SAFETY DATA SHEET

A07244 ZEP POWERHOUSE 028201 20n18

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Material name : A07244 ZEP POWERHOUSE 028201 20n18
Material number : 00000000000028201

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 : Degreaser

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>colourless</td>
</tr>
<tr>
<td>Odour</td>
<td>characteristic</td>
</tr>
</tbody>
</table>

GHS Classification

Gases under pressure : Liquefied gas
Skin irritation : Category 2
Eye irritation : Category 2A

GHS label elements

Hazard pictograms :  

Signal word : Warning

Hazard statements : H280 Contains gas under pressure; may explode if heated.
H315 Causes skin irritation.
H319 Causes serious eye irritation.

Precautionary statements : Prevention:
P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/ eye protection/ face protection.
Response:
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>ethanol</td>
<td>64-17-5</td>
<td>&gt;= 10 - &lt; 20</td>
</tr>
<tr>
<td>butane</td>
<td>106-97-8</td>
<td>&gt;= 1 - &lt; 5</td>
</tr>
<tr>
<td>2-butoxyethanol</td>
<td>111-76-2</td>
<td>&gt;= 1 - &lt; 5</td>
</tr>
<tr>
<td>2-aminoethanol</td>
<td>141-43-5</td>
<td>&gt;= 1 - &lt; 3</td>
</tr>
<tr>
<td>propan-2-ol</td>
<td>67-63-0</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.

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 : If skin irritation persists, call a physician. Wash off immediately with plenty of water for at least 15 minutes. If on clothes, remove clothes.

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. DO NOT induce vomiting unless directed to do so by a
Most important symptoms and effects, both acute and delayed:

- Effects are immediate and delayed.
- Symptoms may include irritation, redness, pain, and rash.
- Causes skin irritation.
- 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:
- Water spray jet
- Alcohol-resistant foam
- Carbon dioxide (CO2)
- Dry chemical

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
- Nitrogen oxides (NOx)

Specific extinguishing methods:
- Standard procedure for chemical fires.

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

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.
- Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
- Evacuate personnel to safe areas.
- Ensure adequate ventilation.
- Remove all sources of ignition.

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

Methods and materials for containment and cleaning up:
- Wipe up with absorbent material (e.g. cloth, fleece).
SECTION 7. HANDLING AND STORAGE

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

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.
- Electrical installations / working materials must comply with the technological safety standards.
- Keep in a dry, cool and well-ventilated place.

Materials to avoid:
- Do not store near acids.
- Strong oxidizing agents

SECTION 8. EXPOSURE CONTROLS/PERSOANL 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>ethanol</td>
<td>64-17-5</td>
<td>TWA</td>
<td>1,000 ppm</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>1,000 ppm 1,900 mg/m3</td>
<td>NIOSH REL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>1,000 ppm 1,900 mg/m3</td>
<td>OSHA Z-1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>1,000 ppm 1,900 mg/m3</td>
<td>OSHA P0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL</td>
<td>1,000 ppm</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PEL</td>
<td>1,000 ppm 1,900 mg/m3</td>
<td>CAL PEL</td>
</tr>
<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-butoxyethanol</td>
<td>111-76-2</td>
<td>TWA</td>
<td>20 ppm</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>5 ppm 24 mg/m3</td>
<td>NIOSH REL</td>
</tr>
<tr>
<td>Component</td>
<td>CAS-No.</td>
<td>Control parameters</td>
<td>Biological specimen</td>
<td>Sampling time</td>
</tr>
<tr>
<td>--------------------</td>
<td>---------</td>
<td>--------------------</td>
<td>---------------------</td>
<td>---------------</td>
</tr>
<tr>
<td>2-BUTOXYETHANOL</td>
<td>111-76-2</td>
<td>Butoxyacetic acid (BAA)</td>
<td>Urine</td>
<td>End of shift (As soon as possible after)</td>
</tr>
</tbody>
</table>

**Biological occupational exposure limits**

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Control parameters</th>
<th>Biological specimen</th>
<th>Sampling time</th>
<th>Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-aminoethanol</td>
<td>141-43-5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>propan-2-ol</td>
<td>67-63-0</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td>propane</td>
<td>74-98-6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></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**
- Tightly fitting safety goggles
- Ensure that eyewash stations and safety showers are close to the workstation location.

**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.

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### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance**: Aerosol containing a liquefied gas

**Colour**: colourless

**Odour**: characteristic

**Odour Threshold**: No data available

**pH**: 10.5 - 11.5

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

**Boiling point**: Not applicable

**Flash point**: Not applicable

**Evaporation rate**: < 1
- n-Butyl Acetate = 1.0

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

**A07244 ZEP POWERHOUSE 028201 20n18**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper explosion limit</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Lower explosion limit</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapour density</td>
<td>No data available</td>
</tr>
<tr>
<td>Density</td>
<td>0.97 g/cm³</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td></td>
</tr>
<tr>
<td>Water solubility</td>
<td>soluble</td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>not determined</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>not determined</td>
</tr>
<tr>
<td>Thermal decomposition</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity</td>
<td></td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Heat of combustion</td>
<td>&lt; 20 kJ/g</td>
</tr>
</tbody>
</table>

**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**: Acids
  - Strong oxidizing agents
- **Hazardous decomposition products**: Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke). Nitrogen oxides (NOx)

**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
ethanol 64-17-5
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

Acute inhalation toxicity : Acute toxicity estimate : 22.33 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: Calculation method

Acute dermal toxicity : Acute toxicity estimate : > 5,000 mg/kg
Method: Calculation method

Components:

ethanol:
Acute oral toxicity : LD50 Oral Rat: 7,060 mg/kg

Acute inhalation toxicity : LC50 Rat: 124.7 mg/l
Exposure time: 4 h
Test atmosphere: vapour

2-butoxyethanol:
Acute oral toxicity : LD50 Oral Rat: 880 mg/kg
Acute dermal toxicity : LD50 Dermal Rabbit: 1,060 mg/kg

2-aminoethanol:
Acute oral toxicity : LD50 Oral Mouse: 700 mg/kg
LD50 Oral Rat: 1,515 mg/kg
Acute inhalation toxicity : LC50 Mouse: > 1.21 mg/l
propan-2-ol:
Acute oral toxicity : LD50 Oral Rat: 4,396 mg/kg
Method: Calculation method

Skin corrosion/irritation
- **Product:**
  - Remarks: Irritating to skin.

Serious eye damage/eye irritation
- **Product:**
  - Remarks: Severe eye irritation

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
No data available

Aspiration toxicity
No data available

Further information
- **Product:**
  - Remarks: No data available

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**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:**
- **ethanol**
- **Partition coefficient: n-octanol/water**
- **Remarks:** No data available
- **butane**
- **Partition coefficient: n-octanol/water**
- **Pow:** 2.89

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:** 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.
- **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): ORM-D, CONSUMER COMMODITY
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>2,2'-iminodiethanol</td>
<td>111-42-2</td>
<td>100</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: Gases under pressure
Skin corrosion or irritation
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: The following components are subject to reporting levels established by SARA Title III, Section 313:
2-butoxyethanol 111-76-2 3.9604 %

California Prop. 65
The components of this product are reported in the following inventories:

**DSL**
All components of this product are on the Canadian DSL

**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)

### SECTION 16. OTHER INFORMATION

**Further information**

**NFPA:**
- Flammability: 0
- Health: 2
- Reactivity: 1

**HMIS III:**
- Health: 2
- Flammability: 1
- Physical Hazard: 3

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

### OSHA - GHS Label Information:

**Hazard pictograms**: 

- **Signal word**: Warning
- **Hazard statements**: Contains gas under pressure; may explode if heated. Causes skin irritation. Causes serious eye irritation.
- **Precautionary statements**: Prevention: Wash skin thoroughly after handling. Wear protective gloves/eye protection/face protection. 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. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse.
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