SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Material name: ZEP HVY DUTY FOAM DEGREASER 18OZ

Material number: ZUHFD18

Manufacturer or supplier's details

Company: Zep Inc.
Address: 1310 Seaboard Industrial Blvd., NW
Atlanta, GA 30318
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: Cleaner

Note: This product is labeled as a consumer product in accordance with the United States Consumer Product Safety Commission regulations. The warnings presented below in this Safety Data Sheet (SDS) comply with the 2012 OSHA Hazard Communication Standard (GHS - Globally Harmonized System of Classification and Labeling). The requirements for the labeling and warnings of consumer products may differ from those required for GHS based hazard communication.

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

<table>
<thead>
<tr>
<th>Appearance</th>
<th>Aerosol containing a liquefied gas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour</td>
<td>clear, light yellow</td>
</tr>
<tr>
<td>Odour</td>
<td>characteristic</td>
</tr>
</tbody>
</table>

GHS Classification

Gases under pressure: Liquefied gas
Skin irritation: Category 2
Serious eye damage: Category 1
Skin sensitisation: Category 1

GHS label elements

Hazard pictograms:

Signal word: Danger

Hazard statements: H280 Contains gas under pressure; may explode if heated. H315 Causes skin irritation.
Precautionary statements:

**Prevention:**
- P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
- P264 Wash skin thoroughly after handling.
- P272 Contaminated work clothing should not be allowed out of the workplace.
- P280 Wear protective gloves/ eye protection/ face protection.
- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

**Response:**
- P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
- 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/doctor.
- P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
- P362 Take off contaminated clothing and wash before reuse.

**Storage:**
- P410 + P403 Protect from sunlight. Store in a well-ventilated place.
- P412 Do not expose to temperatures exceeding 50 °C/ 122 °F.

**Disposal:**
Dispose of contents/container in accordance with local regulation.

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**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>butane</td>
<td>106-97-8</td>
<td>&gt;= 1 - &lt; 5</td>
</tr>
<tr>
<td>2-(2-butoxyethoxy)ethanol</td>
<td>112-34-5</td>
<td>&gt;= 1 - &lt; 5</td>
</tr>
<tr>
<td>Alcohols, C9-11, ethoxylated</td>
<td>68439-46-3</td>
<td>&gt;= 1 - &lt; 5</td>
</tr>
<tr>
<td>(R)-p-mentha-1,8-diene</td>
<td>5989-27-5</td>
<td>&gt;= 1 - &lt; 5</td>
</tr>
<tr>
<td>Benzenesulfonic acid, C10-16-alkyl derivs.</td>
<td>68584-22-5</td>
<td>&gt;= 1 - &lt; 5</td>
</tr>
<tr>
<td>propane</td>
<td>74-98-6</td>
<td>&gt;= 1 - &lt; 5</td>
</tr>
</tbody>
</table>

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

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**SECTION 4. FIRST AID MEASURES**

**General advice:** 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:** If skin irritation persists, call a physician. Wash off immediately with plenty of water for at least 15
In case of eye contact:
- Remove contact lenses.
- Protect unharmed eye.
- Keep eye wide open while rinsing.
- If eye irritation persists, consult a specialist.
- If in eyes, rinse with water for 15 minutes.

If swallowed:
- Keep respiratory tract clear.
- Never give anything by mouth to an unconscious person.
- If symptoms persist, call a physician.
- DO NOT induce vomiting unless directed to do so by a physician or poison control center.

Most important symptoms and effects, both acute and delayed:
- Effects are immediate and delayed.
- Symptoms may include blistering, irritation, burns, and pain.
- Effects are dependent on exposure (dose, concentration, contact time).
- Causes serious eye damage.
- Causes skin 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:
- Alcohol-resistant foam
- Carbon dioxide (CO2)
- Dry chemical
- Water spray jet

Unsuitable extinguishing media:
- High volume water jet

Specific hazards during firefighting:
- Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products:
- Carbon dioxide (CO2)
- Carbon monoxide
- Smoke
- Sulphur oxides

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

Further information:
- Standard procedure for chemical fires.

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

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions:
- Use personal protective equipment.
SECTION 7. HANDLING AND STORAGE

Advice on safe handling: For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Always replace cap after use.
Do not breathe vapours or spray mist.
Avoid contact with skin and eyes.
Take precautionary measures against static discharges.
Avoid exposure - obtain special instructions before use.
Dispose of rinse water in accordance with local and national regulations.

Conditions for safe storage: BEWARE: Aerosol is pressurized. Keep away from direct sun exposure and temperatures over 50 °C. Do not open by force or throw into fire even after use. Do not spray on flames or red-hot objects.
No smoking.
Observe label precautions.
Keep in a dry, cool and well-ventilated place.
Electrical installations / working materials must comply with the technological safety standards.

Materials to avoid: Oxidizing agents

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>butane</td>
<td>106-97-8</td>
<td>TWA</td>
<td>800 ppm 1,900 mg/m3</td>
<td>NIOSH REL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>800 ppm 1,900 mg/m3</td>
<td>OSHA P0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PEL</td>
<td>800 ppm 1,900 mg/m3</td>
<td>CAL PEL</td>
</tr>
<tr>
<td>2-(2-butoxyethoxy)ethanol</td>
<td>112-34-5</td>
<td>TWA (Inhalable)</td>
<td>10 ppm</td>
<td>ACGIH</td>
</tr>
</tbody>
</table>
**SAFETY DATA SHEET**

**ZEP HVY DUTY FOAM DEGREASER 18OZ**

Version 3.1  
Revision Date 12/06/2016  
Print Date 01/18/2018

<table>
<thead>
<tr>
<th>Propane</th>
<th>fraction and vapor</th>
<th>TWA</th>
<th>1,000 ppm</th>
<th>ACGIH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>1,000 ppm</td>
<td>NIOSH REL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>1,000 ppm</td>
<td>OSHA Z-1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>1,000 ppm</td>
<td>OSHA P0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PEL</td>
<td>1,000 ppm</td>
<td>CAL PEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1,800 mg/m³</td>
<td></td>
</tr>
</tbody>
</table>

**Engineering measures**: Handle only in a place equipped with local exhaust (or other appropriate exhaust).

**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**

**Remarks**: The suitability for a specific workplace should be discussed with the producers of the protective gloves.

**Eye protection**: Safety goggles  
Eye wash bottle with pure water

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

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

**Appearance**: Aerosol containing a liquefied gas

**Colour**: clear, light yellow

**Odour**: characteristic

**Odour Threshold**: No data available

**pH**: No data available

**Melting point/freezing point**: No data available

**Boiling point**: not determined

**Flash point**: Not applicable

**Evaporation rate**: not determined

**Flammability (solid, gas)**: The product is not flammable.
SAFETY DATA SHEET

ZEP HVY DUTY FOAM DEGREASER 18OZ

Version 3.1  Revision Date 12/06/2016  Print Date 01/18/2018

Upper explosion limit : No data available
Lower explosion limit : No data available
Vapour pressure : not determined
Relative vapour density : No data available
Density : 1.004 g/cm³
Solubility(ies)
Water solubility : not determined
Partition coefficient: n-octanol/water : No data available
Auto-ignition temperature : not determined
Thermal decomposition : No data available
Viscosity
Viscosity, kinematic : No data available
Heat of combustion : < 20 kJ/g

SECTION 10. STABILITY AND REACTIVITY

Reactivity : Stable
Chemical stability : Stable under normal conditions.
Possibility of hazardous reactions : Vapours may form explosive mixture with air.
No decomposition if stored and applied as directed.
Conditions to avoid : Heat, flames and sparks.
Extremes of temperature and direct sunlight.
Incompatible materials : Oxidizing agents
Hazardous decomposition products : Carbon oxides

SECTION 11. TOXICOLOGICAL INFORMATION

Potential Health Effects

Aggravated Medical Condition : None known.
Symptoms of Overexposure : Effects are immediate and delayed.
Effects may include blistering, irritation, burns, and pain.
Effects are dependent on exposure (dose, concentration, contact time).
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.

OSHA
No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

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

Components:
butane:
Acute inhalation toxicity
LC50 Mouse: 1,237 mg/l
Exposure time: 2 h
LC50 Rat: 1,355 mg/l

Alcohols, C9-11, ethoxylated:
Acute oral toxicity
LD50 Oral Rat: 1,400 mg/kg

(R)-p-mentha-1,8-diene:
Acute oral toxicity
LD50 Oral Rat: 4,400 mg/kg

Acute dermal toxicity
LD50 Dermal Rabbit: > 5,000 mg/kg

propane:
Acute inhalation toxicity
LC50 Mouse: 1,237 mg/l
Exposure time: 2 h
LC50 Rat: 658 mg/l
Exposure time: 4 h
LC50 Rat: 1,355 mg/l

Skin corrosion/irritation

Remarks: Irritating to skin.

Serious eye damage/eye irritation

Remarks: Severe eye irritation
Respiratory or skin sensitisation

Product:

Remarks: Causes sensitisation.

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

butane:
2-(2-butoxyethoxy)ethanol:
Alcohols, C9-11, ethoxylated:
(R)-p-mentha-1,8-diene:
Benzenesulfonic acid, C10-16-alkyl derivs.:
propane:

STOT - single exposure

No data available

STOT - repeated exposure

No data available

Aspiration toxicity

No data available

Further information

Product:

Remarks: No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

No data available

Persistence and degradability

No data available

Bioaccumulative potential

Product:

Partition coefficient: n-octanol/water

Remarks: No data available

Components:

butane:
Partition coefficient: n-octanol/water

Pow: 2.89
SAFETY DATA SHEET

ZEP HVY DUTY FOAM DEGREASER 18OZ

octanol/water
2-(2-butoxyethoxy)ethanol : Pow: 1
Partition coefficient: n-octanol/water

Mobility in soil
No data available

Other adverse effects
No data available

Product:
Regulation 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information : No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods
Waste from residues : The product should not be allowed to enter drains, water courses or the soil.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Dispose of in accordance with local regulations.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.
Do not burn, or use a cutting torch on, the empty drum.

SECTION 14. TRANSPORT INFORMATION

Transportation Regulation: 49 CFR (USA): UN1950, AEROSOLS, NON-FLAMMABLE, 2.2, - Limited quantity

Transportation Regulation: IMDG (Vessel): UN1950, AEROSOLS, NON-FLAMMABLE, 2.2, - Limited quantity

Transportation Regulation: IATA (Cargo Air): UN1950, AEROSOLS, NON-FLAMMABLE, 2.2, - Limited quantity

Transportation Regulation: IATA (Passenger Air): UN1950, AEROSOLS, NON-FLAMMABLE, 2.2, - Limited quantity
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

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

<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>sulphuric acid</td>
<td>7664-93-9</td>
<td>1000</td>
<td>*</td>
</tr>
</tbody>
</table>

*: Calculated RQ exceeds reasonably attainable upper limit.

SARA 311/312 Hazards: Sudden Release of Pressure Hazard
Acute Health Hazard

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:

TSCA: On TSCA Inventory
DSL: All components of this product are on the Canadian DSL

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

Inventory Acronym and Validity Area Legend:
SECTION 16. OTHER INFORMATION

Further information

NFPA:

Flammability

<table>
<thead>
<tr>
<th>Health</th>
<th>Special hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>0</td>
</tr>
</tbody>
</table>

HMIS III:

<table>
<thead>
<tr>
<th>HEALTH</th>
<th>FLAMMABILITY</th>
<th>PHYSICAL HAZARD</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>0</td>
<td>2</td>
</tr>
</tbody>
</table>

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

OSHA - GHS Label Information:

Hazard pictograms:

- Flammable
- Health hazard
- Physical hazard

Signal word:

Danger:

Contains gas under pressure; may explode if heated. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye damage.

Hazard statements:

Prevention: Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. Wash skin thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves/ eye protection/ face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Pressurized container: Do not pierce or burn, even after use.

Response: IF ON SKIN: Wash with plenty of soap and water. 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/doctor. If skin irritation or rash occurs: Get medical advice/ attention. Take off contaminated clothing and wash before reuse.

Storage: Protect from sunlight. Store in a well-ventilated place. Do not expose to temperatures exceeding 50 °C/ 122 °F.

Disposal: Dispose of contents/container in accordance with local regulation.

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Zep Inc. markets products under well recognized and established brand names such as Zep®, Zep Commercial®, Zep Professional®, Enforcer®, National Chemical™, Selig™, Misty®, Next Dimension™, Petro®, i-Chem®, TimeMist®, TimeWick™, MicrobeMax®, Country Vet®, Konk®, Original Bike Spirits®, Blue Coral®, Black Magic®, Rain-X®, Niagara National™, FC Forward Chemicals®, Rexodan®, Mykal™, and a number of private labeled brands.