

Version 2.3

Revision Date 12/12/2014

Print Date 06/03/2015

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

| Material name | : | ZEP BRAKE WASH 20GL | |
|------------------------------|------|---|--|
| Material number | : | 00000000000050550 | |
| Manufacturer or supplier's d | leta | ils | |
| Company | : | Zep Inc. | |
| Address | : | 1310 Seaboard Industrial Blvd., NW Atlanta, GA 30318 | |
| Telephone | : | 404-352-1680 | |

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

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

| Appearance | liquid |
|------------|------------------|
| Colour | clear |
| Odour | hydrocarbon-like |

GHS Classification

| Flammable liquids Skin irritation Specific target organ toxicity - single exposure | : Category 2 : Category 2 : Category 1 |
|---|--|
| Specific target organ toxicity - single exposure Aspiration hazard | : Category 3 (Central nervous system) : Category 1 |
| GHS Label element | |
| Hazard pictograms | |
| Signal word | : Danger |
| Hazard statements | H225 Highly flammable liquid and vapour. H304 May be fatal if swallowed and enters airways. H315 Causes skin irritation. H336 May cause drowsiness or dizziness. H370 Causes damage to organs. |
| Precautionary statements | : Prevention: |



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|--------------------------|---|--|
| | P210 Keep away from heat, hot s and other ignition sources. No sr P233 Keep container tightly close P240 Ground/bond container and P241 Use explosion-proof electri equipment. P242 Use only non-sparking tool P243 Take precautionary measu P260 Do not breathe dust/fume/P264 Wash skin thoroughly after P270 Do not eat, drink or smoke P271 Use only outdoors or in a w P280 Wear protective gloves/ ey Response: P301 + P310 IF SWALLOWED: CENTER or doctor/ physician. P303 + P361 + P353 IF ON SKIN immediately all contaminated closhower. P304 + P340 + P312 IF INHALEI and keep at rest in a position cor POISON CENTER or doctor/ phy P307 + P311 IF exposed: Call a physician. P331 Do NOT induce vomiting. P332 + P313 If skin irritation occ attention. P362 Take off contaminated clot P370 + P378 In case of fire: Use alcohol-resistant foam for extinct Storage: P403 + P235 Store in a well-vent tightly closed. P403 + P235 Store in a well-vent tightly closed. P403 + P235 Store in a well-vent p405 Store locked up. | noking. ed. d receiving equipment. cal/ ventilating/ lighting/ s. res against static discharge. gas/ mist/ vapours/ spray. handling. when using this product. vell-ventilated area. e protection/ face protection. Immediately call a POISON N (or hair): Remove/ Take off thing. Rinse skin with water/ D: Remove victim to fresh air nfortable for breathing. Call a vsician if you feel unwell. POISON CENTER or doctor/ urs: Get medical advice/ hing and wash before reuse. dry sand, dry chemical or ion. ilated place. Keep container ilated place. Keep cool. |
| Potential Health Effects | | |
| Carcinogenicity: IARC | No component of this product preser equal to 0.1% is identified as probab | |
| ACGIH | human carcinogen by IARC. No component of this product preser equal to 0.1% is identified as a carci 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. | |



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SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

| Chemical Name | CAS-No. | Concentration [%] |
|--------------------------------------|-------------|-------------------|
| Heptane, branched, cyclic and linear | 426260-76-6 | >= 70 - < 90 |
| propan-2-ol | 67-63-0 | >= 5 - < 10 |
| heptane | 142-82-5 | >= 1 - < 5 |
| methanol | 67-56-1 | >= 1 - < 5 |

SECTION 4. FIRST AID MEASURES

| General advice | Nove out of dangerous area. Show this safety data sheet to the doctor in attend symptoms of poisoning may appear several hours to not leave the victim unattended. | |
|-------------------------|--|--------------|
| lf inhaled | breathed in, move person into fresh air. Remove person to fresh air. If signs/symptoms con nedical attention. | ontinue, get |
| In case of skin contact | skin irritation persists, call a physician. on skin, rinse well with water. on clothes, remove clothes. | |
| In case of eye contact | nmediately flush eye(s) with plenty of water. easy to do, remove contact lens, if worn. eye irritation persists, consult a specialist. | |
| If swallowed | Geep respiratory tract clear. No NOT induce vomiting. No not give milk or alcoholic beverages. lever give anything by mouth to an unconscious symptoms persist, call a physician. ake victim immediately to hospital. | person. |

SECTION 5. FIREFIGHTING MEASURES

| Suitable extinguishing media | : 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 |



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| Specific extinguishing methods | : Use extinguishing measures that circumstances and the surround | |
| 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. For safety reasons in case of fire, cans should be stored separately in closed containments. Use a water spray to cool fully closed containers. | |
| Special protective equipment for firefighters | : In the event of fire, wear self-con | ntained breathing apparatus. |

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 | : | Keep in suitable, closed containers for disposal. Clean contaminated floors and objects thoroughly while observing environmental regulations. |
| | | 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. |
| | | Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). |

SECTION 7. HANDLING AND STORAGE

| Advice on safe handling | Avoid formation of aerosol. Do not breathe vapours/dust. 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. |
|-------------------------|---|
| | Provide sufficient air exchange and/or exhaust in work rooms. Container may be opened only under exhaust ventilation hood. |



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| | Open drum carefully as content ma Dispose of rinse water in accordan regulations. | |
| Conditions for safe storage | No smoking. Keep container tightly closed in a c place. Containers which are opened must kept upright to prevent leakage. Observe label precautions. Electrical installations / working mat the technological safety standards. | t be carefully resealed and aterials must comply with |
| Materials to avoid | : Keep away from oxidising agents a materials. Do not freeze. | and strongly acid or alkaline |
| Storage temperature | : 5 - 40 °C | |

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

| Components | CAS-No. | Value type (Form of exposure) | Control parameters / Permissible concentration | Basis |
|--------------------------------------|-------------|-------------------------------------|---|-----------|
| Heptane, branched, cyclic and linear | 426260-76-6 | TWA | 85 ppm 350 mg/m3 | NIOSH REL |
| | | С | 440 ppm 1,800 mg/m3 | NIOSH REL |
| | | TWA | 500 ppm 2,000 mg/m3 | OSHA Z-1 |
| | | TWA | 400 ppm 1,600 mg/m3 | OSHA P0 |
| | | STEL | 500 ppm 2,000 mg/m3 | OSHA P0 |
| propan-2-ol | 67-63-0 | TWA | 200 ppm | ACGIH |
| | | STEL | 400 ppm | ACGIH |
| | | TWA | 400 ppm 980 mg/m3 | NIOSH REL |
| | | ST | 500 ppm 1,225 mg/m3 | NIOSH REL |
| | | TWA | 400 ppm 980 mg/m3 | OSHA Z-1 |
| | | TWA | 400 ppm 980 mg/m3 | OSHA P0 |
| | | STEL | 500 ppm 1,225 mg/m3 | OSHA P0 |
| heptane | 142-82-5 | TWA | 85 ppm 350 mg/m3 | NIOSH REL |
| | | С | 440 ppm 1,800 mg/m3 | NIOSH REL |
| | | TWA | 500 ppm 2,000 mg/m3 | OSHA Z-1 |



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|-------------|----------|---------------|------------------------|-----------------------|--|
| | | TWA | 400 ppm 1,600 mg/m3 | OSHA PO | |
| | | STEL | 500 ppm 2,000 mg/m3 | OSHA P0 | |
| methanol | 67-56-1 | TWA | 200 ppm | ACGIH | |
| | | STEL | 250 ppm | ACGIH | |
| | | TWA | 200 ppm 260 mg/m3 | NIOSH REL | |
| | | ST | 250 ppm 325 mg/m3 | NIOSH REL | |
| | | TWA | 200 ppm 260 mg/m3 | OSHA Z-1 | |
| | | STEL | 250 ppm 325 mg/m3 | OSHA P0 | |
| | | TWA | 200 ppm 260 mg/m3 | OSHA P0 | |

Biological occupational exposure limits

| Component | CAS-No. | Control parameters | Biological specimen | Sampling time | Permissible concentration | Basis |
|-------------|---------|--------------------|---------------------|--|---------------------------|-----------|
| PROPAN-2-OL | 67-63-0 | Acetone | Urine | End of shift at end of workwee k | 40 mg/l | ACGIH BEI |
| Methanol | 67-56-1 | Methanol | Urine | End of shift (As soon as possible after exposure ceases) | 15 mg/l | ACGIH BEI |

Personal protective equipment

| Respiratory protection | : | In the case of vapour formation use a respirator with an approved filter. |
|----------------------------|---|---|
| Hand protection Remarks | : | Skin should be washed after contact. For prolonged or repeated contact use protective gloves. The suitability for a specific workplace should be discussed with the producers of the protective gloves. |
| Eye protection | : | Eye wash bottle with pure water Tightly fitting safety goggles |
| Skin and body protection | : | impervious clothing Choose body protection according to the amount and concentration of the dangerous substance at the work place. |
| Protective measures | : | Wear suitable protective equipment. When using do not eat, drink or smoke. |
| Hygiene measures | : | Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the |



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| | product. Remove contaminated clothing and before entering eating areas. | l protective equipment |
| | When using do not eat or drink. When using do not smoke. Wash hands before breaks and at t | the end of workday. |

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

| Appearance | : | liquid |
|--|---|-----------------------|
| Colour | : | clear |
| Odour | : | hydrocarbon-like |
| Odour Threshold | : | no data available |
| pH | : | not applicable |
| Boiling point | : | 64 °C |
| Flash point | : | -18 °C Method: TCC |
| Evaporation rate | : | no data available |
| | | no data available |
| Upper explosion limit | : | 11.6 %(V) |
| Lower explosion limit | : | 1.2 %(V) |
| Vapour pressure | : | 59 hPa (20 °C) |
| Relative vapour density | : | no data available |
| Density | : | 0.7 g/cm3 |
| Solubility(ies) | | |
| Water solubility | : | insoluble |
| Partition coefficient: n- octanol/water | : | no data available |
| Auto-ignition temperature | : | not determined |
| Thermal decomposition | : | no data available |

SECTION 10. STABILITY AND REACTIVITY

| Chemical stability | : | Stable under normal conditions. |
|------------------------------------|---|--|
| Possibility of hazardous reactions | : | Vapours may form explosive mixture with air. |

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| Conditions to avoid | : Heat, flames and sparks. | |
| Incompatible materials | : Oxidizing agents | |
| Hazardous decomposition products | : Carbon monoxide, carbon dioxide a hydrocarbons (smoke). | and unburned |

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

| • | |
|------------------------------|---|
| Product: | |
| Acute oral toxicity | : Acute toxicity estimate : 3,408 mg/kg Method: Calculation method |
| | Method. Calculation method |
| Acute inhalation toxicity | : Acute toxicity estimate : > 40 mg/l |
| | Exposure time: 4 h |
| | Test atmosphere: vapour |
| | Method: Calculation method |
| Acute dermal toxicity | : Acute toxicity estimate : > 5,000 mg/kg |
| | Method: Calculation method |
| <u>Components:</u> | |
| heptane: | |
| Acute inhalation toxicity | : LC50 rat: 103,000 mg/l |
| , loate initialation tokiony | |

Skin corrosion/irritation

Product:

Remarks: May cause skin irritation in susceptible persons.

Serious eye damage/eye irritation

Product:

Remarks: Vapours may cause irritation to the eyes, respiratory system and the skin.

Exposure time: 4 h

Respiratory or skin sensitisation

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

no data available

Reproductive toxicity

no data available



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Heptane, branched, cyclic and linear: propan-2-ol: heptane: methanol:

STOT - single exposure

no data available

STOT - repeated exposure

no data available

Aspiration toxicity

no data available

Further information

Product:

Remarks: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting., Concentrations substantially above the TLV value may cause narcotic effects., Solvents may degrease the skin.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

no data available

Persistence and degradability

no data available Bioaccumulative potential

Product:

| Partition coefficient: n- octanol/water <u>Components:</u> heptane : | : Remarks: no data available |
|---|--|
| • | : log Pow: > 3.0 |
| | log Pow: 5 |
| Mobility in soil | |
| no data available | |
| Other adverse effects | |
| no data available <u>Product:</u> | |
| 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. |



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| | Clean Air Act Section 602 (40 C + B). | FR 82, Subpt. A, App.A |
| Additional ecological information | : An environmental hazard canno event of unprofessional handling to aquatic life., May cause long aquatic life. | g or disposal., Very toxic |

SECTION 13. DISPOSAL CONSIDERATIONS

| Disposal methods | |
|------------------------|--|
| Waste from residues | : Dispose of in accordance with local regulations. |
| | 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. |
| 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

International regulation

| IATA-DGR | |
|---|----------------------------|
| UN/ID No. | : 1993 |
| Proper shipping name | : Flammable liquid, n.o.s. |
| | (HEPTANE, ISOPROPANOL) |
| Class | : 3 |
| Packing group | : 11 |
| Labels | : 3 |
| Packing instruction (cargo aircraft) | : 364 |
| Packing instruction (passenger aircraft) | : 353 |
| IMDG-Code | |
| UN number | : 1993 |
| Proper shipping name | : FLAMMABLE LIQUID, N.O.S. |
| | (HEPTANE, ISOPROPANOL) |
| Class | : 3 |
| Packing group | : 11 |
| Labels | : 3 |
| EmS Code | : F-E, <u>S-E</u> |

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Marine pollutant : no

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National Regulations

| 49 CFR UN/ID/NA number Proper shipping name | 1993 Flammable liquids, n.o.s. (HEPTANE, ISOPROPANOL) |
|--|--|
| Class | : 3 |
| Packing group | : 11 |
| Labels | : 3 |
| ERG Code | : 128 |
| Marine pollutant | : no |

Special precautions for user

not applicable

SECTION 15. REGULATORY INFORMATION

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

CERCLA Reportable Quantity

| Components | CAS-No. | Component RQ | Calculated product RQ |
|------------|---------|--------------|-----------------------|
| | | (lbs) | (lbs) |
| methanol | 67-56-1 | 5000 | * |

*: 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 | : Fire Hazard Acute Health Hazard | |
|----------------------|---|---|
| SARA 302 | 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 2.9342 9 | % |
| California Prop 65 | WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm. | |
| methanol | 67-56-1 | |



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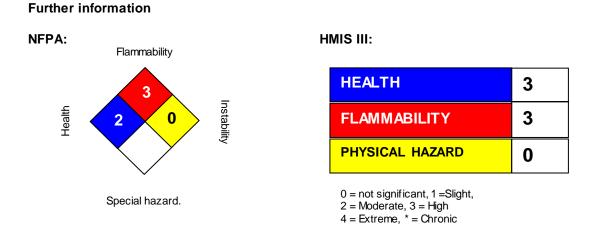
The components of this product are reported in the following inventories:

| TSCA | On TSCA Inventory |
|-------|---|
| DSL | All components of this product are on the Canadian DSL. |
| 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), TSCA (USA)

SECTION 16. OTHER INFORMATION



OSHA GHS Label Information:

| Hazard pictograms | |
|--------------------------|--|
| Signal word | : Danger: |
| Hazard statements | : Highly flammable liquid and vapour. May be fatal if sw allowed and enters airways. Causes skin irritation. May cause drow siness or dizziness. Causes damage to organs |
| Precautionary statements | : |
| | Prevention: Keep aw ay from heat, hot surfaces, sparks, open flames and other ignitic sources. No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/ equipment. Use only non-sparking tools. Take precautionary measures against static discharge. I not breathe dust/fume/gas/mist/vapours/spray. Wash skin thoroughly after handling Do not eat, drink or smoke w hen using this product. Use only outdoors or in a w ell-ventilated area. Wear protective gloves/ eye protection/face protection. Response: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with w ater/shower. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unw ell. IF exposed: Call a POISON CENTER or doctor/physician. |

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| | contaminated clothing and w ashbefore reuse. In case chemical or alcohol-resistant foam for extinction. | of fire: Use dry sand, dry | |
| | Storage: Store in a w ell-ventilated place. Keep container tightly closed. Store in a w ell-ventilated place. Keep cool. Store locked up. | | |
| | Disposal: Dispose of contents/container in accordance | Disposal: Dispose of contents/container in accordance with local regulation. | |

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