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| Valvoline™ BRAKEFLUID DOT 3&4 BRAKE FLUID<br>VE58000                              |                  | Version: 1.1              |

29 CFR 1910.1200 (OSHA HazCom 2012)

## SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

### Product identifier

Trade name : Valvoline™ BRAKEFLUID DOT 3&4 BRAKE FLUID

### Recommended use of the chemical and restrictions on use

|   |  |
|---|--|
| <b>Details of the supplier of the safety data sheet</b><br><br>Valvoline LLC<br>3499 Blazer Parkway<br>Lexington, KY 40509<br>United States of America<br><br>SDS@valvoline.com | <b>Emergency telephone number</b><br>1-800-VALVOLINE<br><br><b>Regulatory Information Number</b><br>1-800-TEAMVAL<br><br><b>Product Information</b><br>1-800-TEAMVAL |
|---|--|

## SECTION 2. HAZARDS IDENTIFICATION

### GHS Classification

Skin sensitization : Category 1

### GHS Label element

Hazard pictograms : 

Signal Word : Warning

Hazard Statements : May cause an allergic skin reaction.

Precautionary Statements : If medical advice is needed, have product container or label at hand.  
Keep out of reach of children.  
Read label before use.

#### Prevention:

Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.  
Contaminated work clothing must not be allowed out of the workplace.

Wear protective gloves.

#### Response:

IF ON SKIN: Wash with plenty of soap and water.



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If skin irritation or rash occurs: Get medical advice/ attention.  
Wash contaminated clothing before reuse.

### Disposal:

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

### Other hazards

None known.

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## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

### Hazardous components

| Chemical Name                      | CAS-No.  | Classification   | Concentration (%) |
|------------------------------------|----------|--|-------------------|
| DIETHYLENE GLYCOL MONOBUTYL ETHER  | 112-34-5 | Eye Irrit. 2A; H319  | 4.99              |
| TRIETHYLENE GLYCOL MONOBUTYL ETHER | 143-22-6 | Eye Dam. 1; H318   | 4.90              |
| BISPHENOL A                        | 80-05-7  | Skin Irrit. 2; H315<br>Eye Irrit. 2A; H319<br>Skin Sens. 1; H317 | 0.99              |

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## SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.  
Call a POISON CENTRE or doctor/physician if exposed or you feel unwell.  
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 : Remove contaminated clothing. If irritation develops, get

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medical attention.  
 If on skin, rinse well with water.  
 First aid is not normally required. However, it is recommended that exposed areas be cleaned by washing with soap and water.  
 Wash contaminated clothing before re-use.

In case of eye contact : Flush eyes with water as a precaution.  
 Remove contact lenses.  
 Protect unharmed eye.  
 If eye irritation persists, consult a specialist.

If swallowed : Obtain medical attention.  
 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 : Diglycol ethers may cause acidosis.  
 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)  
 Blurred vision  
 May cause an allergic skin reaction.

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 (CO<sub>2</sub>)  
 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 and carbon monoxide  
 Hydrocarbons  
 Alcohols  
 ethers  
 Ketones  
 Aldehydes  
 Organic acids

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Specific extinguishing methods : Product is compatible with standard fire-fighting agents.

Further information : Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

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

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## 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.

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). Keep in suitable, closed containers for disposal.

Other information : Comply with all applicable federal, state, and local regulations.

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## SECTION 7. HANDLING AND STORAGE

Advice on safe handling : Do not breathe vapours/dust. Do not smoke. Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used. Container hazardous when empty. Avoid exposure - obtain special instructions before use. 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. Observe label precautions.

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Electrical installations / working materials must comply with the technological safety standards.

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Components with workplace control parameters

| Components                           | CAS-No.  | Value type<br>(Form of<br>exposure) | Control<br>parameters /<br>Permissible<br>concentration | Basis |
|--------------------------------------|----------|-------------------------------------|---|-------|
| DIETHYLENE GLYCOL<br>MONOBUTYL ETHER | 112-34-5 | TWA                                 | 10 ppm<br>Inhalable fraction<br>and vapor               | ACGIH |

**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

: Not required under normal conditions of use. Wear splash-proof safety goggles if material could be misted or splashed into eyes.

### 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.  
Discard gloves that show tears, pinholes, or signs of wear.  
Wear resistant gloves (consult your safety equipment supplier).

### Hygiene measures

: Wash hands before breaks and at the end of workday.

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## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

|  |  |
|--|--|
| Physical state                         | : liquid   |
| Colour                                 | : amber  |
| Odour                                  | : ether-like   |
| Odour Threshold                        | : No data available  |
| pH                                     | : +/- 1.8 9, No data available                               |
| Melting point/freezing point           | : <-40 °F / -40 °C<br>No data available<br>No data available |
| Boiling point/boiling range            | : > 500 °F / 260 °C  |
| Flash point                            | : > 250 °F / > 121 °C  |
| 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                        | : No data available  |
| Relative vapour density                | : No data available  |
| Relative density                       | : No data available  |
| Density                                | : 1.03 g/cm3 (15.6 °C)                                       |
| 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                   | : 7 mm2/s (40 °C)  |

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Oxidizing properties : No data available

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## 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  
temperatures above 150 degrees F (66 °C)  
Do not allow evaporation to dryness.

Incompatible materials : aluminum  
Strong acids  
Strong bases  
Strong oxidizing agents

Hazardous decomposition products : Aldehydes  
carbon dioxide and carbon monoxide  
Hydrocarbons  
Organic acids  
ketones

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## SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : Inhalation  
Skin contact  
Eye Contact  
Ingestion

### Acute toxicity

Not classified based on available information.

#### Components:

##### DIETHYLENE GLYCOL MONOBUTYL ETHER:

Acute oral toxicity : LD 50 (Rat): 3,305 mg/kg

Acute dermal toxicity : LD 50 (Rabbit): 2,734 mg/kg

##### TRIETHYLENE GLYCOL MONOBUTYL ETHER:

Acute oral toxicity : LD 50 (Rat): 5,300 mg/kg

Acute dermal toxicity : LD 50 (Rabbit): 3,502 mg/kg

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**BISPHENOL A:**

Acute oral toxicity : LD 50 (Rat): 3,300 mg/kg

**Skin corrosion/irritation**

Not classified based on available information.

**Product:**

Remarks: May cause skin irritation in susceptible persons.

**Components:**

DIETHYLENE GLYCOL MONOBUTYL ETHER:

Result: Slightly irritating to skin

TRIETHYLENE GLYCOL MONOBUTYL ETHER:

Result: Not irritating to skin

**BISPHENOL A:**

Result: Irritating to skin

**Serious eye damage/eye irritation**

Not classified based on available information.

**Product:**

Remarks: Unlikely to cause eye irritation or injury.

**Components:**

DIETHYLENE GLYCOL MONOBUTYL ETHER:

Result: Severely irritating to eyes

TRIETHYLENE GLYCOL MONOBUTYL ETHER:

Result: Corrosive to eyes

**BISPHENOL A:**

Result: Irritating to eyes

**Respiratory or skin sensitisation**

Skin sensitisation: May cause an allergic skin reaction.

Respiratory sensitisation: Not classified based on available information.

**Components:**

DIETHYLENE GLYCOL MONOBUTYL ETHER:

Test Type: Maximisation Test (GPMT)

Species: Guinea pig

Result: Did not cause sensitisation on laboratory animals.

**BISPHENOL A:**

Assessment: May cause sensitization by skin contact.

**Germ cell mutagenicity**

Not classified based on available information.

**Components:**

DIETHYLENE GLYCOL MONOBUTYL ETHER:

Genotoxicity in vitro : Remarks: In vitro tests did not show mutagenic effects

Genotoxicity in vivo

: Result: In vivo tests did not show mutagenic effects

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### **Carcinogenicity**

Not classified based on available information.

### **Reproductive toxicity**

Not classified based on available information.

### **Components:**

DIETHYLENE GLYCOL MONOBUTYL ETHER:

Effects on fertility : Symptoms: No effects on fertility

### **STOT - single exposure**

Not classified based on available information.

### **STOT - repeated exposure**

Not classified based on available information.

### **Repeated dose toxicity**

### **Components:**

DIETHYLENE GLYCOL MONOBUTYL ETHER:

NOAEL: 250 mg/kg

LOAEL: 1,000 mg/kg

Application Route: Oral

Target Organs: Blood

### **Aspiration toxicity**

Not classified based on available information.

### **Further information**

### **Product:**

Remarks: No data available

### **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.

#### **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 12. ECOLOGICAL INFORMATION**

### **Ecotoxicity**

### **Components:**

DIETHYLENE GLYCOL MONOBUTYL ETHER:

Toxicity to fish : LC 50 (Bluegill (Lepomis macrochirus)): 1,300 mg/l  
Exposure time: 96 h  
Test Type: static test

Toxicity to daphnia and other : LC 50 (Water flea (Daphnia magna)): 2,850 mg/l



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Partition coefficient: n-octanol/water : log Pow: 1

**BISPHENOL A:**  
Bioaccumulation : Species: Rainbow trout,donaldson trout (*Oncorhynchus mykiss*)

Bioconcentration factor (BCF): 8.7  
Exposure time: 12 d  
Concentration: 0.556 mg/l  
Method: Flow through

Species: Rainbow trout,donaldson trout (*Oncorhynchus mykiss*)  
Bioconcentration factor (BCF): 1.7  
Exposure time: 12 d  
Concentration: 0.556 mg/l  
Method: Flow through

Species: Rainbow trout,donaldson trout (*Oncorhynchus mykiss*)  
Bioconcentration factor (BCF): 2.2  
Exposure time: 12 d  
Concentration: 0.106 mg/l  
Method: Flow through

Species: Rainbow trout,donaldson trout (*Oncorhynchus mykiss*)  
Bioconcentration factor (BCF): 10.8  
Exposure time: 12 d  
Concentration: 0.106 mg/l  
Method: Flow through

Species: Rainbow trout,donaldson trout (*Oncorhynchus mykiss*)  
Bioconcentration factor (BCF): 38.4  
Exposure time: 12 d  
Concentration: 0.0702 mg/l  
Method: Flow through

Species: Rainbow trout,donaldson trout (*Oncorhynchus mykiss*)  
Bioconcentration factor (BCF): 25  
Exposure time: 12 d  
Concentration: 0.0367 mg/l  
Method: Flow through

Species: Rainbow trout,donaldson trout (*Oncorhynchus mykiss*)  
Bioconcentration factor (BCF): 22  
Exposure time: 12 d  
Concentration: 0.009 mg/l  
Method: Flow through

|   |                  |                           |
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Species: Rainbow trout,donaldson trout (Oncorhynchus mykiss)  
 Bioconcentration factor (BCF): 3.6  
 Exposure time: 12 d  
 Concentration: 0.0702 mg/l  
 Method: Flow through

Partition coefficient: n-octanol/water : log Pow: 3.32

#### **Mobility in soil**

##### **Components:**

No data available

#### **Other adverse effects**

No data available

##### **Product:**

Additional ecological information : No data available

##### **Components:**

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#### **SECTION 13. DISPOSAL CONSIDERATIONS**

##### **Disposal methods**

General advice : Do not dispose of waste into sewer.  
 Do not contaminate ponds, waterways or ditches with chemical or used container.  
 Send to a licensed waste management company.

Dispose of in accordance with all applicable local, state and federal regulations.

Contaminated packaging : Empty remaining contents.  
 Dispose of as unused product.  
 Empty containers should be taken to an approved waste handling site for recycling or disposal.  
 Do not re-use empty containers.

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#### **SECTION 14. TRANSPORT INFORMATION**

##### **International transport regulations**

##### **REGULATION**

| ID NUMBER | PROPER SHIPPING NAME | *HAZARD CLASS | SUBSIDIARY HAZARDS | PACKING GROUP | MARINE POLLUTANT / LTD. QTY. |
|-----------|----------------------|---------------|--------------------|---------------|------------------------------|
|           |                      |               |                    |               |                              |

##### **U.S. DOT - ROAD**

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Not dangerous goods

**CFR\_RAIL\_C**

Not dangerous goods

**U.S. DOT - INLAND WATERWAYS**

Not dangerous goods

**TDG\_ROAD\_C**

Not dangerous goods

**TDG\_RAIL\_C**

Not dangerous goods

**TDG\_INWT\_C**

Not dangerous goods

**INTERNATIONAL MARITIME DANGEROUS GOODS**

Not dangerous goods

**INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO**

Not dangerous goods

**INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER**

Not dangerous goods

**MX\_DG**

Not dangerous goods

**\*ORM = ORM-D, CBL = COMBUSTIBLE LIQUID**

Marine pollutant

no

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.

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## SECTION 15. REGULATORY INFORMATION

**SARA 311/312 Hazards** : Acute Health Hazard

**SARA 313 Component(s)**

|                   |          |        |
|-------------------|----------|--------|
| DIETHYLENE GLYCOL | 112-34-5 | 4.99 % |
| MONOBUTYL ETHER   |          |        |

|                    |          |        |
|--------------------|----------|--------|
| TRIETHYLENE GLYCOL | 143-22-6 | 4.90 % |
| MONOBUTYL ETHER    |          |        |

**California Prop 65** This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

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

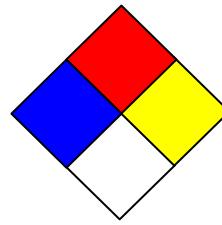
AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TSCA (USA)

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## SECTION 16. OTHER INFORMATION

**Further information**

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| NFPA:  | HMIS III:   |               |  |                     |  |                        |  |
|--|---|---------------|--|---------------------|--|------------------------|--|
| <p>Flammability</p>  <p>Special hazard.</p> | <table border="1"> <tr> <td><b>HEALTH</b></td> <td></td> </tr> <tr> <td><b>FLAMMABILITY</b></td> <td></td> </tr> <tr> <td><b>PHYSICAL HAZARD</b></td> <td></td> </tr> </table> <p>0 = not significant, 1 =Slight,<br/>2 = Moderate, 3 = High<br/>4 = Extreme, * = Chronic</p> | <b>HEALTH</b> |  | <b>FLAMMABILITY</b> |  | <b>PHYSICAL HAZARD</b> |  |
| <b>HEALTH</b>  |   |               |  |                     |  |                        |  |
| <b>FLAMMABILITY</b>  |   |               |  |                     |  |                        |  |
| <b>PHYSICAL HAZARD</b>   |   |               |  |                     |  |                        |  |

**NFPA Flammable and Combustible Liquids Classification**

Combustible Liquid Class IIIB

**Full text of H-Statements referred to under sections 2 and 3.**

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|      |                                      |
|------|--------------------------------------|
| H303 | May be harmful if swallowed.         |
| H313 | May be harmful in contact with skin. |
| H315 | Causes skin irritation.              |
| H317 | May cause an allergic skin reaction. |
| H318 | Causes serious eye damage.           |
| H319 | Causes serious eye irritation.       |

### Further information

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.

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 (1-800-825-8654).

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

LC<sub>xx</sub> : Lethal Concentration, for xx percent of test population

LD<sub>xx</sub> : Lethal Dose, for xx percent of test population.

IC<sub>xx</sub> : Inhibitory Concentration for xx of a substance

Ec<sub>xx</sub> : 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

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| <b>SAFETY DATA SHEET</b>   | Revision Date: 07/31/2016 |
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|  | SDS Number: R0524085      |
| Valvoline™ BRAKEFLUID DOT 3&4 BRAKE FLUID<br>VE58000   | Version: 1.1              |

WEL : Workplace Exposure Level

CERCLA : Comprehensive Environmental Response, Compensation, and Liability Act

DOT : Department of Transportation

FIFRA : Federal Insecticide, Fungicide, and Rodenticide Act

HMIRC : Hazardous Materials Information Review Commission

HMIS : Hazardous Materials Identification System

NFPA : National Fire Protection Association

NIOSH : National Institute for Occupational Safety and Health

OSHA : Occupational Safety and Health Administration

PMRA : Health Canada Pest Management Regulatory Agency

RTK : Right to Know

WHMIS : Workplace Hazardous Materials Information System