



Material Safety Data Sheet

1. Chemical product and company identification:

Product identifier	Magnum DOT4 Brake Fluid
Product Use	Brake Fluid
Supplier	Oil4Africa(Pty)Ltd 41 Ilana Street Delville Germiston Gauteng
Telephone Number	011-024 8888
Emergency telephone number	+27 86 155 5777 PIC Garden City Hospital

2. Hazard identification:

Classification of the substance or mixture:

- Reproductive toxicant: Category 2.



Signal Word: Warning

Health Hazards:

- Suspected of damaging fertility or the unborn child (H361)

PRECAUTIONARY STATEMENTS:

Prevention:

- Obtain, read and follow all safety instructions before use (P203).
- Wear protective gloves/protective clothing/eye protection/face protection (P280).

Response:

- If exposed or concerned, get medical advice (P318).

Storage:

- Store locked up (P405).

Disposal:

- Dispose of contents/container in accordance with applicable local/regional/national/international regulations (P501)



3.Composition/Information on Ingredients

COMPONENTS	CAS NUMBER	AMOUNT
COMPONENTS	CAS NUMBER	AMOUNT
Triethylene glycol monobutyl ether	143-22-6	25 - 40 %weight
Triethylene glycol monomethyl ether borate ester	30989-05-0	15 - 25 %weight
Diethylene glycol	111-46-6	5 - 10 %weight
Tetraethylene Glycol Monobutyl Ether	1559-34-8	5 - 10 %weight
Diethylene glycol monobutyl ether	112-34-5	1 - 3 %weight
Diethylene glycol monomethyl ether	111-77-3	- < 1 %weight

4. First Aid Measures

Description of first aid measures

Eye:	Avoid direct contact. Wear chemical protective gloves if necessary. Quickly and gently blot or brush chemical off the face. Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water for 15-20 minutes, while holding the eyelid(s) open. Remove contact lenses, if present and easy to do. Take care not to rinse contaminated water into the unaffected eye or onto the face. If eye irritation persists, get medical advice or attention.
Skin:	Avoid direct contact. Wear chemical protective clothing if necessary. Take off contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Quickly and gently blot or brush away excess chemical. Wash gently and thoroughly with lukewarm, gently flowing water and mild soap for 5 minutes. If skin irritation occurs, get medical advice or attention. Call a Poison Centre or doctor if you feel unwell. Thoroughly clean clothing, shoes and leather goods before reuse or dispose of safely.
Ingestion:	Rinse mouth with water. Call a Poison Centre or doctor if you feel unwell.
Inhalation:	Remove source of exposure or move to fresh air. Call a Poison Centre or doctor if you feel unwell.

Most important symptoms and effects, both acute and delayed

IMMEDIATE HEALTH EFFECTS

Eye:	Contact with the eyes causes irritation. Symptoms may include pain, tearing, reddening, swelling and impaired vision
Skin:	Contact with the skin may cause an allergic skin response. Contact with the skin is not expected to cause prolonged or significant irritation. Not expected to be harmful to internal organs if absorbed through the skin.



Ingestion:

Not expected to be harmful if swallowed.

Inhalation:

Not expected to be harmful if inhaled.

5. Fire Fighting Measures

EXTINGUISHING MEDIA:	Use water fog, foam, dry chemical or carbon dioxide (CO ₂) to extinguish flames.
PROTECTION OF FIRE FIGHTERS:	
Fire Fighting Instructions:	This material will burn although it is not easily ignited. See Section 7 for proper handling and storage. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.
Combustion Products:	Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion. Combustion may form oxides of Boron

6. Accidental Release Measures

Protective Measures:	Eliminate all sources of ignition in vicinity of spilled material.
Spill Management:	Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations. Report spill incident to local authorities as required

7. Handling and Storage

General Handling Information:	Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.
Precautionary Measures:	Do not get in eyes, on skin, or on clothing. Do not get in eyes. Do not taste or swallow. Wash thoroughly after handling. Keep out of the reach of children.
Static Hazard:	Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures.
Container Warnings:	Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers



retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

8. Exposure Controls/Personal Protection

GENERAL CONSIDERATIONS:

Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

ENGINEERING CONTROLS:

Use in a well-ventilated area.

PERSONAL PROTECTIVE EQUIPMENT

Eye/Face Protection:	Wear protective equipment to prevent eye contact. Selection of protective equipment may include safety glasses, chemical goggles, face shields, or a combination depending on the work operations conducted.
Skin Protection:	Wear protective clothing to prevent skin contact. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances in the workplace. Suggested materials for protective gloves include: 4H (PE/EVAL), Nitrile Rubber, Silver Shield, Viton.
Respiratory Protection:	No respiratory protection is normally required. Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

OCCUPATIONAL EXPOSURE LIMITS:

Component	Country/ Agency	Form	TWA	STEL	Ceiling	Notation
Diethylene glycol	S Africa	--	100 mg/m3	--	--	--
Diethylene glycol monobutyl ether	ACGIH	Inhalable fraction and vapor	10 ppm	--	--	--

Consult local authorities for appropriate values.



9. Physical and Chemical Properties

Attention: the data below are typical values and do not constitute a specification.

Colour:	Pale Straw to Yellow(Typical)
Physical State:	Liquid
Odor:	Mild -Ammonia like
Odor Threshold:	No data available
pH:	7-11.5
Vapor Pressure:	No data available
Vapor Density (Air = 1):	No data available
Initial Boiling Point:	260°C
Solubility:	Soluble in water
Freezing Point:	No data available
Melting Point:	<50°C
Density:	1.02 kg/l to 1.07kg/l @ 15°C (59°F) (Typical)
Viscosity:	1400 mm ² /s @ -40°C (-40°F) (Typical)
Coefficient of Therm. Expansion / °F:	No data available
Evaporation Rate:	No data available
Decomposition temperature:	No data available
Octanol/Water Partition Coefficient:	No data available

FLAMMABLE PROPERTIES:

Flammability (solid, gas):	No data available
Flashpoint:	(Pensky-Martens Closed Cup) > 100 °C (212 °F) (Typical)
Autoignition:	No data available
Flammability (Explosive) Limits (% by volume in air):	Lower: No data available Upper: No data available

10. Stability and Reactivity

Reactivity:	May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
Chemical Stability:	This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Incompatibility With Other Materials:	Not applicable
Hazardous Decomposition Products:	None Known (None expected)
Hazardous Polymerization:	Hazardous polymerization will not occur.



11. Toxicological Information

Information on toxicological effects

Serious Eye Damage/Irritation: The material is not considered an eye irritant. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

Skin Corrosion/Irritation: The material is not considered a skin irritant. The product has not been tested. The statement is based on evaluation of data for similar materials.

Skin Sensitization: The material is not considered a skin sensitizer. The product has not been tested. The statement is based on evaluation of data for similar materials.

Acute Dermal Toxicity: The material is not considered a dermal toxicant. The product has not been tested. The statement is based on evaluation of data for similar materials.

Acute Oral Toxicity: The material is not considered an oral toxicant. The product has not been tested. The statement is based on evaluation of data for similar materials.

Acute Inhalation Toxicity: The material is not considered an inhalation toxicant. The product has not been tested. The statement is based on evaluation of data for similar materials.

Acute Toxicity Estimate: Not Determined

Germ Cell Mutagenicity: The material is not considered a mutagen. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

Carcinogenicity: The material is not considered a carcinogen. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

Reproductive Toxicity: This material is suspected of damaging fertility or the unborn child. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

Specific Target Organ Toxicity - Single Exposure: The material is not considered a target organ toxicant (single exposure). The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

Specific Target Organ Toxicity - Repeated Exposure: The material is not considered a target organ toxicant (repeated exposure). The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

Aspiration Hazard: The material is not considered an aspiration hazard.

ADDITIONAL TOXICOLOGY INFORMATION:

This product contains diethylene glycol (DEG). The estimated oral lethal dose is about 50 cc (1.6 oz) for an adult human. DEG has caused the following effects in laboratory animals: liver abnormalities, kidney damage and blood abnormalities. It has been suggested as a cause of the following effects in humans: liver abnormalities, kidney damage, lung damage and central nervous system damage.



12. Ecological Information

Ecotoxicity:	This material is not expected to be harmful to aquatic organisms. The product has not been tested. The statement has been derived from the properties of the individual components.
Mobility:	No data available
Persistence and Degradability:	This material is not expected to be readily biodegradable. The biodegradability of this material is based on an evaluation of data for the components or a similar material. The product has not been tested. The statement has been derived from the properties of the individual components.
Potential to Bioaccumulate:	Bioconcentration Factor: No data available. Octanol/Water Partition Coefficient: No data available

13. Disposal Considerations

Use material for its intended purpose or recycle if possible. Oil collection services are available for used oil recycling or disposal. Place contaminated materials in containers and dispose of in a manner consistent with applicable regulations. Contact your sales representative or local environmental or health authorities for approved disposal or recycling methods.

14. Transport Information

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

DOT Shipping Description: NOT REGULATED AS HAZARDOUS MATERIAL UNDER 49 CFR

IMO/IMDG Shipping Description: NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER THE IMDG CODE

ICAO/IATA Shipping Description: NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER ICAO

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code: Not applicable

15. Regulatory Information

EPCRA 311/312 CATEGORIES: Not applicable

REGULATORY LISTS SEARCHED:

01-1=IARC Group 1

01-2A=IARC Group 2A

01-2B=IARC Group 2B

No components of this material were found on the regulatory lists above.

CHEMICAL INVENTORIES:

All components comply with the following chemical inventory requirements: AIIIC (Australia), DSL (Canada), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TSCA (United States), ENCS (Japan)



16. Other Information

NFPA RATINGS:	Health: 2	Flammability: 1	Reactivity: 0
HMIS RATINGS:	Health: 0	Flammability: 1	Reactivity: 0

(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE:- Personal Protection Equipment Index recommendation, *- Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value
TWA - Time Weighted Average
STEL - Short-term Exposure Limit
PEL - Permissible Exposure Limit
GHS - Globally Harmonized System
CAS - Chemical Abstract Service Number
ACGIH - American Conference of Governmental Industrial Hygienists
IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute
SDS - Safety Data Sheet
HMIS - Hazardous Materials Information System
NFPA - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)
NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer
OSHA - Occupational Safety and Health Administration
NCEL - New Chemical Exposure Limit
EPA - Environmental Protection Agency
SCBA - Self-Contained Breathing Apparatus

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.