



Material Safety Data Sheet

Series 500 High Performance DOT 3 Brake Fluid

Date : 06/15/2013
Version : 4

Section 1. Product and company identification

Product name

Series 500 High Performance DOT 3 Brake Fluid

Material uses

Brake fluids.

Supplier/Manufacturer

AMSOIL INC.
925 Tower Avenue
Superior, WI 54880

Code

BF3

MSDS authored by

AMSOIL INC.

In case of emergency

CHEMTREC, U.S. : 1-800-424-9300
International: +1-703-527-3887

Section 2. Hazards identification

Emergency overview

Color : Colorless to Brown.

Physical state : Liquid.

Odor : Mild

Signal word : WARNING!

Hazard statements : CAUSES RESPIRATORY TRACT AND EYE IRRITATION. MAY CAUSE SKIN IRRITATION. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE.

Precautions : Do not breathe vapor or mist. Do not get in eyes. Avoid contact with skin and clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Routes of entry : Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects

Inhalation : Harmful by inhalation. Irritating to respiratory system.

Ingestion : No known significant effects or critical hazards.

Skin : Slightly irritating to the skin.

Eyes : Severely irritating to eyes. Risk of serious damage to eyes.

Potential chronic health effects

Chronic effects : Contains material that can cause target organ damage.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Target organs : Contains material which may cause damage to the following organs: blood, kidneys, liver, skin, eyes, central nervous system (CNS).

Over-exposure signs/symptoms

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing

Ingestion : No specific data.

Skin : Adverse symptoms may include the following:
irritation
redness

Eyes : Adverse symptoms may include the following:
pain or irritation
watering
redness

Medical conditions aggravated by overexposure : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

See toxicological information (Section 11)

Section 3. Composition/information on ingredients

United States

Name	CAS number	%
2-[2-(2-Butoxyethoxy)ethoxy]ethanol	143-22-6	30 - 60
Polyethylene glycol	25322-68-3	10 - 30
2-(2-Butoxyethoxy)ethanol	112-34-5	5 - 10
Ethanol, 2,2'-oxybis-	111-46-6	1 - 5
Sodium phosphate, tribasic	7601-54-9	1 - 5

Canada

Name	CAS number	%
2-[2-(2-Butoxyethoxy)ethoxy]ethanol	143-22-6	30 - 60
Polyethylene glycol	25322-68-3	10 - 30
2,2'-(Ethylenedioxy)diethanol	112-27-6	5 - 10
2-(2-Butoxyethoxy)ethanol	112-34-5	5 - 10
Ethanol, 2,2'-oxybis-	111-46-6	1 - 5
Sodium phosphate, tribasic	7601-54-9	1 - 5

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Section 4. First aid measures

Eye contact : Immediately flush eyes with plenty of water for at least 20 minutes, occasionally lifting the upper and lower eyelids.

Skin contact : After contact with skin, wash immediately with plenty of soap and water. Get medical attention if symptoms occur.

Inhalation : Move exposed person to fresh air. Get medical attention if symptoms occur.

- Ingestion** : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.
- Notes to physician** : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Section 5. Fire-fighting measures

- Flammability of the product** : No specific fire or explosion hazard.
- Extinguishing media**
- Suitable** : Use an extinguishing agent suitable for the surrounding fire.
- Not suitable** : None known.
- Hazardous decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
phosphorus oxides
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

- Personal precautions** : Provide adequate ventilation. Put on appropriate personal protective equipment (see Section 8).
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
- Methods for cleaning up**
- Small spill** : Absorb with an inert dry material and place in an appropriate waste disposal container. Dispose via a licensed waste disposal contractor.
- Large spill** : Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

- Handling** : Put on appropriate personal protective equipment (see Section 8). Avoid contact with used product. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Storage** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

United States

Ingredient	Exposure limits
Polyethylene glycol	AIHA WEEL (United States, 10/2011). TWA: 10 mg/m ³ 8 hours. Form: Aerosol AIHA WEEL (United States, 10/2011). TWA: 10 mg/m ³ 8 hours. AIHA WEEL (United States, 10/2011). STEL: 5 mg/m ³ 15 minutes.
Ethanol, 2,2'-oxybis-	
Sodium phosphate, tribasic	

Canada

Occupational exposure limits		TWA (8 hours)			STEL (15 mins)			Ceiling			Notations
Ingredient	List name	ppm	mg/m ³	Other	ppm	mg/m ³	Other	ppm	mg/m ³	Other	
Sodium phosphate, tribasic	US AIHA 10/2011	-	-	-	-	5	-	-	-	-	[a]
Polyethylene glycol	US AIHA 10/2011	-	10	-	-	-	-	-	-	-	
Ethanol, 2,2'-oxybis-	US AIHA 10/2011	-	10	-	-	-	-	-	-	-	

Form: [a]Aerosol

Consult local authorities for acceptable exposure limits.

- Recommended monitoring procedures** : Personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.
- Engineering measures** : No special ventilation requirements. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Hygiene measures	: Ensure that eyewash stations and safety showers are close to the workstation location. Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.
Respiratory	: Not required under normal conditions of use. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Ensure a MSHA/NIOSH-approved respirator or equivalent is used.
Hands	: Use gloves appropriate for work or task being performed. Recommended: Natural rubber (latex).
Eyes	: Safety eyewear should be used when there is a likelihood of exposure. Recommended: Safety glasses with side shields.
Skin	: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. No special protective clothing is required. Recommended: Coveralls.
Environmental exposure controls	: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

Section 9. Physical and chemical properties

Physical state	: Liquid.	Odor	: Mild
Color	: Colorless to Brown.	pH	: 7 to 11.5
Flash point	: Closed cup: 143.3°C (289.9°F) [Pensky-Martens.]	Auto-ignition temperature	: Not available.
Flammable limits	: Not available.	Melting point/ Pour point	: -47°C (-52.6°F)
Boiling point	: 284°C (543.2°F)	Vapor pressure	: <0.0013 kPa (<0.01 mm Hg) [room temperature]
Relative density	: 1.01 to 1.04	Vapor density	: Not available.
Volatility	: Not available.	Evaporation rate	: Not available.
Viscosity	: Kinematic: 0.02 cm ² /s (2 cSt) (100°C) Kinematic: 10.65 cm ² /s (1065 cSt) (40°C)	Solubility	: Not available.

Section 10. Stability and reactivity

Chemical stability	: The product is stable.
Conditions to avoid	: No specific data.
Materials to avoid	: Reactive or incompatible with the following materials: oxidizing materials and acids.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Hazardous polymerization	: Under normal conditions of storage and use, hazardous polymerization will not occur.

Section 11. Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
2-[2-(2-Butoxyethoxy)ethoxy]ethanol	LD50 Oral	Rat	5300 mg/kg	-
2,2'-(Ethylenedioxy)diethanol	LD50 Oral	Rat	17 g/kg	-
2-(2-Butoxyethoxy)ethanol	LD50 Dermal	Rabbit	2700 mg/kg	-
	LD50 Oral	Rat	4500 mg/kg	-
Ethanol, 2,2'-oxybis-	LD50 Dermal	Rabbit	11890 mg/kg	-
	LD50 Oral	Rat	12000 mg/kg	-

Chronic toxicity

There is no data available.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
2-[2-(2-Butoxyethoxy)ethoxy]ethanol	Eyes - Moderate irritant	Rabbit	-	24 hours 20 mg	-
	Eyes - Severe irritant	Rabbit	-	50 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
2,2'-(Ethylenedioxy)diethanol	Eyes - Mild irritant	Rabbit	-	500 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
2-(2-Butoxyethoxy)ethanol	Eyes - Moderate irritant	Rabbit	-	24 hours 20 mg	-
	Eyes - Severe irritant	Rabbit	-	20 mg	-
Polyethylene glycol	Eyes - Mild irritant	Rabbit	-	-	-
	Skin - Mild irritant	Rabbit	-	-	-
Ethanol, 2,2'-oxybis-	Eyes - Mild irritant	Rabbit	-	50 mg	-
	Skin - Mild irritant	Human	-	72 hours 112 mg	-
	Skin - Mild irritant	Rabbit	-	Intermittent 500 mg	-

Sensitizer

Skin : There is no data available.

Respiratory : There is no data available.

Carcinogenicity

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Ethanol, 2,2'-oxybis-	-	-	-	None.	-	-

Mutagenicity

There is no data available.

Teratogenicity

There is no data available.

Reproductive toxicity

There is no data available.

Section 12. Ecological information

Ecotoxicity : No known significant effects or critical hazards.

Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
2,2'-(Ethylenedioxy)diethanol	Acute LC50 35000 µl/L Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 10000000 µg/l Marine water	Fish - Menidia beryllina	96 hours
	Chronic NOEC 7500 mg/L Fresh water	Daphnia - Daphnia magna	21 days
	Chronic NOEC 100 µl/L Marine water	Fish - Cyprinodon variegatus - Egg	28 days
2-(2-Butoxyethoxy)ethanol	Acute LC50 1300000 µg/l Fresh water	Fish - Lepomis macrochirus	96 hours
	Sodium phosphate, tribasic	Fish - Gambusia affinis - Adult	96 hours
	Polyethylene glycol	Fish - Salmo salar - Parr	96 hours
	Ethanol, 2,2'-oxybis-	Fish - Gambusia affinis - Adult	96 hours

Persistence/degradability

There is no data available.

Section 13. Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. This material and its container must be disposed of in a safe way. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Empty containers or liners may retain some product residues. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

Section 14. Transport information

DOT/TDG/IMDG/IATA : Not regulated.

Section 15. Regulatory information

United States

HCS Classification : Irritating material
Target organ effects

U.S. Federal regulations : **United States inventory (TSCA 8b)**: All components are listed or exempted.
SARA 302/304: No products were found.
SARA 311/312 Hazards identification: Immediate (acute) health hazard, Delayed (chronic) health hazard
Clean Water Act (CWA) 311: Sodium phosphate, tribasic; Sodium hydroxide

- Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)** : Listed
- Clean Air Act Section 602 Class I Substances** : Not listed
- Clean Air Act Section 602 Class II Substances** : Not listed
- DEA List I Chemicals (Precursor Chemicals)** : Not listed
- DEA List II Chemicals (Essential Chemicals)** : Not listed

SARA 313

	Product name	CAS number	Concentration
Form R - Reporting requirements	2-[2-(2-Butoxyethoxy)ethoxy]ethanol Triethylene glycol monomethyl ether 2-(2-Butoxyethoxy)ethanol	143-22-6 112-35-6 112-34-5	30 - 60 10 - 30 5 - 10
Supplier notification	2-[2-(2-Butoxyethoxy)ethoxy]ethanol Triethylene glycol monomethyl ether 2-(2-Butoxyethoxy)ethanol	143-22-6 112-35-6 112-34-5	30 - 60 10 - 30 5 - 10

SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

State regulations

- Massachusetts** : None of the components are listed.
- New York** : The following components are listed: Sodium phosphate, tribasic
- New Jersey** : The following components are listed: 2-[2-(2-Butoxyethoxy)ethoxy]ethanol; Triethylene glycol monomethyl ether; 2-(2-Butoxyethoxy)ethanol; Sodium phosphate, tribasic
- Pennsylvania** : The following components are listed: 2-[2-(2-Butoxyethoxy)ethoxy]ethanol; Triethylene glycol monomethyl ether; 2,2'-(Ethylenedioxy)diethanol; 2-(2-Butoxyethoxy)ethanol; Ethanol, 2,2'-oxybis-; Sodium phosphate, tribasic

California Prop. 65

No products were found.

Canada

- WHMIS (Canada)** : Class D-2B: Material causing other toxic effects (Toxic).

Canadian lists

- Canadian NPRI** : The following components are listed: 2-(2-Butoxyethoxy)ethanol
- CEPA Toxic substances** : None of the components are listed.
- Canada inventory** : All components are listed or exempted.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Section 16. Other information

United States

Label requirements : CAUSES RESPIRATORY TRACT AND EYE IRRITATION. MAY CAUSE SKIN IRRITATION. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE.

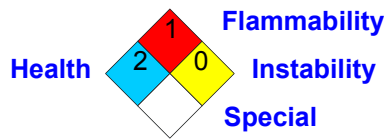
Hazardous Material Information System (U.S.A.) :

Health	*	2
Flammability		1
Physical hazards		0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.) :



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