DOT 5.1 BRAKE FLUID

Version: 1.1
Released: 2017-12-22 Revision Date: 2022-08-15

1. IDENTIFICATION OF THE SUBSTANCE / APPLICATION AND THE COMPANY

Supplier:

Maxima Racing Oils
9266 Abraham Way
Santee, CA 92071
USA
+1 619 449 5000

Product Name: DOT 5.1 Brake Fluid

Article Number:

Applications: Brake Fluid

Emergency Telephone: CHEMTREC +1 703 527 3887 (24 hours)

2. HAZARDS IDENTIFICATION

GHS Classification

Toxic to Reproduction Category 2

GHS Pictogram

Signal Word **Warning!**

Hazard Statements H361 Suspected of damaging fertility or the unborn child.

Precautionary Statements

Prevention P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response P308+P313 IF exposed or concerned: Get medical advice/attention.

Storage P405 Store locked up.

Disposal P501 Dispose of contents and container in accordance with local and national regulations.

Other Hazards None

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3. COMPOSITION / INFORMATION ON INGREDIENTS

Components	Content %	CAS Number
Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate	30-90	30989-05-0

The specific identity and/or exact percentage has been withheld as a trade secret.

4. FIRST-AID MEASURES

Inhalation	If irritation is experienced, move to fresh air. Get medical attention if irritation or other symptoms develop and persist.
Skin Contact	Wash skin with soap and water. Remove clothing and shoes if contaminated. Launder clothing before reuse. If irritation or rash develops, get medical attention.
Eye Contact	Flush eyes with water for several minutes. Remove contact lenses, if present and easy to do so. If eye irritation persists, get medical attention.
Ingestion	If conscious, rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention.
Most Important Symptoms	May cause mild eye irritation. Causes mild skin irritation. Inhalation of vapors or mist may cause respiratory irritation. Swallowing may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Possible developmental hazard. May adversely affect the developing fetus or cause birth defects based on animal data.
Indication of Immediate Medical Attention Needed	Immediate medical attention is not required.
Notes to Physician	Treat appropriately

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media	Use water fog, alcohol-resistant foam, dry chemical or carbon dioxide (CO2) to extinguish flames. A solid stream of water or foam can cause frothing.
Specific Hazards Arising From The Chemical	This product is not flammable but may form explosive mixtures in air. Combustion will produce carbon oxides, aldehydes and ethers.
Special Protective Equipment And Precautions For Fire-Fighters	Firefighters should wear full emergency equipment and approved positive pressure self-contained breathing apparatus. Cool exposed intact containers with water.

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6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Wear appropriate protective equipment. Wash thoroughly after handling. See also: “Personal Protection "section 8.
Environmental Hazards	Avoid release into the environment. Report spill as required by local and federal regulations.
Methods/Materials for Cleaning up	Dike spill and collect with an inert absorbent. Place into closable containers for disposal. Collected material is handled in accordance with section 13 "Disposal Considerations".

7. HANDLING AND STORAGE

Precautions for Safe Handling:	Avoid contact with eyes, skin and clothing. Avoid breathing vapors and mists. Wash thoroughly with soap and water after handling. Remove soaked clothing and launder before re-use.
Conditions for Safe Storage	Store in a cool area away from oxidizing agents. Protect containers from physical damage. Brake fluids absorb water from the atmosphere – always keep containers tightly closed.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits	Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl]-orthoborate None Established
Appropriate Engineering Controls	Good general room ventilation (equivalent to outdoors) should be adequate under normal conditions. If the recommended exposure limit is exceeded increased mechanical ventilation such as local exhaust may be required.
Personal Protection	
Respiratory Protection:	None needed under normal use conditions with adequate ventilation. If exposure limits are exceeded, use a NIOSH approved respirator with organic vapor cartridges and particulate pre-filter. Selection of respiratory protection depends on the contaminant type, form and concentration. Select in accordance with OSHA 1910.134 and good Industrial Hygiene practice.
Eye Protection:	Safety glasses or goggles recommended if splashing is possible.
Skin/Body Protection:	Appropriate protective clothing as needed to minimize skin contact. Suitable eye flushing facilities should be available in the work area. Contaminated clothing should be removed and laundered before re-use.
Hand Protection:	Use nitrile or butyl rubber gloves for prolonged or repeated skin contact.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear liquid

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Color	Amber
Odor	Mild
Odor Threshold	Testing not relevant or not possible due to nature of the product
pH	7.0 to 9.5
Freezing Point	<-58°F (<-50°C)
Boiling Point	>572°F (>300°C)
Flash Point	>248°F (>120°C)
Evaporation Rate	0.01
Flammability (solid, gas)	Testing not relevant or not possible due to nature of the product
Upper Explosion Limit	Testing not relevant or not possible due to nature of the product
Lower Explosion Limit	Testing not relevant or not possible due to nature of the product
Vapor Pressure	1.0 mbar
Vapor Density (Air=1)	Testing not relevant or not possible due to nature of the product
Relative Density	1.040-1.090 g/ml @68°F
Solubility	In water: soluble
Partition Coefficient: n-octanol/water	1.50
Auto Ignition Temperature	> 536°F (>280°C)
Decomposition Temperature	572°F (300°C)
Volatile Organic Compounds (VOC)	No data available
Viscosity	Approx. 5-10 cSt @68°F

10. STABILITY AND REACTIVITY

Reactivity	Not expected to be reactive.
Chemical Stability	Stable.
Possibility of Hazardous Reactions	Glycol ethers can form peroxides on storage. Glycol ethers can react with light metals under the evolution of hydrogen gas.
Conditions to Avoid	Do not distil to dryness without testing for peroxide formation.
Incompatible Materials	Avoid contact with strong oxidizing agents. For user safety, brake fluid should never be contaminated with any other substance.
Hazardous Decomposition Product	Thermal decomposition may produce carbon oxides, aldehydes and ethers.

11. TOXICOLOGICAL INFORMATION

Potential Health Hazards
Eye Contact: May cause mild irritation.
Skin Contact: Prolonged or repeated contact may cause mild irritation or dryness. Repeated skin contact may cause non-allergic dermatitis.

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Inhalation: Excessive inhalation of vapors or mists may cause upper respiratory tract irritation.
Ingestion: Swallowing large amounts may cause gastrointestinal effects including nausea and diarrhea.
Chronic Effects of Overexposure: None known.
Sensitization: None of the components have been found to cause sensitization in animals or humans.
Mutagenicity: This product is not expected to cause mutagenic activity.
Reproductive Toxicity: This product contains one substance that is expected to cause reproductive or developmental effects (tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl]orthoborate).
Carcinogenicity: None of the components of this product are listed as a carcinogen or suspected carcinogen by IARC, NTP, or OSHA.

Acute Toxicity:

Product	Oral rat LD50 >5000 mg/kg
	Inhalation rat LC50 NA
	Dermal rat LD50 >3000 mg/kg

12. ECOLOGICAL INFORMATION

Ecotoxicity

Product	96 hr LC50 Oncorhynchus mykiss >100 mg/L
	48 hr EC50 Daphnia magna NA
	72 hr EC50 algae NA
Biodegradation	The product is inherently biodegradable, and is expected to be readily biodegradable based on ingredient data (OECD 302B).
Bioaccumulation	Log Pow for all main ingredients < 2 which suggests that the potential for bioaccumulation is low.
Mobility in soil	Soluble in water and will partition to aqueous phase. Mobile in soil.
Other adverse effects:	None known.

13. DISPOSAL CONSIDERATIONS

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

14. TRANSPORT INFORMATION

	UN Number	Proper shipping name	Hazard Class	Packing Group	Environmental Hazard
DOT		Not Regulated			
TDG		Not Regulated			
IMDG		Not Regulated			
IATA		Not Regulated			

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Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code): Not applicable – product is transported only in packaged form
Special precautions: None known.

15. REGULATORY INFORMATION

CERCLA: Glycol ethers are regulated as a generic class under this legislation.
EPA SARA 302: This product does not contain chemicals regulated under SARA Section 302.
EPA SARA 311 Hazard Classification: Delayed Chronic Health
EPA SARA 313: This product contains the following chemicals that are regulated under SARA Title III, section 313: Glycol ethers are regulated as a generic class under this legislation.

California Proposition 65: This product does not contain chemicals regulated under California Proposition 65.

Chemical Inventories
Toxic Substances Control Act: All of the components of this product are listed on the TSCA inventory

16. OTHER INFORMATION

NFPA Rating (NFPA 704):	Health: 2	Fire: 1	Instability: 0
HMIS Rating:	Health: 2*	Fire: 1	Physical Hazard: 0

*Chronic Health Hazard

Date of Revision: 12 November, 2020
Date of Previous Revision: 12 December, 2017
Revision History: the following sections have been revised: 2, 3, 4, 8, 9, 11, 15 and 16

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.