SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier
Trade name: Valvoline™ SYNTHETIC DOT 3&4 BRAKE FLUID

Relevant identified uses of the substance or mixture and uses advised against

Details of the supplier of the safety data sheet
x P.O. Box 2219
Columbus, OH 43216
United States of America (USA)
614-790-3333
sds@valvoline.com

Emergency telephone number
1-800-ASHLAND (1-800-274-5263)

Regulatory Information Number
1-800-325-3751

Product Information
614-790-3333

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification
Serious eye damage/eye irritation: Category 1
Reproductive toxicity: Category 2
Acute aquatic toxicity: Category 3
Chronic aquatic toxicity: Category 3

GHS label elements
Hazard pictograms:

Signal word: Danger

Hazard statements: H318 Causes serious eye damage. H361d Suspected of damaging the unborn child. H412 Harmful to aquatic life with long lasting effects.

Precautionary statements: Prevention:
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
P308 + P313 IF exposed or concerned: Get medical advice/attention.

Storage:
P405 Store locked up.

Disposal:
P501 Dispose of contents/container to an approved waste disposal plant.

Other hazards which do not result in classification
No information available.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture
Chemical nature : Defatter

Hazardous components

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>Classification</th>
<th>Concentration (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triethylene glycol monomethyl ether, borate</td>
<td>30989-05-0</td>
<td>Not a hazardous substance or mixture.</td>
<td>&gt;= 30.00 - &lt; 50.00</td>
</tr>
<tr>
<td>2-(2-(2-(2-Butoxyethoxy)ethoxy)ethoxy)ethanol</td>
<td>143-22-6</td>
<td>Acute Tox. 5; H313 1; H318</td>
<td>&gt;= 10.00 - &lt; 20.00</td>
</tr>
<tr>
<td>ALKOXYLATED ALCOHOL</td>
<td>9004-77-7</td>
<td>Acute Tox. 5; H303 Acute Tox. 5; H313 1; H318</td>
<td>&gt;= 10.00 - &lt; 20.00</td>
</tr>
<tr>
<td>DIISOPROPANOLAMINE</td>
<td>110-97-4</td>
<td>2A; H319</td>
<td>&gt;= 1.00 - &lt; 10.00</td>
</tr>
<tr>
<td>BUTYLATED HYDROXY TOLUENE</td>
<td>128-37-0</td>
<td>Aquatic Acute 1; H400 Aquatic Chronic 1; H410</td>
<td>&gt;= 0.10 - &lt; 1.00</td>
</tr>
<tr>
<td>SODIUM HYDROXIDE</td>
<td>1310-73-2</td>
<td>Met. Corr. 1; H290 1A; H314</td>
<td>&gt;= 0.10 - &lt; 1.00</td>
</tr>
</tbody>
</table>
SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.
Consult a physician.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.

If inhaled : If breathed in, move person into fresh air.
If unconscious, place in recovery position and seek medical advice.
If symptoms persist, call a physician.

In case of skin contact : First aid is not normally required. However, it is recommended that exposed areas be cleaned by washing with soap and water.

In case of eye contact : In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Continue rinsing eyes during transport to hospital.
Remove contact lenses.
Protect unharmed eye.

If swallowed : Obtain medical attention.
Do NOT induce vomiting.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.

Most important symptoms and effects, both acute and delayed : Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include:
stomach or intestinal upset (nausea, vomiting, diarrhea)
irritation (nose, throat, airways)
Causes serious eye damage.
Suspected of damaging the unborn child.
Notes to physician : No hazards which require special first aid measures.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Water spray
Foam
Carbon dioxide (CO2)
Dry chemical

Unsuitable extinguishing media : High volume water jet

Specific hazards during firefighting : If product is heated above its flash point it will produce vapors sufficient to support combustion. Vapors are heavier than air and may travel along the ground and be ignited by heat, pilot lights, other flames and ignition sources at locations near the point of release. Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products : carbon dioxide and carbon monoxide
Hydrocarbons
Alcohols
Aldehydes
ethers
Nitrogen oxides (NOx)

Specific extinguishing methods : Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Product is compatible with standard fire-fighting agents.

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment. Ensure adequate ventilation. Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Comply with all applicable federal, state, and local regulations.

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 : Soak up with inert absorbent material (e.g. sand, silica gel,
containment and cleaning up acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion
Normal measures for preventive fire protection.

Advice on safe handling
Do not breathe vapours/dust.
Do not smoke.
Container hazardous when empty.
Avoid contact with skin and eyes.
Smoking, eating and drinking should be prohibited in the application area.
For personal protection see section 8.
Dispose of rinse water in accordance with local and national regulations.

Conditions for safe storage
Keep container tightly closed in a dry and well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Observe label precautions.

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>DIISOPROPANOLAMINE</td>
<td>110-97-4</td>
<td>TWA</td>
<td>10 ppm</td>
<td>SUPLR EXP</td>
</tr>
<tr>
<td>Triethylene glycol monomethyl ether, borate</td>
<td>30989-05-0</td>
<td>TWA (Inhalable fraction.)</td>
<td>2 mg/m3 Inhalable fraction.</td>
<td>UY OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL (Inhalable fraction.)</td>
<td>6 mg/m3 Inhalable fraction.</td>
<td>UY OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Inhalable fraction.)</td>
<td>2 mg/m3 Inhalable fraction.</td>
<td>PY OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL (Inhalable fraction.)</td>
<td>6 mg/m3 Inhalable fraction.</td>
<td>PY OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA 48HRS (Inhalable fraction.)</td>
<td>2 mg/m3 Inhalable fraction.</td>
<td>BR OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL (Inhalable fraction.)</td>
<td>6 mg/m3 Inhalable fraction.</td>
<td>BR OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Inhalable fraction.)</td>
<td>2 mg/m3 Inhalable fraction.</td>
<td>EC OEL</td>
</tr>
<tr>
<td>Chemical Name</td>
<td>CAS Number</td>
<td>Description</td>
<td>STEL (Inhalable fraction)</td>
<td>TWA (Inhalable fraction)</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>--------------</td>
<td>--------------------------------------</td>
<td>---------------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>BUTYLATED HYDROXY Toluene</td>
<td>128-37-0</td>
<td>CMP (Vapour and aerosol, inhalable fraction)</td>
<td>2 mg/m³ Vapour and aerosol, inhalable fraction</td>
<td>2 mg/m³ Vapour and aerosol, inhalable fraction</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>CPT</td>
<td>10 mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>CCT</td>
<td>20 mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>CAP (Vapour and aerosol, inhalable fraction)</td>
<td>2 ppm Vapour and aerosol, inhalable fraction</td>
<td></td>
</tr>
<tr>
<td>SODIUM HYDROXIDE</td>
<td>1310-73-2</td>
<td>CMP-C</td>
<td>2 mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>LPA</td>
<td>2 ppm</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>C</td>
<td>2 mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>CPT</td>
<td>2 mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>CCT</td>
<td>4 mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>CEIL</td>
<td>2 mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>T</td>
<td>2 ppm</td>
<td></td>
</tr>
</tbody>
</table>

**Engineering measures**

Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

**Personal protective equipment**

**Respiratory protection**

A NIOSH-approved air-purifying respirator with an appropriate cartridge and/or filter may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits (if applicable) or if overexposure has otherwise been determined. Protection provided by air-purifying respirators is limited. Use a positive pressure, air-supplied respirator if there is any potential for uncontrolled release, exposure levels are not known or any other circumstances where an air-purifying respirator may not provide adequate protection.

**Hand protection**

Remarks: The suitability for a specific workplace should be discussed with the producers of the protective gloves.

**Eye protection**

Wear chemical splash goggles and face shield when there is potential for exposure of the eyes or face to liquid, vapor or mist.
Maintain eye wash station in immediate work area.

Skin and body protection: Wear as appropriate:
Impervious clothing
Safety shoes
Choose body protection according to the amount and
concentration of the dangerous substance at the work place.

Hygiene measures: Wash hands before breaks and at the end of workday.
When using do not eat or drink.
When using do not smoke.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: liquid
Colour: yellow
Odour: ammoniacal
Odour Threshold: No data available

pH: 7.7

Melting point/freezing point: < -59 °C
Boiling point/boiling range: > 243 °C
Flash point: 132 °C
Method: closed cup

Evaporation rate: No data available

Flammability (solid, gas): No data available

Upper explosion limit: No data available

Lower explosion limit: No data available

Vapour pressure: Estimated < 0.01 mmHg
Relative vapour density: > 10AIR=1
Relative density : No data available

Density : 1.03 - 1.08 g/cm³

Solubility(ies)
Water solubility : soluble

Solubility in other solvents : No data available

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

Thermal decomposition : No data available

Viscosity
Viscosity, dynamic : No data available

Viscosity, kinematic : 1100 mm²/s (40 °C)

Oxidizing properties : No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity : No decomposition if stored and applied as directed.

Chemical stability : Stable under recommended storage conditions.

Possibility of hazardous reactions : Product will not undergo hazardous polymerization.

Conditions to avoid : excessive heat
Do not allow evaporation to dryness.

Incompatible materials : Acids
Alkaline earth metals
aluminum
Bases
Copper
Valvoline™ SYNTHETIC DOT 3&4 BRAKE FLUID

601458

galvanized metals
halogenated hydrocarbons
nitrites
strong alkalis
Strong oxidizing agents
Zinc

<table>
<thead>
<tr>
<th>Hazardous decomposition products</th>
<th>Aldehydes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>carbon dioxide and carbon monoxide</td>
</tr>
<tr>
<td></td>
<td>Nitrogen oxides (NOx)</td>
</tr>
<tr>
<td></td>
<td>Organic acids</td>
</tr>
<tr>
<td></td>
<td>ketones</td>
</tr>
</tbody>
</table>

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity
Not classified based on available information.

Components:
Triethylene glycol monomethyl ether, borate:
Acute oral toxicity: LD$_{50}$ (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 401
Assessment: No adverse effect has been observed in acute oral toxicity tests.

Acute dermal toxicity: LD$_{50}$ (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 402
Assessment: No adverse effect has been observed in acute dermal toxicity tests.

2-(2-(2-Butoxyethoxy)ethoxy)ethanol:
Acute oral toxicity: LD$_{50}$ (Rat): 5,300 mg/kg

Acute dermal toxicity: LD$_{50}$ (Rabbit): 3,502 mg/kg

ALKOXYLATED ALCOHOL:
Acute oral toxicity: LD$_{50}$ (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 401

Acute dermal toxicity: LD$_{50}$ (Rabbit): 3,540 mg/kg

DIISOPROPOLANOLAMINE:
Acute oral toxicity: LD$_{50}$ (Rat): > 2,000 mg/kg
Assessment: No adverse effect has been observed in acute oral toxicity tests.

Acute dermal toxicity: LD$_{50}$ (Rabbit): 8,000 mg/kg

BUTYLATED HYDROXY TOLUENE:
Acute oral toxicity: LD$_{50}$ (Rat): > 6,000 mg/kg
Method: OECD Test Guideline 401
GLP: yes
Acute dermal toxicity: LD50 (Rat): > 2,000 mg/kg
Assessment: Not classified as acutely toxic by dermal absorption under GHS.
Remarks: No mortality observed at this dose.

SODIUM HYDROXIDE:
Acute oral toxicity: LDLo (Rabbit): 500 mg/kg

Acute inhalation toxicity: Assessment: Not classified as acutely toxic by inhalation under GHS.
Remarks: Moderate respiratory irritant

Acute dermal toxicity: Symptoms: Corrosion
Assessment: Not classified as acutely toxic by dermal absorption under GHS.

GLYCOL:
Acute oral toxicity: LD50 (Mouse): > 5,288 mg/kg
Method: OECD Test Guideline 401
GLP: no

Acute inhalation toxicity: LC0 (Rat): > 1.2 mg/l
Exposure time: 6 h
Test atmosphere: vapour
Method: OECD Test Guideline 403

Acute dermal toxicity: LD50 (Rabbit): 9,404 mg/kg
Method: OECD Test Guideline 402

Skin corrosion/irritation
Not classified based on available information.

Components:
Triethylene glycol monomethyl ether, borate:
Result: No skin irritation

2-(2-(2-Butoxyethoxy)ethoxy)ethanol:
Result: No skin irritation

ALKOXYLATED ALCOHOL:
Result: Slight, transient irritation

DIISOPROPANOLAMINE:
Result: No skin irritation

BUTYLATED HYDROXY TOLUENE:
Species: Rabbit
Method: OECD Test Guideline 404
Result: No skin irritation
SAFETY DATA SHEET

Valvoline™ SYNTHETIC DOT 3&4 BRAKE FLUID
601458

SODIUM HYDROXIDE:
Result: Corrosive after 3 minutes or less of exposure

GLYCOL:
Species: Rabbit
Method: OECD Test Guideline 404
Result: No skin irritation

**Serious eye damage/eye irritation**
Causes serious eye damage.

**Product:**
Remarks: May cause irreversible eye damage.

**Components:**
Triethylene glycol monomethyl ether, borate:
Result: Slight, transient irritation

2-(2-(2-Butoxyethoxy)ethoxy)ethanol:
Result: Corrosive

ALKOXYLATED ALCOHOL:
Result: Corrosive

DIISOPROPANOLAMINE:
Result: Severely irritating to eyes

BUTYLATED HYDROXY TOLUENE:
Species: Rabbit
Result: Slight, transient irritation
Method: OECD Test Guideline 405

SODIUM HYDROXIDE:
Result: Corrosive

GLYCOL:
Species: Rabbit
Result: Slight, transient irritation
Method: OECD Test Guideline 405

**Respiratory or skin sensitisation**
Skin sensitisation: Not classified based on available information.
Respiratory sensitisation: Not classified based on available information.

**Components:**
Triethylene glycol monomethyl ether, borate:
Test Type: Maximisation Test
Species: Guinea pig
Assessment: Does not cause skin sensitisation.
Method: OECD Test Guideline 406
ALKOXYLATED ALCOHOL:
Test Type: Maximisation Test
Species: Guinea pig
Method: OECD Test Guideline 406
Result: Did not cause sensitisation on laboratory animals.

BUTYLATED HYDROXY TOLUENE:
Assessment: Does not cause skin sensitisation.

SODIUM HYDROXIDE:
Exposure routes: Skin contact
Species: Humans
Result: negative

GLYCOL:
Test Type: Maximisation Test
Species: Guinea pig
Assessment: Does not cause skin sensitisation.
Method: OECD Test Guideline 406

Germ cell mutagenicity
Not classified based on available information.

Components:
Triethylene glycol monomethyl ether, borate:
Genotoxicity in vitro: Test Type: Ames test
Test species: Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Result: negative

BUTYLATED HYDROXY TOLUENE:
Genotoxicity in vitro: Test Type: Ames test
Test species: Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Result: negative

GLYCOL:
Genotoxicity in vitro: Test Type: Ames test
Test species: Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Result: negative

Carcinogenicity
Not classified based on available information.

Reproductive toxicity
Suspected of damaging the unborn child.

Components:
GLYCOL:
Reproductive toxicity - Some evidence of adverse effects on development, based on
Assessment
animal experiments.

**STOT - single exposure**
Not classified based on available information.

**STOT - repeated exposure**
Not classified based on available information.

**Aspiration toxicity**
Not classified based on available information.

**Further information**

**Product:**
Remarks: No data available

### SECTION 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

**Components:**
Triethylene glycol monomethyl ether, borate:

- **Toxicity to fish**
  - LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l
  - Exposure time: 96 h
  - Test Type: semi-static test
  - Method: OECD Test Guideline 203

- **Toxicity to daphnia and other aquatic invertebrates**
  - EC50 (Water flea (Daphnia magna)): >= 500 mg/l
  - Exposure time: 48 h

- **Toxicity to algae**
  - EC50 (Pseudokirchneriella subcapitata (algae)): > 100 mg/l
  - Exposure time: 72 h
  - Method: OECD Test Guideline 201

**ALKOXYLATED ALCOHOL:**

- **Toxicity to fish**
  - LC50 (Flatfish, flounder (Scophthalmus maximus)): > 1,800 mg/l
  - Exposure time: 96 h
  - Test Type: semi-static test
  - Method: OECD Test Guideline 203

- **Toxicity to algae**
  - ErC50 (Skeletonema costatum (marine diatom)): 391 mg/l
  - Exposure time: 72 h

**DIISOPROPANOLAMINE:**

- **Toxicity to fish**
  - LC50 (Carassius auratus (goldfish)): 1,100 mg/l
  - Exposure time: 24 h
  - Test Type: static test

**BUTYLATED HYDROXY TOLUENE:**

- **Toxicity to fish**
  - LC50 (Fish): Estimated 0.199 mg/l
  - Exposure time: 96 h
  - Remarks: QSAR

- **Toxicity to daphnia and other aquatic invertebrates**
  - EC50 (Water flea (Daphnia magna)): 0.48 mg/l
  - Exposure time: 48 h
  - Test Type: static test
  - Method: OECD Test Guideline 202

**M-Factor (Acute aquatic):**
1
toxicity)

Toxicity to fish (Chronic toxicity): NOEC (Oryzias latipes (Orange-red killifish)): 0.053 mg/l
Exposure time: 42 d
Test Type: flow-through test

M-Factor (Chronic aquatic toxicity): 1

SODIUM HYDROXIDE:
Toxicity to fish: LC50 (Western mosquitofish (Gambusia affinis)): 125 mg/l
Exposure time: 96 h
Method: Static
Remarks: Mortality

Toxicity to daphnia and other aquatic invertebrates: EC50 (Water flea (Daphnia magna)): 34.59 - 47.13 mg/l
Exposure time: 48 h
Remarks: Intoxication

Toxicity to bacteria: Remarks: Not applicable

Ecotoxicology Assessment
Acute aquatic toxicity: Neutralisation will reduce ecotoxic effects.

Chronic aquatic toxicity: This product has no known ecotoxicological effects.

GLYCOL:
Toxicity to fish: LC50 (Pimephales promelas (fathead minnow)): 5,741 mg/l
Exposure time: 96 h
Test Type: static test

LC50 (Bluegill (Lepomis macrochirus)): 7,500 mg/l
Exposure time: 96 h
Method: Static
Remarks: Mortality

Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): 1,192 mg/l
Exposure time: 48 h
Test Type: static test

Toxicity to algae: EC50 (Pseudokirchneriella subcapitata (green algae)): > 1,000 mg/l
End point: Biomass
Exposure time: 96 h
Test Type: static test
Method: OECD Test Guideline 201

No data available
 Persistence and degradability
 Components: Triethylene glycol monomethyl ether, borate:
Biodegradability: Result: Readily biodegradable.
Biodegradation: > 70 %
Exposure time: 28 d
Method: OECD Test Guideline 301A
**SAFETY DATA SHEET**

**Valvoline™® SYNTHETIC DOT 3&4 BRAKE FLUID**

601458

---

**BUTYLATED HYDROXY TOLUENE:**
- **Biodegradability**
  - Result: Not readily biodegradable.
  - Biodegradation: 4.5%
  - Exposure time: 28 d
  - Method: OECD Test Guideline 301C

- **Physico-chemical removability**
  - Remarks: The product can be degraded by abiotic (e.g. chemical or photolytic) processes.

**SODIUM HYDROXIDE:**
- **Biodegradability**
  - Result: The methods for determining biodegradability are not applicable to inorganic substances.

**GLYCOL:**
- **Biodegradability**
  - aerobic
    - Inoculum: activated sludge
    - Result: Readily biodegradable.
    - Biodegradation: 100%
    - Exposure time: 28 d

- **No data available**

**Bioaccumulative potential Components:**
- **DIISOPROPANOLAMINE:**
  - Partition coefficient: n-octanol/water
  - log Pow: -0.82

- **BUTYLATED HYDROXY TOLUENE:**
  - Partition coefficient: n-octanol/water
  - log Pow: 4.17 (21 °C)

- **No data available**

**Mobility in soil Components:**
- **No data available**

**Other adverse effects**
- **No data available**

**Product:**
- **Additional ecological information**
  - An environmental hazard cannot be excluded in the event of unprofessional handling or disposal., Harmful to aquatic life with long lasting effects.

**Components:**

---

**SECTION 13. DISPOSAL CONSIDERATIONS**

**Disposal methods**
- **General advice**
  - 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.
  - Send to a licensed waste management company.

- **Contaminated packaging**
  - Dispose of as unused product.
  - Empty containers should be taken to an approved waste
SECTION 14. TRANSPORT INFORMATION

International transport regulations

<table>
<thead>
<tr>
<th>REGULATION</th>
<th>ID NUMBER</th>
<th>PROPER SHIPPING NAME</th>
<th>*HAZARD CLASS</th>
<th>SUBSIDIARY HAZARDS</th>
<th>PACKING GROUP</th>
<th>MARINE POLLUTANT / LTD. QTY.</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Not dangerous goods</td>
</tr>
<tr>
<td>INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Not dangerous goods</td>
</tr>
<tr>
<td>INTERNATIONAL MARITIME DANGEROUS GOODS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Not dangerous goods</td>
</tr>
<tr>
<td>UN_DG</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Not dangerous goods</td>
</tr>
</tbody>
</table>

*ORM = ORM-D, CBL = COMBUSTIBLE LIQUID

<table>
<thead>
<tr>
<th>Marine pollutant</th>
<th>no</th>
</tr>
</thead>
</table>

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

SECTION 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

- Chemical Control Order (CCO) : Not applicable
- Priority Chemical List (PCL) : Not applicable
- Hazardous Substance Act B.E. 2535 : SODIUM HYDROXIDE
- Emergency Decree on Controlling the Use of Volatile Substances B.E. 2533 : Not applicable

Other international regulations

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

- TSCA : On the inventory, or in compliance with the inventory

handling site for recycling or disposal.
Do not re-use empty containers.
SECTION 16. OTHER INFORMATION

Further information
Revision Date: 01/19/2017

Full text of H-Statements
H290  May be corrosive to metals.
H303  May be harmful if swallowed.
H313  May be harmful in contact with skin.
H314  Causes severe skin burns and eye damage.
H318  Causes serious eye damage.
H319  Causes serious eye irritation.
H361d  Suspected of damaging the unborn child.
H400  Very toxic to aquatic life.
H402  Harmful to aquatic life.
H410  Very toxic to aquatic life with long lasting effects.

Other information : The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This SDS has been prepared by Valvoline’s Environmental Health and Safety Department (1-800-VALVOLINE).

Sources of key data used to compile the Safety Data Sheet
Valvoline internal data including own and sponsored test reports
The UNECE administers regional agreements implementing harmonised classification for labelling (GHS) and transport.
List of abbreviations and acronyms that could be, but not necessarily are, used in this safety data sheet:
ACGIH: American Conference of Industrial Hygienists
BEI: Biological Exposure Index
CAS: Chemical Abstracts Service (Division of the American Chemical Society).
CMR: Carcinogenic, Mutagenic or Toxic for Reproduction
FG: Food grade
GHS: Globally Harmonized System of Classification and Labeling of Chemicals.
H-statement: Hazard Statement
IATA: International Air Transport Association.
IATA-DGR: Dangerous Goods Regulation by the “International Air Transport Association” (IATA).

ICAO: International Civil Aviation Organization
ICAO-TI (ICAO): Technical Instructions by the “International Civil Aviation Organization”
IMDG: International Maritime Code for Dangerous Goods
ISO: International Organization for Standardization
logPow: octanol-water partition coefficient
LCxx: Lethal Concentration, for xx percent of test population
LDxx: Lethal Dose, for xx percent of test population.
ICxx: Inhibitory Concentration for xx of a substance
Ecxx: Effective Concentration of xx
N.O.S.: Not Otherwise Specified
OECD: Organization for Economic Co-operation and Development
OEL: Occupational Exposure Limit
P-Statement: Precautionary Statement
PBT: Persistent, Bioaccumulative and Toxic
PPE: Personal Protective Equipment
STEL: Short-term exposure limit
STOT: Specific Target Organ Toxicity
TLV: Threshold Limit Value
TWA: Time-weighted average
vPvB: Very Persistent and Very Bioaccumulative
WEL: Workplace Exposure Level

CEATOX
Assistance Center of the Institute of Toxicology
Children's Hospital Clinic, Faculty of Medicine
University of São Paulo.
BR OEL: Occupational Exposure Limit (Brazil)
UY OEL: Occupational Exposure Limit (Uruguay)
PY OEL: Occupational Exposure Limit (Paraguay)