SAFETY DATA SHEET

A07164 ZEP AUTO MAF SENSOR ZAA7164 16N11

Version 5.1  Revision Date 08/10/2018  Print Date 04/02/2019

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Material name : A07164 ZEP AUTO MAF SENSOR ZAA7164 16N11
Material number : 00000000001047448

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 : Vehicle Maintenance

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</td>
</tr>
<tr>
<td>Odour</td>
<td>aliphatic, solvent-like</td>
</tr>
</tbody>
</table>

GHS Classification

Flammable aerosols          : Category 1
Gases under pressure        : Liquefied gas
Skin irritation             : Category 2
Specific target organ toxicity - single exposure : Category 1
Specific target organ toxicity - single exposure : Category 3 (Central nervous system)

GHS label elements

Hazard pictograms :
Signal word: Danger

Hazard statements:
- H222 Extremely flammable aerosol.
- H280 Contains gas under pressure; may explode if heated.
- H315 Causes skin irritation.
- H336 May cause drowsiness or dizziness.
- H370 Causes damage to organs.

Precautionary statements:
- Prevention:
  - P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
  - P211 Do not spray on an open flame or other ignition source.
  - P251 Pressurized container: Do not pierce or burn, even after use.
  - P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
  - P264 Wash skin thoroughly after handling.
  - P270 Do not eat, drink or smoke when using this product.
  - P271 Use only outdoors or in a well-ventilated area.
  - P280 Wear protective gloves.

Response:
- P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
- P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.
- P307 + P311 IF exposed: Call a POISON CENTER or doctor/physician.
- P332 + P313 IF skin irritation occurs: Get medical advice/attention.
- P362 Take off contaminated clothing and wash before reuse.

Storage:
- P410 + P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F.
- P403 + P235 Store in a well-ventilated place. Keep cool.

Disposal:
- P501 Dispose of contents/container in accordance with local regulation.

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>Naphtha (petroleum), hydrotreated light</td>
<td>64742-49-0</td>
<td>&gt;= 50 - &lt; 70</td>
</tr>
<tr>
<td>butane</td>
<td>106-97-8</td>
<td>&gt;= 20 - &lt; 30</td>
</tr>
<tr>
<td>propane</td>
<td>74-98-6</td>
<td>&gt;= 5 - &lt; 10</td>
</tr>
<tr>
<td>ethanol</td>
<td>64-17-5</td>
<td>&gt;= 1 - &lt; 5</td>
</tr>
<tr>
<td>heptane</td>
<td>142-82-5</td>
<td>&gt;= 1 - &lt; 3</td>
</tr>
<tr>
<td>methanol</td>
<td>67-56-1</td>
<td>&gt;= 1 - &lt; 3</td>
</tr>
</tbody>
</table>

The exact percentages of disclosed substances are withheld as trade secrets.
SECTION 4. FIRST AID MEASURES

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

If inhaled: Consult a physician after significant exposure. If unconscious, place in recovery position and seek medical advice.

In case of skin contact: Wash off immediately with soap and plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing before re-use. If skin irritation persists, call a physician.

In case of eye contact: Rinse immediately with plenty of water, also under the eyelids, for at least 5 minutes. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.

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

Most important symptoms and effects, both acute and delayed: Effects are immediate and delayed. Symptoms may include irritation, redness, pain, and rash. Symptoms may include central nervous system depression, resulting in headache, nausea and/or dizziness. Effects are dependent on exposure (dose, concentration, contact time). Acute specific target organ toxicity effects will differ depending on mode of exposure (oral, dermal, and inhalation), the organs and systems affected, and any preexisting medical conditions. Symptoms may include respiratory difficulty, abdominal pain, headache, dizziness, drowsiness, vomiting, central nervous system depression, blurred vision, seizures, and unconsciousness - potentially life threatening. Causes skin irritation. May cause drowsiness or dizziness. Causes damage to organs. 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: 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

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. 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, protective equipment and emergency procedures: Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low 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: Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Take precautionary measures against static discharges. Provide sufficient air exchange and/or exhaust in work rooms. Container may be opened only under exhaust ventilation hood. Dispose of rinse water in accordance with local and national regulations.
regulations.
Do not breathe vapours or spray mist.
Always replace cap after use.
Use only in area provided with appropriate exhaust ventilation.

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.

Materials to avoid: Do not store together with oxidizing and self-igniting products.

Storage temperature: < 48.8 °C

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>propane</td>
<td>74-98-6</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 1,800 mg/m³</td>
<td>NIOSH REL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>1,000 ppm 1,800 mg/m³</td>
<td>OSHA Z-1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>1,000 ppm 1,800 mg/m³</td>
<td>OSHA P0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PEL</td>
<td>1,000 ppm 1,800 mg/m³</td>
<td>CAL PEL</td>
</tr>
<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>
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<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>heptane</td>
<td>142-82-5</td>
<td>TWA</td>
<td>85 ppm 350 mg/m³</td>
<td>NIOSH REL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C</td>
<td>440 ppm</td>
<td>NIOSH REL</td>
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</table>
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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>Methanol</td>
<td>67-56-1</td>
<td>Methanol</td>
<td>Urine</td>
<td>End of shift (As soon as possible after exposure ceases)</td>
<td>15 mg/l</td>
<td>ACGIH BEI</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 : Safety glasses
Access to clean water to rinse eyes must be available, options include: eye wash stations or showers, or eye wash bottles 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 : 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
Odour : aliphatic, solvent-like
Odour Threshold : No data available
pH : Not applicable
Melting point/freezing point : No data available
Boiling point : Not applicable
Flash point : No data available
Evaporation rate : not determined
Flammability (solid, gas) : Extremely flammable aerosol.

Upper explosion limit : not determined
Lower explosion limit : not determined
Vapour pressure : 1,379 - 2,068.4 hPa (21 °C)

Relative vapour density : No data available
Density : No data available
Solubility(ies)
Water solubility : partly 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 : No data available
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 : Strong oxidizing agents
Hazardous decomposition products : Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke).

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. Symptoms may include central nervous system depression, resulting in headache, nausea and/or dizziness. Effects are dependent on exposure (dose, concentration, contact time). Acute specific target organ toxicity effects will differ depending on mode of exposure (oral, dermal, and inhalation), the organs and systems affected, and any preexisting medical conditions. Symptoms may include respiratory difficulty, abdominal pain, headache, dizziness, drowsiness, vomiting, central nervous system depression, blurred vision, seizures, and unconsciousness - potentially life threatening.

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
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
Acute toxicity

**Product:**

- **Acute oral toxicity:** Acute toxicity estimate: 3,577 mg/kg
  Method: Calculation method

- **Acute inhalation toxicity:** Acute toxicity estimate: 17.89 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

- **heptane:**
  - **Acute inhalation toxicity:** LC50 Rat: 103 mg/l
    Exposure time: 4 h

Skin corrosion/irritation

**Product:**

- Remarks: Irritating to skin.

Serious eye damage/eye irritation

**Product:**

- Remarks: May irritate eyes.

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**
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No data available

STOT - repeated exposure
No data available

Aspiration toxicity
No data available

Further information

Product:
Remarks: Not applicable

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

ethanol :
Partition coefficient: n-octanol/water : Remarks: No data available

heptane :
Partition coefficient: n-octanol/water : log Pow: 5

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).
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):
UN1950, Aerosols, flammable, 2.1, - Limited quantity

Transportation Regulation: IMDG (Vessel):
UN1950, AEROSOLS, FLAMMABLE, 2.1, - Limited quantity

Transportation Regulation: IATA (Cargo Air):
UN1950, Aerosols, flammable, 2.1, - Limited quantity

Transportation Regulation: IATA (Passenger Air):
UN1950, Aerosols, flammable, 2.1, - Limited quantity

Transportation Regulation: TDG (Canada):
UN1950, AEROSOLS, FLAMMABLE, 2.1, - 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>methanol</td>
<td>67-56-1</td>
<td>5000</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

- Flammable (gases, aerosols, liquids, or solids)
- Gases under pressure
- Skin corrosion or irritation
- Specific target organ toxicity (single or repeated exposure)

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:
  - methanol 67-56-1 2.7958 %

California Prop. 65

WARNING: This product can expose you to chemicals including methanol, toluene, which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

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

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

<table>
<thead>
<tr>
<th>Flammability</th>
<th>Health</th>
<th>Reactivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>3</td>
<td>0</td>
</tr>
</tbody>
</table>

Special hazard.

HMIS III:

<table>
<thead>
<tr>
<th>HEALTH</th>
<th>FLAMMABILITY</th>
<th>PHYSICAL HAZARD</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>4</td>
<td>3</td>
</tr>
</tbody>
</table>

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

OSHA - GHS Label Information:

Hazard pictograms:

- Flammable
- Reactivity
- Health
- Physical hazard

Signal word: Danger

Hazard statements:

- Extremely flammable aerosol. Contains gas under pressure; may explode if heated. Causes skin irritation. May cause drowsiness or dizziness. Causes damage to organs.

Precautionary statements:

Prevention: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Pressurized container: Do not pierce or burn, even after use. Do not breathe dust/fume/gas/mist/vapours/spray. Wash skin thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves.

Response: IF ON SKIN: Wash with plenty of soap and water. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell. IF EXPOSED: Call a POISON CENTER or doctor/physician. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.

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

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®,...