



DOT 4 BRAKE FLUID

Released: 2017-22-12

Version: 1.0
Revision Date: 2017-22-12

1. IDENTIFICATION OF THE SUBSTANCE / APPLICATION AND THE COMPANY

Supplier:	Product Name: DOT 4 Brake Fluid
Maxima Racing Oils 9266 Abraham Way Santee, CA 92071 USA +1 619 449 5000	Article Number: 80-86916 Applications: Brake Fluid Emergency Telephone: In USA: CHEMTREC +1 703 527 3887 (24 hours) Outside USA: +1 619 449 5000

2. HAZARDS IDENTIFICATION

GHS Classification

Acute Toxicity	Category 4
Eye Irritant	Category 2
Toxic to Reproduction	Category 2
Specific Target Organ Toxicity Repeated Exposure	Category 2

GHS Pictogram



Signal Word Hazard Statements

Warning!
H302 Harmful if swallowed.
H319 Causes serious eye irritation.
H361 Suspected of damaging fertility or the unborn child.
H373 May cause damage to kidneys through prolonged or repeated exposure.

Precautionary Statements

Prevention	P201 Obtain special instructions before use. P202 Do not handle until all safety precautions have been read and understood. P260 Do not breathe mist, vapors or spray. P264 Wash skin thoroughly after handling. P270 Do not eat, drink or smoke when using this product.
Response	P301 + P310 If swallowed: immediately call a POISON CENTER or doctor/physician.



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P330 Rinse mouth.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308 + P311 IF exposed or concerned: Call a POISON CENTER or doctor.

P337 + P313 If eye irritation persists: Get medical attention.

Storage P405 Store locked up.**Disposal** P501 Dispose of contents and container in accordance with local, regional and national regulations.**Other Hazards** None

3. COMPOSITION / INFORMATION ON INGREDIENTS

Components	Content %	CAS Number
n-Butyl triglycol	20-<30	143-22-6
Diethylene glycol	10-25	111-46-6
n-Butyl diglycol	1-< 2	112-34-5
Methyl diglycol	>0.1-<0.5	111-77-3

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 large quantities of water, holding the eyelids apart. Get medical attention if irritation develops or persists.
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	Causes eye irritation. Causes mild skin irritation. Inhalation of vapors or mist may cause respiratory irritation. Swallowing may cause gastrointestinal irritation, nausea, vomiting, blurred vision, irritability, back pain, and central nervous system effects.
Indication of Immediate Medical Attention Needed	Get immediate medical attention if large amounts are swallowed.
Notes to Physician	Treat symptomatically



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5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media	Use water fog, alcohol foam, dry chemical or carbon dioxide (CO ₂) 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.

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:	Harmful if swallowed. Do not drink the product. 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	n-Butyl triglycol	None Established
	Diethylene glycol	10 mg/m ³ TWA AIHA WEEL
	n-Butyl diglycol	None Established
	Methyl diglycol	None Established



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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 neoprene or PVC gloves for prolonged or repeated skin contact.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear liquid
Color	Colorless to amber
Odor	Bland
Odor Threshold	N/A – very low odor
pH	7.0 to 11.5
Freezing Point	<-58°F (-50°C)
Boiling Point	>401°F (205°C)
Flash Point	>199°F (93°C)
Evaporation Rate	Negligible
Flammability (solid, gas)	Not established (non-volatile)
Upper Explosion Limit	No data available
Lower Explosion Limit	No data available
Vapor Pressure	< 2 mbar
Vapor Density (Air=1)	Not established (non-volatile)
Relative Density	1.010-1.060 g/ml @68°F
Solubility	In ethanol: miscible in any ratio; In water: miscible in any ratio
Partition Coefficient: n-octanol/water	< 2 (all main ingredients)
Auto Ignition Temperature	> 572°F (300°C)
Decomposition Temperature	> 572°F (300°C)
Volatile Organic Compounds (VOC)	No data available



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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: Causes eye irritation with redness, tearing and pain.**Skin Contact:** Prolonged skin contact may cause irritation. May penetrate the skin.**Inhalation:** Excessive inhalation of vapors or mists may cause upper respiratory tract irritation.**Ingestion:** Swallowing large amounts may cause gastrointestinal irritation or pain, nausea, vomiting, central nervous system effects, irregular eye movements, convulsions and coma. May cause severe kidney damage which may be fatal.**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 methyl diglycol which is expected to cause reproductive or developmental effects.**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
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Diethylene glycol	The lethal dose for human beings found in literature ranged from 0.014 to 0.170 mg DEG/kg bw
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12. ECOLOGICAL INFORMATION

Ecotoxicity

Product	96 hr LC50 <i>Oncorhynchus mykiss</i> >100 mg/L, 48 hr EC50 <i>Daphnia magna</i> NA, 72 hr EC50 algae NA
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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			

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: This product is not subject to CERCLA reporting requirements, however, oil spills are reportable to the National Response Center under the Clean Water Act and many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

EPA SARA 302: This product does not contain chemicals regulated under SARA Section 302.

EPA SARA 311 Hazard Classification: Acute Health, Chronic Health

EPA SARA 313: This product contains the following chemicals that are regulated under SARA Title III, section 313: None.

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

Chemical Inventories

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



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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: December 22, 2017

Date of Previous Revision: N/A

Revision History:

12/22/17: New document

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.