, N,N-bis(hydroxyethyl), Diethanolamine and 1,4-Dioxane, which are known to the State of California to cause cancer, and Methanol, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

## Section 15. Regulatory information

### Canadian lists

- Canada Inventory (DSL NDSL) : All components are listed or exempted.
- Canadian NPRI : The following components are listed: (R)-p-mentha-1,8-diene; 2-Butoxyethanol; Diethanolamine; 4-Nonylphenol, branched, ethoxylated
- CEPA Toxic substances : The following components are listed: 2-Butoxyethanol; 4-Nonylphenol, branched, ethoxylated

## Section 16. Other information

Health : 3 \* Flammability : 2 Physical hazards : 0

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.

Health : 3 Flammability : 2 Instability : 0

Reprinted with permission from NFPA 704-2001, Identification of the Hazards of Materials for Emergency Response Copyright ©1997, National Fire Protection Association, Quincy, MA 02269. This reprinted material is not the complete and official position of the National Fire Protection Association, on the referenced subject which is represented only by the standard in its entirety.

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

| Classification  | Justification         |
|---|-----------------------|
| FLAMMABLE LIQUIDS - Category 3                                  | On basis of test data |
| SKIN CORROSION/IRRITATION - Category 2                          | Calculation method    |
| SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1                 | Calculation method    |
| SKIN SENSITIZATION - Category 1                                 | Calculation method    |
| CARCINOGENICITY - Category 2                                    | Calculation method    |
| SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2 | Calculation method    |
| AQUATIC HAZARD (ACUTE) - Category 1                             | Calculation method    |
| AQUATIC HAZARD (LONG-TERM) - Category 1                         | Calculation method    |

US Tariff Heading Number : 3402.90.5030

Schedule B Code : 3402.90.5030

### History

Date of issue mm/dd/yyyy : 07/30/2019

Date of previous issue : 02/15/2018

Version : 2

Prepared by : KMK Regulatory Services Inc.

### 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 = International Convention for the Prevention of Pollution From Ships, 1973 as

## Section 16. Other information

modified by the Protocol of 1978. ("Marpol" = marine pollution)  
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.



KMK Regulatory Services

Tel : +1-888-GHS-7769 (447-7769) / +1-450-GHS-7767 (447-7767)  
[www.kmkregservices.com](http://www.kmkregservices.com) [www.askdrluc.com](http://www.askdrluc.com) [www.ghssmart.com](http://www.ghssmart.com)

14/14