DOT 4 BRAKE FLUID

Version: 1.0
Released: 2017-12-22 Revision Date: 2017-12-22

1. IDENTIFICATION OF THE SUBSTANCE / APPLICATION AND THE COMPANY

1.1 Product Identifier

Trade Name: DOT 4 Brake Fluid
Product Number: 80-86916

1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

Product Use: Brake Fluid

Restrictions on Use: None known

1.3 Details of the Supplier of the Safety Data Sheet

Manufacturer: Maxima Racing Oils
9266 Abraham Way
Santee, CA 92071
USA
Information Phone Number: +1 619 449 5000
E-mail: info@maximausa.com

1.4 Emergency Telephone Number

Emergency Spill Information: In USA: CHEMTREC +1 703 527 3887 (24 hours)
Outside USA: +1 619 449 5000

2. HAZARDS IDENTIFICATION

2.1 Classification of the Substance or Mixture

CLP (1272/2008) Classification:
Acute Toxicity Category 4 (H302)
Eye Irritant Category 2 (H319)
Specific Target Organ Toxicity, Repeated Exposure Category 2 (H373)

2.2 Label Elements
Warning

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Hazard Statements	Precautionary Phrases
H302 Harmful if swallowed. H319 Causes serious eye irritation. H373 May cause damage to kidneys through prolonged or repeated exposure if swallowed.	P260 Do not breathe mist, vapours or spray. P264 Wash skin thoroughly after handling. P270 Do not eat, drink or smoke when using this product. P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell. 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. P405 Store locked up. P501 Dispose of contents and container in accordance with local and national regulations.

2.3 Other Hazards: None

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixture

Chemical Name	CAS#	EINECS#	REACH registration#	CLP Classification	% w/w
n-Butyl triglycol[1]	143-22-6	205-592-6	01-2119531322-53-xxxx	Eye Damage 1 (H318)	20-<30
Diethylene glycol	111-46-6	203-872-2	01-2119457857-21-xxxx	Acute Toxicity 4 (H302) Specific Target Organ Toxicity Repeated Exposure 2 (H373)	10-25
n-Butyl diglycol	112-34-5	203-961-6	01-2119475104-44-xxxx	Eye Irritant 2 (H319)	1-<2
Methyl diglycol	111-77-3	203-906-6	01-2119475100-52-xxxx	Reproduction Toxicity 2 (H361d)	0.1-<0.5

Note 1. This substance has specific concentration limits such that classification as H318 applies if the concentration is above or equal to 30%, classification as H319 applies if the concentration is above 20% (but below 30%).

The exact percentage and composition are being withheld as a trade secret.

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SECTION 4: FIRST AID MEASURES

4.1 Description of First Aid Measures

Eye: Immediately flush eyes with large amounts of water for several minutes. Remove contact lenses, if present and easy to do so. If eye irritation persists, get medical attention.
Skin: Wash skin with soap and water. Remove clothing and shoes if contaminated. Launder clothing before reuse. If irritation or rash develops, get medical attention.
Inhalation: If inhaled remove to fresh air. If irritation or difficulty in breathing occurs, get medical attention.
Ingestion: Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

4.2 Most Important symptoms and effects, both acute and delayed: Causes eye irritation. Prolonged skin contact may cause irritation. Inhalation of vapours or mists may cause respiratory irritation. Swallowing may cause gastrointestinal irritation, nausea, vomiting, blurred vision, irritability, back pain, and central nervous system effects. Swallowing may cause damage to kidneys through prolonged or repeated exposure.

4.3 Indication of any immediate medical attention and special treatment needed: Get immediate medical attention if large amounts have been swallowed.

SECTION 5: FIRE AND EXPLOSION DATA

5.1 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.

5.2 Special Hazards Arising from the Substance or Mixture

Unusual Fire and Explosion Hazards: This product is not flammable but may form explosive mixtures in air.
Combustion Products: Combustion will produce carbon oxides, aldehydes and ethers.

5.3 Advice for Fire-Fighters:

Special Fire Fighting Procedures: Firefighters should wear full emergency equipment and an approved positive pressure self-contained breathing apparatus. Cool exposed intact containers with water.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions, Protective Equipment and Emergency Procedures:

Wear appropriate protective equipment. Wash thoroughly after handling. See also: “Personal Protection "section 8.

6.2 Environmental Precautions:

Avoid release into the environment. Report spill as required by local and national regulations.

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6.3 Methods and Material for Containment and 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".

6.4 Reference to Other Sections: Refer to Section 8 for personal protective equipment and Section 13 for disposal information.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for Safe Handling: Harmful if swallowed. Do not drink the product. Avoid contact with eyes, skin and clothing. Avoid breathing vapours and mists. Wash thoroughly with soap and water after handling. Remove soaked clothing and launder before re-use.

7.2 Conditions for Safe Storage, Including any Incompatibilities: Store in a cool area away from oxidising agents. Protect containers from physical damage. Brake fluids absorb water from the atmosphere – always keep containers tightly closed.

7.3 Specific end use(s): The product is to be used as a brake fluid. The product is harmful if swallowed and may cause kidney damage. Contact with the eyes and skin should be prevented due to the risk of irritation to eyes and skin. If inhalation of high concentrations of vapours and mists cannot be prevented appropriate personal protective equipment should be used.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control Parameters: Refer to country-specific legislation for specific requirements where not listed below.

Chemical Name	Exposure Limits
n-Butyl triglycol	None Established
Diethylene glycol	None Established
n-Butyl diglycol	None Established
Methyl diglycol	None Established

8.2 Exposure Controls:

Appropriate Engineering Controls: Use with adequate local exhaust ventilation to minimize exposure. Use explosion proof equipment where required.
Respiratory Protection: If the exposure is excessive or irritation is experienced, an approved particulate/organic vapor respirator appropriate for the form and concentration of the contaminants should be used. Selection and use of respiratory equipment must be in accordance with local regulations and good industrial hygiene practice.
Skin Protection: Wear impervious gloves in accordance with EN 374 to avoid skin contact. Protective clothing if needed to avoid skin contact and contamination of personal clothing.

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Suitable washing should be available in the work area. Contaminated clothing should be removed and laundered before re-use.
Eye Protection: Wear chemical goggles in accordance with EN 166 to prevent eye contact.
Other Protective Equipment: None should be needed under normal use conditions. In Europe follow EN 13034.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic Physical and Chemical Properties

Appearance	Clear liquid
Colour	Colourless to amber
Odour	Bland
Odour Threshold	N/A – very low odour
pH	7.0 to 11.5 (SAE J 1703)
Freezing Point	<-50°C (SAE J 1703)
Boiling Point	>205°C (SAE J 1703)
Flash Point	>93°C (IP 35)
Evaporation Rate	Negligible
Flammability (solid, gas)	Not established (non-volatile)
Upper Explosion Limit	No data available
Lower Explosion Limit	No data available
Vapour Pressure	< 2 mbar (Reid)
Vapour Density (Air=1)	Not established (non-volatile)
Relative Density	1.010-1.060 g/ml @20°C (DIN 51757)
Solubility	In ethanol: miscible in any ratio; In water: miscible in any ratio
Partition Coefficient: n-octanol/water	< 2 (all main ingredients) (OECD 117)
Auto Ignition Temperature	>300°C (ASTM D 286)
Decomposition Temperature	>300°C
Volatile Organic Compounds (VOC)	No data available
Viscosity	Approx. 5-10 cSt @20°C (ASTM D 445)

9.2 Other Information: None available

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity: Not expected to be reactive

10.2 Chemical Stability: Stable

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10.3 Possibility of Hazardous Reactions: Glycol ethers can form peroxides on storage. Glycol ethers can react with light metals under the evolution of hydrogen gas.

10.4 Conditions to Avoid: Do not distil to dryness without testing for peroxide formation.

10.5 Incompatible Materials: Avoid contact with strong oxidising agents. For user safety, brake fluid should never be contaminated with any other substance.

10.6 Hazardous Decomposition Products: Thermal decomposition may produce carbon oxides, aldehydes and ethers.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological Effects:

Potential Health Effects:

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 vapours 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.

Acute Toxicity Values:
Product: Oral rat LD50 >5000 mg/kg, Inhalation rat LC50 NA, Dermal rabbit LD50 >3000 mg/kg.
Diethylene glycol: The lethal dose for human beings found in literature ranged from 0.014 to 0.170 mg DEG/kg bw.

Skin corrosion/irritation: The product does not meet the criteria to be classified as a skin irritant.

Eye damage/irritation: Product is classified as an eye irritant.

Respiratory Irritation: The product does not contain any components that are respiratory irritants.

Respiratory Sensitization: The product does not contain any components that are respiratory sensitisers.

Skin Sensitization: The product does not contain any components that are skin sensitisers.

Germ Cell Mutagenicity: The product does not contain any components that are germ cell mutagens.

Carcinogenicity: None of the components of this product present at 0.1% or greater are listed as carcinogens by IARC, NTP or the EU CLP.

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Reproductive Toxicity: This product is not expected to cause reproductive or developmental effects.
Specific Target Organ Toxicity:

Single Exposure: No data available

Repeat Exposure: The product is classified as a Specific Target Organ Toxicant, repeated exposure if swallowed, category 2 with effects on the kidneys.

Aspiration Hazard: This product does not meet the definition of an aspiration hazard.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity
Product: 96 hr LC50 Oncorhynchus mykiss >100 mg/L, 48 hr EC50 Daphnia magna NA, 72 hr EC50 algae NA

12.2 Persistence and Degradability
The product is inherently biodegradable, and is expected to be readily biodegradable based on ingredient data (OECD 302B).

12.3 Bioaccumulative Potential
Log Pow for all main ingredients < 2 which suggests that the potential for bioaccumulation is low.

12.4 Mobility in Soil
Soluble in water and will partition to aqueous phase. Mobile in soil.

12.5 Results of PBT and vPvB Assessment: Components do not meet the criteria of PBT or vPvB.

12.6 Other Adverse Effects: None known

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods:
Dispose in accordance with all local and national regulations.

SECTION 14: TRANSPORTATION INFORMATION

	14.1 UN Number	14.2 UN Proper Shipping Name	14.3 Hazard Class(s)	14.4 Packing Group	14.5 Environmental Hazards
EU ADR/RID	None	Not Regulated	None	None	
IMDG	None	Not Regulated	None	None	
IATA/ICAO	None	Not Regulated	None	None	

14.6 Special Precautions for User: Not applicable

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14.7 Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code: Not applicable – product is transported only in packaged form

SECTION 15: REGULATORY INFORMATION

15.1 Safety, Health and Environment Regulations/Legislation Specific for the Substance or Mixture:

This SDS conforms to Regulation (EU) No. 1907/2006 and 2015/830.
Label in accordance with Regulation (EC) No. 1272/2008 (CLP).

SECTION 16: OTHER INFORMATION

Supersedes: None
Date Updated: December 22, 2017
Revision Summary:
12/22/17: New document

CLP Classification for Reference (See Sections 2 and 3):
Acute Tox. 4 Acute Toxicity Category 4
Eye Dam. 1 Eye Damage Category 1
Eye Irrit. 2 Eye Irritation Category 2
STOT RE 2 Specific Target Organ Toxicity Repeated Exposure Category 2
Repr. 2 Toxic to Reproduction Category 2
H302 Harmful if swallowed
H318 Causes serious eye damage
H319 Causes serious eye irritation
H373 May cause damage to <organ> through prolonged or repeated exposure <route>
H361d Suspected of damaging the unborn child
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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.