# JOHNSEN'S DOT 4 BRAKE FLUID 32 FL.OZ.

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date: 08/18/2016 Supersedes:02/16/2016 Version: 1.2

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

Product form : Mixture

Trade name : JOHNSEN'S DOT 4 BRAKE FLUID 32 FL.OZ.

Product code : 5032

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Brake Fluid

### 1.3. Details of the supplier of the safety data sheet

Technical Chemical Company
P.O. BOX 139
Cleburne, Texas 76033
T 817-645-6088

### 1.4. Emergency telephone number

Emergency number : CHEMTREC 24 Hour 1-800-424-9300, 1-703-527-3887 (International)

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

**GHS-US classification**

| | |
|---|---|
| Acute Tox. 4 (Oral) | H302 |
| Acute Tox. 4 (Inhalation:dust,mist) | H332 |
| Skin Irrit. 2 | H315 |
| Eye Dam. 1 | H318 |
| Repr. 2 | H361 |

Full text of H statements : see section 16

### 2.2. Label elements

**GHS-US labeling**

Hazard pictograms (GHS-US) :

GHS05 GHS07 GHS08

Signal word (GHS-US) : Danger

Hazard statements (GHS-US) :
H302+H332 - Harmful if swallowed or if inhaled
H315 - Causes skin irritation
H318 - Causes serious eye damage
H361 - Suspected of damaging fertility or the unborn child

Precautionary statements (GHS-US) :
P201 - Obtain special instructions
P202 - Do not handle until all safety precautions have been read and understood
P261 - Avoid breathing dust,fume,gas,mist,vapor spray
P264 - Wash affected areas 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,protective clothing,eye protection,face protection
P301+P312 - If swallowed: Call a poison center, doctor if you feel unwell
P302+P352 - If on skin: Wash with plenty of soap and water
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P308+P313 - If exposed or concerned: Get medical advice/attention
P310 - Immediately call a poison center,doctor, physician
P312 - Call a POISON CONTROL CENTER, doctor, if you feel unwell.
P321 - Specific treatment: See section 4.1 on SDS
P330 - Rinse mouth
P332+P313 - If skin irritation occurs: Get medical advice/attention
P362+P364 - Take off contaminated clothing and wash it before reuse
P405 - Store locked up
P501 - Dispose of contents/container to appropriate waste disposal facility, in accordance with local, regional, national, international regulations.

### 2.3. Other hazards

Other hazards not contributing to the classification : None under normal conditions.

### 2.4. Unknown acute toxicity (GHS US)

No data available

## SECTION 3: Composition/Information on ingredients

### 3.1. Substance

Not applicable

### 3.2. Mixture

| Name | Product identifier | % | GHS-US classification |
|---|---|---|---|
| Triethylene Glycol Monomethyl Borate Ester | (CAS No) 30989-05-0 | 15 - 40 | Acute Tox. 4 (Oral), H302<br>Acute Tox. 4 (Dermal), H312<br>Acute Tox. 4 (Inhalation:dust,mist), H332<br>Eye Irrit. 2B, H320 |
| Triethylene Glycol Monomethyl Ether | (CAS No) 112-35-6 | 10 - 30 | Not classified |
| Methoxy Polyethylene Glycol 350 | (CAS No) 9004-74-4 | 10 - 30 | Not classified |
| Triethylene Glycol Monobutyl Ether | (CAS No) 143-22-6 | 8 - 18 | Eye Dam. 1, H318 |
| Polyalkylene Glycol Monobutyl Ether | (CAS No) 9004-77-7 | 7 - 13 | Not classified |
| Tetraethylene Glycol | (CAS No) 112-60-7 | <= 10 | Not classified |
| 3,6,9,12-Tetraoxatetradecane-1,14-diol | (CAS No) 4792-15-8 | 1 - 5 | Not classified |
| Triethyleneglycol | (CAS No) 112-27-6 | 1 - 5 | Not classified |
| Diisopropanolamine | (CAS No) 110-97-4 | <= 1.5 | Not classified |
| Sodium Hydroxide | (CAS No) 1310-73-2 | < 1 | Skin Corr. 1A, H314 |
| 2,6-Di-tert-butyl-p-cresol | (CAS No) 128-37-0 | < 1 | Acute Tox. 4 (Oral), H302 |
| Diethylene Glycol Monomethyl Ether | (CAS No) 111-77-3 | < 1 | Flam. Liq. 4, H227<br>Repr. 2, H361 |

The exact percentage is a trade secret.

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. IF exposed or concerned: Get medical advice/attention.

First-aid measures after inhalation : Allow victim to breathe fresh air. Allow the victim to rest. 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 unwell.

First-aid measures after skin contact : Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention.

First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician.

First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention. Call a POISON CENTER or doctor/physician if you feel unwell.

### 4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries : Causes damage to organs. Suspected of damaging fertility or the unborn child.

Symptoms/injuries after inhalation : Danger of serious damage to health by prolonged exposure through inhalation. Harmful if inhaled.

Symptoms/injuries after skin contact : May cause moderate irritation. Itching. Red skin. Skin rash/inflammation. Causes skin irritation.

Symptoms/injuries after eye contact : Irritation of the eye tissue. Inflammation/damage of the eye tissue. Redness of the eye tissue. Causes serious eye damage.

Symptoms/injuries after ingestion : Swallowing a small quantity of this material will result in serious health hazard.

### 4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.

Unsuitable extinguishing media : Do not use a heavy water stream.

### 5.2. Special hazards arising from the substance or mixture

No additional information available

### 5.3. Advice for firefighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

General measures : Remove ignition sources. Use special care to avoid static electric charges.

#### 6.1.1. For non-emergency personnel

Protective equipment : Gloves. Safety glasses.

Emergency procedures : Evacuate unnecessary personnel.

#### 6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.

Emergency procedures : Ventilate area.

### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

### 6.3. Methods and material for containment and cleaning up

For containment : Dam up the liquid spill. Plug the leak, cut off the supply. Contain released substance, pump into suitable containers.

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

### 6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. Use only outdoors or in a well-ventilated area. Avoid breathing dust,fume,gas,mist,vapor spray. Obtain special instructions . Do not handle until all safety precautions have been read and understood.

Hygiene measures : Do not eat, drink or smoke when using this product. Wash affected areas thoroughly after handling. Wash contaminated clothing before reuse. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

### 7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Proper grounding procedures to avoid static electricity should be followed.

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Keep container closed when not in use.

Incompatible products : Strong bases. Strong acids.

Incompatible materials : Sources of ignition. Direct sunlight.

Storage area : Keep only in the original container.

Special rules on packaging : Keep only in original container.

### 7.3. Specific end use(s)

Follow Label Directions.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

| **Sodium Hydroxide (1310-73-2)** | | |
|---|---|---|
| USA ACGIH | ACGIH Ceiling (mg/m³) | 2 mg/m³ (Sodium hydroxide; USA; Momentary value; TLV - Adopted Value) |

| **2,6-Di-tert-butyl-p-cresol (128-37-0)** | | |
|---|---|---|
| USA ACGIH | ACGIH TWA (mg/m³) | 2 mg/m³ (Butylated hydroxytoluene (BHT); USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value; Inhalable fraction and vapor) |

### 8.2. Exposure controls

Appropriate engineering controls : Local exhaust venilation, vent hoods . Ensure good ventilation of the work station.

Personal protective equipment : Gloves. Safety glasses. Avoid all unnecessary exposure.

Hand protection : Wear protective gloves.

Eye protection : Chemical goggles or safety glasses.

| | | |
|---|---|---|
| Skin and body protection | : | Wear suitable protective clothing. |
| Respiratory protection | : | Wear appropriate mask. |
| Other information | : | Do not eat, drink or smoke during use. |

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

| | | |
|---|---|---|
| Physical state | : | Liquid |
| Appearance | : | Liquid. |
| Color | : | Colourless to light yellow. |
| Odor | : | Mild . Ammoniacal. |
| Odor threshold | : | No data available |
| pH | : | 7.7 |
| Relative evaporation rate (butyl acetate=1) | : | No data available |
| Melting point | : | < -59 °C |
| Freezing point | : | No data available |
| Boiling point | : | 281 °C |
| Flash point | : | 132 °C |
| Auto-ignition temperature | : | No data available |
| Decomposition temperature | : | No data available |
| Flammability (solid, gas) | : | No data available |
| Vapor pressure | : | < 0.01 mm Hg Estimated |
| Relative vapor density at 20 °C | : | > 10 |
| Relative density | : | 1.03 - 1.08 |
| Solubility | : | Soluble in water.<br>Water: 100% Estimated |
| Log Pow | : | No data available |
| Log Kow | : | No data available |
| Viscosity, kinematic | : | 1100 mm²/s @ -40 deg C Estimated |
| Viscosity, dynamic | : | No data available |
| Explosive properties | : | No data available |
| Oxidizing properties | : | No data available |
| Explosion limits | : | No data available |

### 9.2. Other information

VOC content : 0 %

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

### 10.2. Chemical stability

Not established.

### 10.3. Possibility of hazardous reactions

Not established.

### 10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

### 10.5. Incompatible materials

Oxidizing agent. Strong acids. Strong bases.

### 10.6. Hazardous decomposition products

Toxic fume. . Carbon monoxide. Carbon dioxide.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Oral: Harmful if swallowed. Inhalation:dust,mist: Harmful if inhaled.

| Triethylene Glycol Monomethyl Ether (112-35-6) | |
|---|---|
| LD50 oral rat | 11865 mg/kg (Rat) |
| LD50 dermal rabbit | 7455 mg/kg (Rabbit) |

| Methoxy Polyethylene Glycol 350 (9004-74-4) | |
|---|---|
| LD50 oral rat | 22000 mg/kg (Rat) |
| LD50 dermal rabbit | > 20000 mg/kg (Rabbit) |

| Triethylene Glycol Monobutyl Ether (143-22-6) | |
|---|---|
| LD50 oral rat | > 5000 mg/kg (Rat) |
| LD50 dermal rabbit | 3480 mg/kg (Rabbit) |

| Tetraethylene Glycol (112-60-7) | |
|---|---|
| LD50 oral rat | 29000 mg/kg (Rat) |
| LD50 dermal rabbit | > 20000 mg/kg (Rabbit) |

| Triethyleneglycol (112-27-6) | |
|---|---|
| LD50 oral rat | > 5000 mg/kg (Rat) |
| LD50 dermal rabbit | > 5000 mg/kg (Rabbit) |

| Diisopropanolamine (110-97-4) | |
|---|---|
| LD50 oral rat | 4765 mg/kg (Rat) |
| LD50 dermal rat | 16000 mg/kg (Rat) |
| LD50 dermal rabbit | 8000 mg/kg (Rabbit) |

| Triethylene Glycol Monomethyl Borate Ester (30989-05-0) | |
|---|---|
| LD50 oral rat | > 5 g/kg |
| LD50 dermal rabbit | > 2 g/kg |
| LC50 inhalation rat (mg/l) | 200 mg/l |

| 2,6-Di-tert-butyl-p-cresol (128-37-0) | |
|---|---|
| LD50 oral rat | 890 mg/kg (Rat; OECD 401: Acute Oral Toxicity; Experimental value; >6000 mg/kg bodyweight; Rat) |
| LD50 dermal rat | > 2000 mg/kg (Rat; Literature study; OECD 402: Acute Dermal Toxicity; >2000 mg/kg bodyweight; Rat; Experimental value) |

| Diethylene Glycol Monomethyl Ether (111-77-3) | |
|---|---|
| LD50 oral rat | 4140 mg/kg (Rat) |
| LD50 dermal rabbit | > 2000 mg/kg (Rabbit) |
| LC50 inhalation rat (mg/l) | > 20 mg/l/4h (Rat) |

Skin corrosion/irritation : Causes skin irritation.
pH: 7.7

Serious eye damage/irritation : Causes serious eye damage.
pH: 7.7

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified Based on available data, the classification criteria are not met

Carcinogenicity : Not classified

| Polyalkylene Glycol Monobutyl Ether (9004-77-7) | |
|---|---|
| IARC group | 4 |

| 2,6-Di-tert-butyl-p-cresol (128-37-0) | |
|---|---|
| IARC group | 3 |

Reproductive toxicity : Suspected of damaging fertility or the unborn child.

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

Potential Adverse human health effects and symptoms : Based on available data, the classification criteria are not met. Harmful if swallowed. Harmful if inhaled.

Symptoms/injuries after inhalation : Danger of serious damage to health by prolonged exposure through inhalation. Harmful if inhaled.

Symptoms/injuries after skin contact : May cause moderate irritation. Itching. Red skin. Skin rash/inflammation. Causes skin irritation.

Symptoms/injuries after eye contact : Irritation of the eye tissue. Inflammation/damage of the eye tissue. Redness of the eye tissue. Causes serious eye damage.

Symptoms/injuries after ingestion : Swallowing a small quantity of this material will result in serious health hazard.

## SECTION 12: Ecological information

### 12.1. Toxicity

| Triethylene Glycol Monomethyl Ether (112-35-6) | |
|---|---|
| LC50 fish 1 | > 5000 mg/l (LC50; 96 h) |
| EC50 Daphnia 1 | > 10000 mg/l (LC50; 48 h) |
| Threshold limit algae 1 | > 500 mg/l (EC50; 72 h) |

| Triethylene Glycol Monobutyl Ether (143-22-6) | |
|---|---|
| LC50 fish 2 | 2200 mg/l (LC50; 96 h) |
| EC50 Daphnia 2 | > 500 mg/l (EC50; 48 h) |
| Threshold limit algae 1 | > 500 mg/l (EC50; 72 h) |

| Triethyleneglycol (112-27-6) | |
|---|---|
| EC50 Daphnia 1 | 42426 mg/l (EC50; 48 h) |
| LC50 fish 2 | 61000 mg/l (LC50; 96 h; Lepomis macrochirus) |
| Threshold limit algae 2 | > 10000 mg/l (EC0; 168 h) |

| Diisopropanolamine (110-97-4) | |
|---|---|
| LC50 fish 1 | 1000 - 2200 mg/l (LC50; OECD 203: Fish, Acute Toxicity Test; 96 h; Brachydanio rerio) |
| EC50 Daphnia 2 | 277.7 mg/l (EC50; 48 h) |
| Threshold limit algae 1 | 270 mg/l (EC50; 72 h) |

| Sodium Hydroxide (1310-73-2) | |
|---|---|
| LC50 fish 1 | 45.4 mg/l (LC50; Other; 96 h; Salmo gairdneri; Static system; Fresh water; Experimental value) |

| 2,6-Di-tert-butyl-p-cresol (128-37-0) | |
|---|---|
| LC50 fish 1 | >= 0.57 mg/l (LC0; EU Method C.1; 96 h; Brachydanio rerio; Semi-static system; Fresh water; Experimental value) |
| EC50 Daphnia 1 | 0.48 mg/l (EC50; OECD 202: Daphnia sp. Acute Immobilisation Test; 48 h; Daphnia magna; Static system; Fresh water; Experimental value) |
| LC50 fish 2 | 0.199 mg/l (LC50; ECOSAR v1.00; 96 h; Pisces) |
| EC50 Daphnia 2 | 0.15 mg/l (NOEC; OECD 202: Daphnia sp. Acute Immobilisation Test; 48 h; Daphnia magna; Static system; Fresh water; Experimental value) |

| Diethylene Glycol Monomethyl Ether (111-77-3) | |
|---|---|
| LC50 fish 1 | 1000 mg/l (LC50; 96 h) |
| EC50 Daphnia 1 | > 500 mg/l (EC50; 48 h) |
| Threshold limit algae 1 | > 500 mg/l (EC50; 72 h) |

### 12.2. Persistence and degradability

| JOHNSEN'S DOT 4 BRAKE FLUID 32 FL.OZ. | |
|---|---|
| Persistence and degradability | Not established. |

| Triethylene Glycol Monomethyl Ether (112-35-6) | |
|---|---|
| Persistence and degradability | Inherently biodegradable. Non degradable in the soil. Photodegradation in the air. Not established. |

| Methoxy Polyethylene Glycol 350 (9004-74-4) | |
|---|---|
| Persistence and degradability | Not readily biodegradable in water. |
| BOD (% of ThOD) | 0.1 (28 days) |

| Triethylene Glycol Monobutyl Ether (143-22-6) | |
|---|---|
| Persistence and degradability | Readily biodegradable in water. |
| Biochemical oxygen demand (BOD) | 0.02 g $O_2$ /g substance |
| Chemical oxygen demand (COD) | 1.83 g $O_2$ /g substance |

| Tetraethylene Glycol (112-60-7) | |
|---|---|
| Persistence and degradability | Readily biodegradable in water. |
| Biochemical oxygen demand (BOD) | 0.50 g $O_2$ /g substance (10d) |
| ThOD | 2.23 g $O_2$ /g substance |
| BOD (% of ThOD) | 0.286 |

| Polyalkylene Glycol Monobutyl Ether (9004-77-7) | |
|---|---|
| Persistence and degradability | Not established. |

| 3,6,9,12-Tetraoxatetradecane-1,14-diol (4792-15-8) | |
|---|---|
| Persistence and degradability | Biodegradability in water: no data available. |

| Triethyleneglycol (112-27-6) | |
|---|---|
| Persistence and degradability | Inherently biodegradable. Readily biodegradable in water. Photolysis in the air. |
| Biochemical oxygen demand (BOD) | 0.03 g $O_2$ /g substance |
| Chemical oxygen demand (COD) | 1.57 g $O_2$ /g substance |
| ThOD | 1.6 g $O_2$ /g substance |

| Diisopropanolamine (110-97-4) | |
|---|---|
| Persistence and degradability | Not readily biodegradable in water. |

| Triethylene Glycol Monomethyl Borate Ester (30989-05-0) | |
|---|---|
| Persistence and degradability | Not established. |

| Sodium Hydroxide (1310-73-2) | |
|---|---|
| Persistence and degradability | Biodegradability: not applicable. No (test)data on mobility of the substance available. |
| Biochemical oxygen demand (BOD) | Not applicable |
| Chemical oxygen demand (COD) | Not applicable |
| ThOD | Not applicable |

| 2,6-Di-tert-butyl-p-cresol (128-37-0) | |
|---|---|
| Persistence and degradability | Not readily biodegradable in water. Biodegradable in the soil. Adsorbs into the soil. Low potential for mobility in soil. Photooxidation in the air. |
| Biochemical oxygen demand (BOD) | 0.51 g $O_2$ /g substance |
| Chemical oxygen demand (COD) | 2.27 g $O_2$ /g substance |
| ThOD | 2.977 g $O_2$ /g substance |
| BOD (% of ThOD) | 0.17 |

| Diethylene Glycol Monomethyl Ether (111-77-3) | |
|---|---|
| Persistence and degradability | Readily biodegradable in water. Photolysis in the air. Photodegradation in the air. |
| Chemical oxygen demand (COD) | 1.71 g $O_2$ /g substance |
| ThOD | 1.73 g $O_2$ /g substance |

### 12.3. Bioaccumulative potential

| JOHNSEN'S DOT 4 BRAKE FLUID 32 FL.OZ. | |
|---|---|
| Bioaccumulative potential | Not established. |

| Triethylene Glycol Monomethyl Ether (112-35-6) | |
|---|---|
| Log Pow | -1.13 |
| Bioaccumulative potential | Bioaccumulation: not applicable. Not established. |

| Methoxy Polyethylene Glycol 350 (9004-74-4) | |
|---|---|
| Bioaccumulative potential | Not bioaccumulative. |

| Triethylene Glycol Monobutyl Ether (143-22-6) | |
|---|---|
| Log Pow | 0.51 (Experimental value) |
| Bioaccumulative potential | Low potential for bioaccumulation (Log Kow < 4). |

| Tetraethylene Glycol (112-60-7) | |
|---|---|
| Log Pow | -2.18 - -1.38 |
| Bioaccumulative potential | Bioaccumulation: not applicable. |

| Polyalkylene Glycol Monobutyl Ether (9004-77-7) | |
|---|---|
| Bioaccumulative potential | Not established. |

| 3,6,9,12-Tetraoxatetradecane-1,14-diol (4792-15-8) | |
|---|---|
| Log Pow | -2.30 (Estimated value) |
| Bioaccumulative potential | Bioaccumulation: not applicable. |

| Triethyleneglycol (112-27-6) | |
|---|---|
| Log Pow | -2.08 - -1.17 (Calculated) |
| Bioaccumulative potential | Low potential for bioaccumulation (Log Kow < 4). |

| Diisopropanolamine (110-97-4) | |
|---|---|
| Log Pow | -0.79 |
| Bioaccumulative potential | Bioaccumulation: not applicable. |

| Triethylene Glycol Monomethyl Borate Ester (30989-05-0) | |
|---|---|
| Bioaccumulative potential | Not established. |

| Sodium Hydroxide (1310-73-2) | |
|---|---|
| Bioaccumulative potential | No bioaccumulation data available. |

| 2,6-Di-tert-butyl-p-cresol (128-37-0) | |
|---|---|
| BCF fish 1 | 230 - 2500 (BCF; OECD 305: Bioconcentration: Flow-Through Fish Test; 56 days; Cyprinus carpio; Flow-through system; Fresh water; Experimental value) |
| Log Pow | 5.1 (Experimental value) |
| Bioaccumulative potential | Potential for bioaccumulation (500 ≤ BCF ≤ 5000). |

| Diethylene Glycol Monomethyl Ether (111-77-3) | |
|---|---|
| Log Pow | -1.14 - -0.68 |

| Diethylene Glycol Monomethyl Ether (111-77-3) | |
|---|---|
| Bioaccumulative potential | Bioaccumulation: not applicable. |

### 12.4. Mobility in soil

| Triethylene Glycol Monomethyl Ether (112-35-6) | |
|---|---|
| Surface tension | 0.0314 N/m |

| Methoxy Polyethylene Glycol 350 (9004-74-4) | |
|---|---|
| Surface tension | 0.04 N/m |

| Tetraethylene Glycol (112-60-7) | |
|---|---|
| Surface tension | 0.019 N/m |

| Triethyleneglycol (112-27-6) | |
|---|---|
| Surface tension | 0.045 N/m (20 °C) |

| 2,6-Di-tert-butyl-p-cresol (128-37-0) | |
|---|---|
| Log Koc | Koc,PCKOCWIN v1.66; 23030; Calculated value; log Koc; PCKOCWIN v1.66; 4.362; Calculated value |
| Ecology - soil | May be harmful to plant growth, blooming and fruit formation. |

| Diethylene Glycol Monomethyl Ether (111-77-3) | |
|---|---|
| Surface tension | 0.035 N/m (25 °C) |

### 12.5. Other adverse effects

Other information : Avoid release to the environment.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to appropriate waste disposal facility, in accordance with local, regional, national, international regulations.

Ecology - waste materials : Avoid release to the environment.

## SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

US DOT (ground): Not regulated,

ICAO/IATA (air): Not regulated,

IMO/IMDG (water): Not regulated,

### 14.2. UN proper shipping name

Proper Shipping Name (DOT) : Not regulated

### 14.3. Additional information

Other information : No supplementary information available.

**Overland transport**

No additional information available

**Transport by sea**

No additional information available

**Air transport**

No additional information available

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

| **JOHNSEN'S DOT 4 BRAKE FLUID** 32 FL.OZ. | |
|---|---|
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| SARA Section 311/312 Hazard Classes | Immediate (acute) health hazard<br>Delayed (chronic) health hazard |

| Triethylene Glycol Monomethyl Ether (112-35-6) |
|---|
| Subject to reporting requirements of United States SARA Section 313 |

| Triethylene Glycol Monobutyl Ether (143-22-6) |
|---|
| Subject to reporting requirements of United States SARA Section 313 |

| **Triethylene Glycol Monomethyl Borate Ester (30989-05-0)** |
|---|
| Listed on the United States TSCA (Toxic Substances Control Act) inventory |

### 15.2. International regulations

#### CANADA

| **JOHNSEN'S DOT 4 BRAKE FLUID** 32 FL.OZ. |
|---|
| Listed on the Canadian DSL (Domestic Substances List) |

| **Triethylene Glycol Monobutyl Ether (143-22-6)** |
|---|

| **Triethylene Glycol Monomethyl Borate Ester (30989-05-0)** |
|---|
| Listed on the Canadian DSL (Domestic Substances List) |

#### EU-Regulations

| **Triethylene Glycol Monobutyl Ether (143-22-6)** |
|---|

| **Triethylene Glycol Monomethyl Borate Ester (30989-05-0)** |
|---|
| Listed on ELINCS (European List of Notified Chemical Substances) |

#### Classification according to Regulation (EC) No. 1272/2008 [CLP]

#### Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Xi; R41
Xi; R38
R52/53

Full text of R-phrases: see section 16

#### 15.2.2. National regulations

| **JOHNSEN'S DOT 4 BRAKE FLUID** 32 FL.OZ. |
|---|
| Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) |

| **Triethylene Glycol Monobutyl Ether (143-22-6)** |
|---|

| **Triethylene Glycol Monomethyl Borate Ester (30989-05-0)** |
|---|

### 15.3. US State regulations

| **JOHNSEN'S DOT 4 BRAKE FLUID** 32 FL.OZ. | |
|---|---|
| U.S. - California - Proposition 65 - Carcinogens List | Yes |
| U.S. - California - Proposition 65 - Developmental Toxicity | Yes |
| U.S. - California - Proposition 65 - Reproductive Toxicity - Female | Yes |
| U.S. - California - Proposition 65 - Reproductive Toxicity - Male | Yes |
| State or local regulations | U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)<br>U.S. - Pennsylvania - RTK (Right to Know) List<br>U.S. - New Jersey - Right to Know Hazardous Substance List |

| **Triethylene Glycol Monomethyl Ether (112-35-6)** | | | | |
|---|---|---|---|---|
| U.S. - California - Proposition 65 - Carcinogens List | U.S. - California - Proposition 65 - Developmental Toxicity | U.S. - California - Proposition 65 - Reproductive Toxicity - Female | U.S. - California - Proposition 65 - Reproductive Toxicity - Male | Non-significant risk level (NSRL) |
| No | No | No | No | |

| **Methoxy Polyethylene Glycol 350 (9004-74-4)** | | | | |
|---|---|---|---|---|
| U.S. - California - Proposition 65 - Carcinogens List | U.S. - California - Proposition 65 - Developmental Toxicity | U.S. - California - Proposition 65 - Reproductive Toxicity - Female | U.S. - California - Proposition 65 - Reproductive Toxicity - Male | Non-significant risk level (NSRL) |
| No | No | No | No | |

| **Triethylene Glycol Monobutyl Ether (143-22-6)** | | | | |
|---|---|---|---|---|
| U.S. - California - Proposition 65 - Carcinogens List | U.S. - California - Proposition 65 - Developmental Toxicity | U.S. - California - Proposition 65 - Reproductive Toxicity - Female | U.S. - California - Proposition 65 - Reproductive Toxicity - Male | Non-significant risk level (NSRL) |
| No | No | No | No | |

| Tetraethylene Glycol (112-60-7) | | | | |
|---|---|---|---|---|
| U.S. - California - Proposition 65 - Carcinogens List | U.S. - California - Proposition 65 - Developmental Toxicity | U.S. - California - Proposition 65 - Reproductive Toxicity - Female | U.S. - California - Proposition 65 - Reproductive Toxicity - Male | Non-significant risk level (NSRL) |
| No | No | No | No | |

| Polyalkylene Glycol Monobutyl Ether (9004-77-7) | | | | |
|---|---|---|---|---|
| U.S. - California - Proposition 65 - Carcinogens List | U.S. - California - Proposition 65 - Developmental Toxicity | U.S. - California - Proposition 65 - Reproductive Toxicity - Female | U.S. - California - Proposition 65 - Reproductive Toxicity - Male | Non-significant risk level (NSRL) |
| No | No | No | No | |

| 3,6,9,12-Tetraoxatetradecane-1,14-diol (4792-15-8) | | | | |
|---|---|---|---|---|
| U.S. - California - Proposition 65 - Carcinogens List | U.S. - California - Proposition 65 - Developmental Toxicity | U.S. - California - Proposition 65 - Reproductive Toxicity - Female | U.S. - California - Proposition 65 - Reproductive Toxicity - Male | Non-significant risk level (NSRL) |
| No | No | No | No | |

| Triethyleneglycol (112-27-6) | | | | |
|---|---|---|---|---|
| U.S. - California - Proposition 65 - Carcinogens List | U.S. - California - Proposition 65 - Developmental Toxicity | U.S. - California - Proposition 65 - Reproductive Toxicity - Female | U.S. - California - Proposition 65 - Reproductive Toxicity - Male | Non-significant risk level (NSRL) |
| No | No | No | No | |

| Diisopropanolamine (110-97-4) | | | | |
|---|---|---|---|---|
| U.S. - California - Proposition 65 - Carcinogens List | U.S. - California - Proposition 65 - Developmental Toxicity | U.S. - California - Proposition 65 - Reproductive Toxicity - Female | U.S. - California - Proposition 65 - Reproductive Toxicity - Male | Non-significant risk level (NSRL) |
| No | No | No | No | |

| Triethylene Glycol Monomethyl Borate Ester (30989-05-0) | | | | |
|---|---|---|---|---|
| U.S. - California - Proposition 65 - Carcinogens List | U.S. - California - Proposition 65 - Developmental Toxicity | U.S. - California - Proposition 65 - Reproductive Toxicity - Female | U.S. - California - Proposition 65 - Reproductive Toxicity - Male | Non-significant risk level (NSRL) |
| No | No | No | No | |

| Sodium Hydroxide (1310-73-2) | | | | |
|---|---|---|---|---|
| U.S. - California - Proposition 65 - Carcinogens List | U.S. - California - Proposition 65 - Developmental Toxicity | U.S. - California - Proposition 65 - Reproductive Toxicity - Female | U.S. - California - Proposition 65 - Reproductive Toxicity - Male | Non-significant risk level (NSRL) |
| No | No | No | No | |

| 2,6-Di-tert-butyl-p-cresol (128-37-0) | | | | |
|---|---|---|---|---|
| U.S. - California - Proposition 65 - Carcinogens List | U.S. - California - Proposition 65 - Developmental Toxicity | U.S. - California - Proposition 65 - Reproductive Toxicity - Female | U.S. - California - Proposition 65 - Reproductive Toxicity - Male | Non-significant risk level (NSRL) |
| No | No | No | No | |

| Diethylene Glycol Monomethyl Ether (111-77-3) | | | | |
|---|---|---|---|---|
| U.S. - California - Proposition 65 - Carcinogens List | U.S. - California - Proposition 65 - Developmental Toxicity | U.S. - California - Proposition 65 - Reproductive Toxicity - Female | U.S. - California - Proposition 65 - Reproductive Toxicity - Male | Non-significant risk level (NSRL) |
| No | No | No | No | |

**Triethylene Glycol Monomethyl Ether (112-35-6)**

**State or local regulations**

U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - New Jersey - Right to Know Hazardous Substance List

| Triethylene Glycol Monobutyl Ether (143-22-6) |
|---|
| **State or local regulations** |
| U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List<br>U.S. - New Jersey - Right to Know Hazardous Substance List |

| Triethyleneglycol (112-27-6) |
|---|
| **State or local regulations** |
| U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List |

| Triethylene Glycol Monomethyl Borate Ester (30989-05-0) |
|---|
| **State or local regulations** |
| U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL) |

## SECTION 16: Other information

Indication of changes : Revision - See : *.

Other information : None.

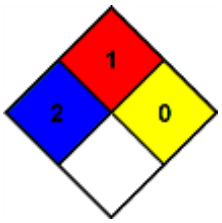
Full text of H-phrases:

| | |
|---|---|
| H227 | Combustible liquid |
| H302 | Harmful if swallowed |
| H312 | Harmful in contact with skin |
| H314 | Causes severe skin burns and eye damage |
| H315 | Causes skin irritation |
| H318 | Causes serious eye damage |
| H320 | Causes eye irritation |
| H332 | Harmful if inhaled |
| H361 | Suspected of damaging fertility or the unborn child |

NFPA health hazard : 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.

NFPA fire hazard : 1 - Must be preheated before ignition can occur.

NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.




**HMIS III Rating**

Health : 2 Moderate Hazard - Temporary or minor injury may occur

Flammability : 1 Slight Hazard

Physical : 0 Minimal Hazard

Personal Protection : B

SDS US (GHS HazCom 2012) - TCC

*The Supplier identified in Section 1 of this MSDS has evaluated this product and certifies it to be labeled and packaged in compliance with the applicable provisions of the Federal Hazardous Substance Act as stated in 16 CFR 1500 and enforced by the Consumer Product Safety Commission, and where applicable the products that require Child Resistant Closures are packaged in accordance with the Poison Prevention Packaging Act as stated in 16 CFR 1700 and enforced by the Consumer Product Safety Commission. All closures have been tested in accordance with the latest protocols. No other testing is required to certify compliance with the above. The date of manufacture is stamped on the product*

*Disclaimer: The information and recommendations contained herein are based upon tests believed to be reliable. However, the manufacturer/distributor of this product does not guarantee their accuracy or completeness NOR SHALL ANY OF THIS INFORMATION CONSTITUTE A WARRANTY, WHETHER EXPRESSED OR IMPLIED, AS TO THE SAFETY OF THE GOODS, THE MERCHANTABILITY OF THE GOODS, OR THE FITNESS OF THE GOODS FOR A PARTICULAR PURPOSE. Adjustment to conform to actual conditions of usage may be required. The manufacturer/distributor assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied.*