SAFETY DATA SHEET

ZEP 65 AERO

Version 2.2

Revision Date 11/16/2015

Print Date 01/15/2016

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Material name : ZEP 65 AERO

Material number : 000000000000003700

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

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance : Aerosol containing a liquefied gas
Colour : clear, light yellow
Odour : characteristic

GHS Classification

Gases under pressure : Liquefied gas
Eye irritation : Category 2A
Skin sensitisation : Category 1

GHS Label element

Hazard pictograms : 

Signal word : Warning

Hazard statements : H280 Contains gas under pressure; may explode if heated.
H317 May cause an allergic skin reaction.
H319 Causes serious eye 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 eye protection/ face protection.
P280 Wear protective gloves.
Response: 

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P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.
P337 + P313 If eye irritation persists: Get medical advice/attention.
P363 Wash contaminated clothing before reuse.

Storage:
P410 + P403 Protect from sunlight. Store in a well-ventilated place.

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

Potential Health Effects

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

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.

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>propane-1,2-diol</td>
<td>57-55-6</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>Citrus, ext.</td>
<td>94266-47-4</td>
<td>&gt;= 1 - &lt; 5</td>
</tr>
<tr>
<td>Sulfonic acids, C14-16-alkane hydroxy and C14-16-alkene, sodium salts</td>
<td>68439-57-6</td>
<td>&gt;= 1 - &lt; 5</td>
</tr>
<tr>
<td>Alcohols, C12-16, ethoxylated</td>
<td>68551-12-2</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>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.
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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.
- If symptoms persist, call a physician.
- DO NOT induce vomiting unless directed to do so by a physician or poison control center.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media
- Alcohol-resistance 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
- 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
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Personal precautions, protective equipment and emergency procedures
Use personal protective equipment.
Ensure adequate ventilation.
Remove all sources of ignition.
Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
Evacuate personnel to safe areas.

Environmental precautions
Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.
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).
Sweep up or vacuum up spillage and collect in suitable container for disposal.

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
Do not freeze.
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</td>
<td>OSHA P0</td>
</tr>
</tbody>
</table>
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<table>
<thead>
<tr>
<th>Compound</th>
<th>TWA 1.900 mg/m³</th>
<th>1.000 ppm</th>
<th>1.800 mg/m³</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>propane-1,2-diol</td>
<td>TWA</td>
<td>10 mg/m³</td>
<td>US WEEL</td>
<td></td>
</tr>
<tr>
<td>propane</td>
<td>TWA</td>
<td>1.000 ppm</td>
<td>NIOSH REL</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>1.000 ppm</td>
<td>OSHA Z-1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>1.000 ppm</td>
<td>OSHA P0</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: Tightly fitting safety goggles

Wear face-shield and protective suit for abnormal processing problems.

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 workplace.

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: Aerosol containing a liquefied gas

Colour: Clear, light yellow

Odour: Characteristic

Odour threshold: No data available

pH: Not applicable

Melting point/freezing point: No data available

Boiling point: Not determined

Flash point:

Not applicable

Evaporation rate: Not determined
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Flammability (solid, gas) : The product is not flammable.
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) : not determined
Water solubility : No data available
Partition coefficient: n-octanol/water : not determined
Auto-ignition temperature : No data available
Thermal decomposition : not determined
Viscosity : No data available
Viscosity, kinematic : <20 kJ/g
Heat of combustion

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. TOXICLOGICAL INFORMATION

Acute toxicity

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

Components:
butane:
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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

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

Product:
Remarks: May cause skin irritation and/or dermatitis.

Serious eye damage/eye irritation

Product:
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:
propane-1,2-diol:
2-(2-butoxyethoxy)ethanol:
Citrus, ext.:
Sulfonic acids, C14-16-alkane hydroxy and C14-16-alkene, sodium salts:
Alcohols, C12-16, ethoxylated:
Alcohols, C9-11, ethoxylated:
propane:

STOT - single exposure
No data available
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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
Components:
butane:
Partition coefficient: n-octanol/water
propane-1,2-diol:
Partition coefficient: n-octanol/water
2-(2-butoxyethoxy)ethanol:
Partition coefficient: n-octanol/water
Remarks: No data available
Pow: 2.89
log Pow: -1.07
Pow: 1

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
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An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Harmful to aquatic life.

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):
ORM-D, CONSUMER COMMODITY

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

Transportation Regulation: TDS (Canada):
UN1950, AEROSOLS, NON-FLAMMABLE, 2.2, - Limited quantity

SECTION 15. REGULATORY INFORMATION

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 RO.

**SARA 311/312 Hazards**
- Acute Health Hazard
- Sudden Release of Pressure 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**
- WARNING! This product contains a chemical known to the State of California to cause cancer.
- 2,2'-iminodiethanol

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

- **TSCA**
  - On TSCA Inventory

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

- **AICS**
  - Not in compliance with the inventory

- **NzIoC**
  - Not in compliance with the inventory

- **PICCS**
  - Not in compliance with the inventory

- **IECSC**
  - Not in compliance with the inventory

**Inventory Acronym and Validity Area Legend:**
- AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (USA)

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**SECTION 16. OTHER INFORMATION**

**Further information**

**NFPA:**
- **Health:** 3
- **Flammability:** 1
- **Special Hazard:**

**HMIS III:**
- **HEALTH:** 3
- **FLAMMABILITY:** 0
- **PHYSICAL HAZARD:** 2

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

**OSHA GHS Label Information:**
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Hazard pictograms

Signal word

Hazard statements

Precautionary statements

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

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 eye protection/ face protection. Wear protective gloves.

Response:
F 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 or rash occurs: Get medical advice/ attention. If eye irritation persists: Get medical advice/ attention. Wash contaminated clothing before reuse.

Storage:
Protect from sunlight. Store in a well-ventilated place.

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

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