SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Material name : ZEP SPIRIT II DETERGENT DISINFECTANT
EPA ID Number: 1839-83-1270
Material number : 000000000000067923

Manufacturer or supplier’s details
Company : Zep, Inc.
Address : 350 Joe Frank Harris Parkway, SE
           Emerson, GA 30137
Telephone : 404-352-1680

Emergency telephone numbers
For SDS Information : Compliance Services 1-877-428-9937
For a Medical Emergency : 877-541-2016 Toll Free - All Calls Recorded
For a Transportation Emergency : CHEMTREC: 800-424-9300 - All Calls Recorded.
In the District of Columbia 202-483-7616

Recommended use of the chemical and restrictions on use
Recommended use : Disinfectant

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

| Appearance | liquid |
| Colour     | colourless |
| Odour      | characteristic |

GHS Classification
Eye irritation : Category 2A

GHS label elements
Hazard pictograms : !
Signal word : Warning
Hazard statements : H319 Causes serious eye irritation.
Precautionary statements : Prevention:
P264 Wash skin thoroughly after handling.
P280 Wear eye protection/ face protection.
Response:
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and
SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>Concentration [%]</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-(2-butoxyethoxy)ethanol</td>
<td>112-34-5</td>
<td>&gt;= 5 - &lt; 10</td>
</tr>
<tr>
<td>tetrasodium ethylenediaminetetraacetate</td>
<td>64-02-8</td>
<td>&gt;= 1 - &lt; 5</td>
</tr>
</tbody>
</table>

The exact percentages of disclosed substances are withheld as trade secrets.

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.
                Show this safety data sheet to the doctor in attendance.
                Do not leave the victim unattended.

If inhaled : If unconscious, place in recovery position and seek medical advice.
             If symptoms persist, call a physician.

In case of skin contact : Wash off immediately with plenty of water for at least 15 minutes.
                         If on skin, rinse well with water.
                         If on clothes, remove clothes.

In case of eye contact : Small amounts splashed into eyes can cause irreversible tissue damage and blindness.
                       If in eyes, rinse with water for 15 minutes.
                       Continue rinsing eyes during transport to hospital.
                       Remove contact lenses.
                       Protect unharmed eye.
                       Keep eye wide open while rinsing.
                       If eye irritation persists, consult a specialist.

If swallowed : Keep respiratory tract clear.
               Do NOT induce vomiting.
               Never give anything by mouth to an unconscious person.
               If symptoms persist, call a physician.
               Take victim immediately to hospital.

Most important symptoms and effects, both acute and delayed : Effects are immediate and delayed.
                                                             Symptoms may include irritation, redness, pain, and rash.
                                                             Causes serious eye irritation.
                                                             Review section 2 of SDS to see all potential hazards.

Notes to physician : Treat symptomatically. Symptoms may be delayed.
SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media: High volume water jet

Hazardous combustion products: Carbon dioxide (CO2), Carbon monoxide, Smoke, Nitrogen oxides (NOx)

Specific extinguishing methods: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Further information: Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Special protective equipment for firefighters: Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Use personal protective equipment.

Environmental precautions: Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. If the product contaminates rivers and lakes or drains inform respective authorities.

Methods and materials for containment and cleaning up: Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling: Do not breathe vapours or spray mist. Avoid contact with eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Dispose of rinse water in accordance with local and national regulations.

Conditions for safe storage: Keep container tightly closed in a dry and well-ventilated place. Electrical installations / working materials must comply with the technological safety standards.

Materials to avoid: Store and keep away from, oxidizing agents and acids.
Store and keep away from bases and alkalies.

### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Components with workplace control parameters**

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters / Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-(2-butoxyethoxy)ethanol</td>
<td>112-34-5</td>
<td>TWA (Inhalable fraction and vapor)</td>
<td>10 ppm</td>
<td>ACGIH</td>
</tr>
</tbody>
</table>

**Engineering measures**: effective ventilation in all processing areas

**Personal protective equipment**

- **Respiratory protection**: Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.

- **Hand protection**
  - **Material**: Protective gloves
  - **Remarks**: The suitability for a specific workplace should be discussed with the producers of the protective gloves.

- **Eye protection**: Ensure that eyewash stations and safety showers are close to the workstation location. Tightly fitting safety goggles. Safety glasses with side-shields.

- **Skin and body protection**: Impervious clothing. Choose body protection according to the amount and concentration of the dangerous substance at the work place.

- **Hygiene measures**: When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- **Appearance**: liquid
- **Colour**: colourless
- **Odour**: characteristic
- **Odour Threshold**: No data available
SAFETY DATA SHEET

ZEP SPIRIT II 4-1GL

Version 2.1
Revision Date 02/06/2018
Print Date 03/25/2020

pH: 11.5 - 12.5
Melting point/freezing point: No data available
Boiling point: > 100 °C
Flash point: > 93.3 °C
   Method: closed cup

Upper explosion limit: not determined
Lower explosion limit: not determined
Vapour pressure: No data available
Density: 1 g/cm3
Solubility(ies):
   Water solubility: soluble
   Solubility in other solvents: not determined

Partition coefficient: n-octanol/water: No data available
Auto-ignition temperature: not determined
Thermal decomposition: No data available
Viscosity
Viscosity, kinematic: 3.8 mm2/s (20 °C)

SECTION 10. STABILITY AND REACTIVITY

Reactivity: Stable
Chemical stability: Stable under normal conditions.
Possibility of hazardous reactions: No decomposition if stored and applied as directed.
Conditions to avoid: No data available
Incompatible materials: Oxidizing agents
   Acids
   Alkali metals
Hazardous decomposition products: Carbon oxides
   Nitrogen oxides (NOx)
   Ammonia

SECTION 11. TOXICOLOGICAL INFORMATION

Potential Health Effects
Aggravated Medical Condition: None known.
Symptoms of Overexposure: Effects are immediate and delayed. Symptoms may include irritation, redness, pain, and rash.

Carcinogenicity:
- **IARC**: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- **ACGIH**: Confirmed animal carcinogen with unknown relevance to humans. 2-butoxyethanol (111-76-2)
- **OSHA**: No component of this product present at levels greater than or equal to 0.1% is on OSHA’s list of regulated carcinogens.
- **NTP**: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Acute toxicity
**Product:**
- **Acute oral toxicity**: Acute toxicity estimate: > 5,000 mg/kg
  Method: Calculation method

Skin corrosion/irritation
**Product:**
- **Result**: Mild skin irritation
  Method: Third Party Data - Actual or Inferred

Serious eye damage/eye irritation
**Product:**
- **Result**: Eye irritation
  Method: Third Party Data - Actual or Inferred

Respiratory or skin sensitisation
No data available

Germ cell mutagenicity
No data available

Carcinogenicity
No data available

Reproductive toxicity
No data available

STOT - single exposure
No data available
STOT - repeated exposure

Components:
tetrasodium ethylenediaminetetraacetate:
   Exposure routes: Inhalation
   Assessment: May cause damage to organs through prolonged or repeated exposure.

Aspiration toxicity
No data available

Further information

Product:
   Remarks: No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:
   Toxicity to fish:
      Remarks: Toxic to aquatic organisms.
      Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

   Toxicity to daphnia and other aquatic invertebrates:
      Remarks: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
      Toxic to aquatic organisms.

Persistence and degradability
No data available

Bioaccumulative potential

Product:
   Partition coefficient: n-octanol/water:
      Remarks: No data available
   Components:
   2-(2-butoxyethoxy)ethanol:
      Partition coefficient: n-octanol/water:
         Pow: 1

Mobility in soil
No data available

Other adverse effects
No data available

Product:
SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

- **Waste from residues**: Do not dispose of waste into sewer. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of in accordance with local regulations. Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Provincial Environmental control agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

- **Contaminated packaging**: Empty remaining contents. Dispose of as unused product. Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

- **Transportation Regulation: 49 CFR (USA)**: NOT REGULATED AS DANGEROUS GOODS OR HAZARDOUS MATERIAL

- **Transportation Regulation: IMDG (Vessel)**: NOT REGULATED AS DANGEROUS GOODS OR HAZARDOUS MATERIAL

- **Transportation Regulation: IATA (Cargo Air)**: NOT REGULATED AS DANGEROUS GOODS OR HAZARDOUS MATERIAL

- **Transportation Regulation: IATA (Passenger Air)**: NOT REGULATED AS DANGEROUS GOODS OR HAZARDOUS MATERIAL

- **Transportation Regulation: TDG (Canada)**: NOT REGULATED AS DANGEROUS GOODS OR HAZARDOUS MATERIAL
NOT REGULATED AS DANGEROUS GOODS OR HAZARDOUS MATERIAL

The product as delivered to the customer conforms to packaging requirements for shipment by road under US Department of Transportation (DOT) regulations. Additional transportation classifications noted above are for reference only, and not a certification or warranty of the suitability of the packaging for shipment under these alternative transport regulations.

SECTION 15. REGULATORY INFORMATION

This product is regulated under the United States Federal Insecticide, Fungicide and Rodenticide Act (FIFRA).

Pesticide Labeling Information Required Under U.S. FIFRA Regulations
This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

CAUTION

- Causes moderate eye irritation.
- This pesticide is toxic to fish.

TSCA list

- No substances are subject to a Significant New Use Rule.
- No substances are subject to TSCA 12(b) export notification requirements.

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Component RQ (lbs)</th>
<th>Calculated product RQ (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>sodium hydroxide</td>
<td>1310-73-2</td>
<td>1000</td>
<td>*</td>
</tr>
</tbody>
</table>

*: Calculated RQ exceeds reasonably attainable upper limit.

SARA 304 Extremely Hazardous Substances Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards
- Serious eye damage or eye irritation

SARA 302
- No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313
- This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

California Prop. 65
This product does not contain any chemicals known to State of
California to cause cancer, birth defects, or any other reproductive harm.

The components of this product are reported in the following inventories:

**DSL**
This product contains one or several components that are not on the Canadian DSL nor NDSL.

**TSCA**
On TSCA Inventory

For information on the country notification status for other regions please contact the manufacturer's regulatory group.

Inventory Acronym and Validity Area Legend:
TSCA (USA), DSL (Canada), NDSL (Canada)

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**SECTION 16. OTHER INFORMATION**

Further information

**NFPA:**
- Flammability

**HMIS III:**

HEALTH 2
FLAMMABILITY 1
PHYSICAL HAZARD 0

0 = not significant, 1 =Slight, 2 = Moderate, 3 = High, 4 = Extreme, * = Chronic

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**OSHA - GHS Label Information:**

Hazard pictograms

Warning: Causes serious eye irritation.

Prevention: Wash skin thoroughly after handling. Wear eye protection/ face protection.

Response: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/ attention.
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