



DOT 4 Brake Fluid

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations
Revision Date: 12/09/2015 Date of issue: 11/17/2015

Version: 1.0

SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Form: Mixture
Product Name: DOT 4 Brake Fluid
Product Code: WPS-CCC-020
Synonyms: Automotive brake fluid

1.2. Intended Use of the Product

Use of the substance/mixture: Automotive brake fluid.

1.3. Name, Address, and Telephone of the Responsible Party

Company

Complex Chemical Co.
177 Complex Chemical
Tallulah, La. 71282
TEL: 318-574-0382

1.4. Emergency Telephone Number

Emergency Number : 800-825-9720

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

GHS-US classification

Eye Irrit. 2A H319
STOT RE 2 H373
Full text of H-phrases: see section 16

2.2. Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US)



Signal Word (GHS-US)

: Warning

Hazard Statements (GHS-US)

: H319 - Causes serious eye irritation.
H373 - May cause damage to organs (kidneys) through prolonged or repeated exposure (oral).

Precautionary Statements (GHS-US)

: P260 - Do not breathe vapors, mist, or spray.
P264 - Wash hands, forearms, and other exposed areas thoroughly after handling.
P280 - Wear protective gloves, protective clothing, and eye protection.
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P314 - Get medical advice/attention if you feel unwell.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations.

2.3. Other Hazards

Exposure may aggravate pre-existing eye, skin, or respiratory 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 monoethyl ether	(CAS No) 112-50-5	30 - 50	Not classified
Diethylene glycol monobutyl ether	(CAS No) 112-34-5	5 - 10	Flam. Liq. 4, H227 Eye Irrit. 2A, H319

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Diethylene glycol	(CAS No) 111-46-6	3 - 8	Acute Tox. 4 (Oral), H302 STOT RE 2, H373
Diethylene glycol monoethyl ether	(CAS No) 111-90-0	3 - 5	Flam. Liq. 4, H227

Full text of H-phrases: see section 16

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 you feel unwell, seek medical advice (show the label where possible).

First-aid Measures After Inhalation: When symptoms occur: go into open air and ventilate suspected area. Obtain medical attention if breathing difficulty persists.

First-aid Measures After Skin Contact: Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Obtain medical attention if irritation develops or persists.

First-aid Measures After Eye Contact: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do so. Continue rinsing. Obtain medical attention if irritation persists.

First-aid Measures After Ingestion: Rinse mouth. Do NOT induce vomiting. Obtain medical attention.

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

Symptoms/Injuries: May cause damage to organs through prolonged or repeated exposure. Causes serious eye irritation.

Symptoms/Injuries After Inhalation: Prolonged exposure may cause irritation.

Symptoms/Injuries After Skin Contact: Prolonged exposure may cause skin irritation.

Symptoms/Injuries After Eye Contact: Contact causes severe irritation with redness and swelling of the conjunctiva.

Symptoms/Injuries After Ingestion: Acute exposure of humans to ethylene glycol by ingesting large quantities causes three stages of health effects. CNS depression, including such symptoms as vomiting, drowsiness, coma, respiratory failure, convulsions, metabolic changes, and gastrointestinal upset are followed by cardiopulmonary effects and later renal damage.

Chronic Symptoms: May cause damage to organs through prolonged or repeated exposure.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Use extinguishing media appropriate for surrounding fire.

Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: Not considered flammable but may burn at high temperatures.

Explosion Hazard: Product is not explosive.

Reactivity: Hazardous reactions will not occur under normal conditions.

5.3. Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire. Under fire conditions, hazardous fumes will be present.

Firefighting Instructions: Use water spray or fog for cooling exposed containers.

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: Do not breathe vapor, mist or spray. Do not get in eyes, on skin, or on clothing. Avoid all contact with skin, eyes, or clothing.

6.1.1. For Non-emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

6.1.2. For Emergency Responders

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Ventilate area. Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit.

6.2. Environmental Precautions

Prevent entry to sewers and public waters.

6.3. Methods and Material for Containment and Cleaning Up

For Containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

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Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill.

6.4. Reference to Other Sections

See Heading 8. Exposure controls and personal protection. See Section 13, Disposal Considerations.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Additional Hazards When Processed: Handle in accordance with standard industrial practices, and ensure appropriate ventilation. Avoid all contact with skin, eyes, clothing. Do not release into the environment.

Precautions for Safe Handling: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Avoid breathing vapors, mist, spray.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Comply with applicable regulations.

Storage Conditions: Keep container closed when not in use. Store in a dry, cool place. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials.

Incompatible Products: Strong acids, strong bases, strong oxidizers.

7.3. Specific End Use(s)

Automotive brake fluid.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), AIHA (WEEL), NIOSH (REL), or OSHA (PEL).

Diethylene glycol monoethyl ether (111-90-0)		
USA AIHA	WEEL TWA (ppm)	25 ppm
Diethylene glycol monobutyl ether (112-34-5)		
USA ACGIH	ACGIH TWA (ppm)	10 ppm (inhalable fraction and vapor)
Diethylene glycol (111-46-6)		
USA AIHA	WEEL TWA (mg/m ³)	10 mg/m ³

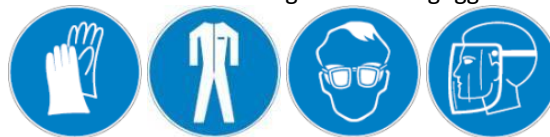
8.2. Exposure Controls

Appropriate Engineering Controls

: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed.

Personal Protective Equipment

: Gloves. Protective clothing. Protective goggles. Face shield.



Materials for Protective Clothing

: Chemically resistant materials and fabrics.

Hand Protection

: Wear protective gloves.

Eye Protection

: Chemical goggles or face shield.

Skin and Body Protection

: Wear suitable protective clothing.

Respiratory Protection

: If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn. In case of inadequate ventilation, oxygen deficient atmosphere, or where exposure levels are not known wear approved respiratory protection.

Other Information

: When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

Physical State	: Liquid
Appearance	: Amber
Odor	: Etheric
Odor Threshold	: No data available
pH	: 10.5
Evaporation Rate	: No data available

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Melting Point	: No data available
Freezing Point	: No data available
Boiling Point	: > 230 °C (446 °F)
Flash Point	: 203 °C (397 °F)
Auto-ignition Temperature	: No data available
Decomposition Temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor Pressure	: No data available
Relative Vapor Density at 20 °C	: No data available
Relative Density	: No data available
Specific Gravity	: 1.06
Solubility	: No data available
Partition Coefficient: N-Octanol/Water	: No data available
Viscosity	: < 1500 cSt

9.2. Other Information

VOC content : None

SECTION 10: STABILITY AND REACTIVITY

- 10.1. Reactivity:** Hazardous reactions will not occur under normal conditions.
- 10.2. Chemical Stability:** Stable under recommended handling and storage conditions (see section 7).
- 10.3. Possibility of Hazardous Reactions:** Hazardous polymerization will not occur.
- 10.4. Conditions to Avoid:** Direct sunlight, extremely high or low temperatures, and incompatible materials.
- 10.5. Incompatible Materials:** Strong acids, strong bases, strong oxidizers.
- 10.6. Hazardous Decomposition Products:** Thermal decomposition generates : Carbon oxides (CO, CO₂). Nitrogen oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information On Toxicological Effects

Acute Toxicity: Not classified

Triethylene glycol monoethyl ether (112-50-5)	
LD50 Oral Rat	7750 mg/kg
Diethylene glycol monoethyl ether (111-90-0)	
LD50 Oral Rat	6031 mg/kg
LC50 Inhalation Rat	> 5240 mg/m ³ (Exposure time: 4 h)
Diethylene glycol monobutyl ether (112-34-5)	
LD50 Oral Rat	5660 mg/kg
LD50 Dermal Rabbit	2700 mg/kg
Diethylene glycol (111-46-6)	
LD50 Oral Rat	1120 mg/kg
LD50 Dermal Rabbit	11890 mg/kg

Skin Corrosion/Irritation: Not classified

pH: 10.5

Serious Eye Damage/Irritation: Causes serious eye irritation.

pH: 10.5

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: Not classified

Carcinogenicity: Not classified

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): Not classified

Specific Target Organ Toxicity (Repeated Exposure): May cause damage to organs (kidneys) through prolonged or repeated exposure (oral).

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: Prolonged exposure may cause irritation.

Symptoms/Injuries After Skin Contact: Prolonged exposure may cause skin irritation.

Symptoms/Injuries After Eye Contact: Contact causes severe irritation with redness and swelling of the conjunctiva.

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Symptoms/Injuries After Ingestion: Acute exposure of humans to ethylene glycol by ingesting large quantities causes three stages of health effects. CNS depression, including such symptoms as vomiting, drowsiness, coma, respiratory failure, convulsions, metabolic changes, and gastrointestinal upset are followed by cardiopulmonary effects and later renal damage.

Chronic Symptoms: May cause damage to organs through prolonged or repeated exposure.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecology - General : Not classified.

Diethylene glycol monoethyl ether (111-90-0)	
LC50 Fish 1	10000 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])
EC50 Daphnia 1	3940 - 4670 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC 50 Fish 2	19100 - 23900 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [flow-through])

Diethylene glycol monobutyl ether (112-34-5)	
LC50 Fish 1	1300 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])
EC50 Daphnia 1	> 100 mg/l (Exposure time: 48 h - Species: Daphnia magna)

Diethylene glycol (111-46-6)	
LC50 Fish 1	75200 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	84000 mg/l (Exposure time: 48 h - Species: Daphnia magna)

12.2. Persistence and Degradability

DOT 4 Brake Fluid	
Persistence and Degradability	Not established.

12.3. Bioaccumulative Potential

DOT 4 Brake Fluid	
Bioaccumulative Potential	Not established.

Diethylene glycol monoethyl ether (111-90-0)	
Log Pow	-0.8

Diethylene glycol monobutyl ether (112-34-5)	
BCF fish 1	(no bioconcentration expected)

Diethylene glycol (111-46-6)	
BCF fish 1	100 - 180
Log Pow	-1.98 (at 25 °C)

12.4. Mobility in Soil

No additional information available

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 of contents/container in accordance with local, regional, national, and international regulations.

Additional Information: Container may remain hazardous when empty. Continue to observe all precautions.

Ecology – Waste Materials: Avoid release to the environment.

SECTION 14: TRANSPORT INFORMATION

14.1. In Accordance with DOT Not regulated for transport

14.2. In Accordance with IMDG Not regulated for transport

14.3. In Accordance with IATA Not regulated for transport

SECTION 15: REGULATORY INFORMATION

15.1 US Federal Regulations

DOT 4 Brake Fluid	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard

Triethylene glycol monoethyl ether (112-50-5)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
EPA TSCA Regulatory Flag	T - T - indicates a substance that is the subject of a Section 4 test rule

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	under TSCA.
Diethylene glycol monoethyl ether (111-90-0)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Diethylene glycol monobutyl ether (112-34-5)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
EPA TSCA Regulatory Flag	T - T - indicates a substance that is the subject of a Section 4 test rule under TSCA. Y2 - Y2 - indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.
Diethylene glycol (111-46-6)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
EPA TSCA Regulatory Flag	Y2 - Y2 - indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

15.2 US State Regulations

Diethylene glycol (111-46-6)
U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Revision Date	: 12/09/2015
Other Information	: This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text Phrases:

Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Flam. Liq. 4	Flammable liquids Category 4
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2
H227	Combustible liquid
H302	Harmful if swallowed
H319	Causes serious eye irritation
H373	May cause damage to organs through prolonged or repeated exposure

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

SDS US (GHS HazCom)