



MATERIAL SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

SDS # : 32048

MOTO BRAKE FLUID DOT 5.1

Date of the previous version: 2011-03-31***

Revision Date: 2012-05-03

Version 1.01

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product name	MOTO BRAKE FLUID DOT 5.1
Number	2EN
Pure substance/mixture	Mixture

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses	Brake fluid.
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1.3. Details of the supplier of the safety data sheet

Supplier	TOTAL LUBRIFIANTS 562 Avenue du Parc de L'île 92029 Nanterre Cedex Tél: +33 (0)1 41 35 40 00 Fax: +33 (0)1 41 35 84 71
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For further information, please contact

Contact Point	HSE
E-mail Address	rm.msds-lubs@total.com

1.4. Emergency telephone number

+33 1 49 00 00 49 (24h/24, 7d/7)
 France - ORFILA (INRS) Tél : +33 (0)1 45 42 59 59
 In France : - PARIS : Hôpital Fernand Widal 200, rue du Faubourg Saint-Denis 75475 Paris Cédex 10 , Tel : 01.40.05.48.48. -
 MARSEILLE : Hopital Salvator, 249 bd Ste Marguerite 13274 Marseille cedex 5, Tel : 04.91.75.25.25. - LYON : Hopital Edouard
 Herriot, 5 place d'Arsonvol, 69437 Lyon cedex 3, Tel : 04.72.11.69.11. - NANCY : Hopital central, 29 Av du Mal De Lattre de
 Tassigny, 54000 Nancy, Tel : 03.83.32.36.36 ou le SAMU : Tel (15)

2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

REGULATION (EC) No 1272/2008

For the full text of the H-Statements mentioned in this Section, see Section 2.2.

Classification

DIRECTIVE 67/548/EEC or 1999/45/EC

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For the full text of the R-phrases mentioned in this Section, see Section 16

Not a hazardous substance or preparation according to EC-directives 67/548/EEC or 1999/45/EC

Symbol(s)

Not Classified***

2.2. Label elements

Labelled according to:

Not classified/No labelling required***

2.3. Other hazards

Physical-Chemical Properties

Contaminated surfaces will be extremely slippery.

Environmental properties

Should not be released into the environment.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixture

Chemical Name	EC-No	REACH registration No:	CAS-No	Weight %	Classification (Dir. 67/548)	Classification (Reg. 1272/2008)
Diethylene-glycol***	203-872-2	no data available	111-46-6	<5	Xn;R22	Acute Tox. 4 (H302)
2,2'-(octylimino)bisethanol***	239-555-0	no data available	15520-05-5	<5	Xn;R22 Xi;R38-41	

For the full text of the R-phrases mentioned in this Section, see Section 16

For the full text of the H-Statements mentioned in this Section, see Section 16.

4. FIRST AID MEASURES

4.1. Description of first-aid measures

General advice

IN CASE OF SERIOUS OR PERSISTENT CONDITIONS, CALL A DOCTOR OR EMERGENCY MEDICAL CARE.

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Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical advice from a specialist.
Skin contact	Remove contaminated clothing and shoes. Wash skin with soap and water. Wash contaminated clothing before reuse. ***
Inhalation	Move to fresh air. Consult a physician. ***
Ingestion	Do NOT induce vomiting. Call a physician or Poison Control Center immediately.

4.2. Most important symptoms and effects, both acute and delayed

Eye contact	Not classified.
Skin contact	Not classified.
Inhalation	Not classified. Inhalation of vapors in high concentration may cause irritation of respiratory system.
Ingestion	Not classified. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

4.3. Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician	Treat symptomatically. Absorption through the skin may occur after prolonged or repeated exposure. Ingestion of high doses may cause systemic effects.
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5. FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media	Alcohol-resistant foam. Water spray or fog.
Unsuitable Extinguishing Media	Do not use a solid water stream as it may scatter and spread fire.

5.2. Special hazards arising from the substance or mixture

Special Hazard	Incomplete combustion and thermolysis may produce gases of varying toxicity such as carbon monoxide, carbon dioxide, various hydrocarbons, aldehydes and soot. These may be highly dangerous if inhaled in confined spaces or at high concentration. Nitrogen oxides (NOx). ***
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5.3. Advice for fire-fighters

Special protective equipment for fire-fighters	Wear self-contained breathing apparatus and protective suit
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Other information

Cool containers / tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

General Information

Ensure adequate ventilation. Do not touch or walk through spilled material. Contaminated surfaces will be extremely slippery. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Avoid contact with skin, eyes and clothing. Use personal protective equipment.

6.2. Environmental precautions

General Information

Try to prevent the material from entering drains or water courses. Do not allow material to contaminate ground water system. Local authorities should be advised if significant spillages cannot be contained.

6.3. Methods and materials for containment and cleaning up

Methods for cleaning up

Dam up. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Keep in suitable, closed containers for disposal.

6.4. Reference to other sections

Personal Protective Equipment See Section 8 for more detail

Waste treatment See section 13

7. HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling

When using, do not eat, drink or smoke. For personal protection see section 8. Use only in well-ventilated areas. Do not breathe vapors or spray mist. Avoid contact with skin, eyes and clothing.

Prevention of fire and explosion

Take precautionary measures against static discharges. Ground/bond containers, tanks and transfer/receiving equipment.

Hygiene measures

Ensure the application of strict rules of hygiene by the personnel exposed to the risk of contact with the product. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Do not use abrasives, solvents or fuels. Do not dry hands with rags that have been contaminated with product. Do not put product contaminated rags into workwear pockets.

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7.2. Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions

Keep away from food, drink and animal feedingstuffs. Keep in a bunded area. Keep container tightly closed. Keep preferably in the original container. Otherwise reproduce all indication of the regulation label on the new container. Do not remove the hazard labels of the containers (even if they are empty). Design the installations in order to avoid accidental emissions of product (due to seal breakage, for example) onto hot casings or electrical contacts. Protect from frost, heat and sunlight. Protect from moisture.

Materials to Avoid

None in particular. ***

7.3. Specific end uses

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure limits

Do not contain substance with european workplace exposure limits in concentration above regulatory thresholds ***

Legend

See section 16

8.2. Exposure controls

Occupational Exposure Controls**Engineering Measures**

Apply technical measures to comply with the occupational exposure limits. When working in confined spaces (tanks, containers, etc.), ensure that there is a supply of air suitable for breathing and wear the recommended equipment. ***

Personal Protective Equipment**General Information**

If the product is used in mixtures, it is recommended that you contact the appropriate protective equipment suppliers. These recommendations apply to the product as supplied.

Respiratory protection

None under normal use conditions. In case of vapours and aerosol formation: Respirator with combination filter for vapour/particulate (EN 141), Type A. The use of breathing apparatus must comply strictly with the manufacturer's instructions and the regulations governing their choices and uses. ***



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Eye Protection	If splashes are likely to occur, wear:. Safety glasses with side-shields. ***
Skin and body protection	Wear suitable protective clothing. Protective shoes or boots. Long sleeved clothing.
Hand Protection	Impervious butyl rubber gloves, Nitrile rubber, Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion. If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the EC approved gloves.

Environmental exposure controls

General Information The product should not be allowed to enter drains, water courses or the soil

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Color		colorless To amber
Physical State @20°C		liquid
Odor		Characteristic
<u>Property</u>	<u>Values</u>	<u>Remarks</u>
pH	7 - 11.5	
Boiling point/boiling range	260 °C 500 °F	
Flash point	> 100 °C > 212 °F	
Evaporation rate		No information available
Flammability Limits in Air		No information available
Vapor Pressure		No information available
Vapor density		No information available
Density	1070 kg/m³	
Water solubility		soluble
Solubility in other solvents		No information available
logPow		No information available
Autoignition temperature		No information available
Viscosity, kinematic	900 mm2/s 1.5 mm2/s	@ -40 °C @ 100 °C
Explosive properties	Not explosive	



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Oxidizing Properties Not applicable
Possibility of hazardous reactions Not applicable

9.2. Other information

10. STABILITY AND REACTIVITY

10.1. Reactivity

10.2. Chemical stability

Stability Stable under recommended storage conditions. Hygroscopic.

10.3. Possibility of hazardous reactions

Hazardous Reactions None under normal processing.

10.4. Conditions to Avoid

Conditions to Avoid Heat (temperatures above flash point), sparks, ignition points, flames, static electricity.
Exposure to water.

10.5. Incompatible Materials

Materials to Avoid None in particular. ***

10.6. Hazardous Decomposition Products

Hazardous Decomposition Products None under normal use. Incomplete combustion and thermolysis may produce gases of varying toxicity such as carbon monoxide, carbon dioxide, various hydrocarbons, aldehydes and soot, Nitrogen oxides (NOx). ***

11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute toxicity Local effects Product Information***

Skin contact Not classified.

Eye contact Not classified.



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Inhalation	Not classified. Inhalation of vapors in high concentration may cause irritation of respiratory system.
Ingestion	Not classified. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Acute toxicity Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Diethylene-glycol***	= 12565 mg/kg (Rat)***	= 11890 mg/kg (Rabbit)***	

Sensitization

Sensitization Not classified as a sensitizer.

Specific effects

Carcinogenicity This product is not classified carcinogenic.

Mutagenicity This product is not classified as mutagenic.

Reproductive toxicity This product does not contain any known or suspected reproductive hazards.

Repeated Dose Toxicity

Subchronic toxicity No information available.

Target Organ Effects (STOT)

Target Organ Effects (STOT) No information available.

Other information**12. ECOLOGICAL INFORMATION****12.1. Toxicity**

Not classified.

Acute aquatic toxicity Product Information

No experimental data available .

Acute aquatic toxicity Component Information



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Chemical Name	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates	Toxicity to fish	Toxicity to microorganisms
Diethylene-glycol*** 111-46-6		EC50 (48h) = 84000 mg/L Daphnia magna***	LC50 (96h) = 75200 mg/L Pimephales promelas (flow-through)***	

Chronic aquatic toxicity Product Information

No information available.

Chronic aquatic toxicity Component Information

Effects on terrestrial organisms

No information available.

12.2. Persistence and degradability

General Information

Partly biodegradable .

12.3. Bioaccumulative potential

Product Information

Bioaccumulation is unlikely.

logPow

No information available

Component Information

Chemical Name	log Pow
Diethylene-glycol*** - 111-46-6	0***

12.4. Mobility in soil

Soil

Adsorbs on soil. It may contaminate ground water.

Water

Miscible.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment

No information available.

12.6. Other adverse effects



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13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from Residues / Unused Products	Should not be released into the environment. Do not empty into drains. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal
EWC Waste Disposal No.	The following Waste Codes are only suggestions: 16 01 13. According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used.

14. TRANSPORT INFORMATION

<u>ADR/RID</u>	Not regulated
<u>IMDG/IMO</u>	Not regulated
<u>ICAO/IATA</u>	Not regulated
<u>ADN</u>	Not regulated

15. REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

European Union

International Inventories

EINECS/ELINCS	-
TSCA	-
DSL	-
ENCS	-

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IECSC -
KECL -
PICCS -
AICS -
NZIoC -

Legend

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

Further information

15.2. Chemical Safety Assessment

Chemical Safety Assessment No information available

16. OTHER INFORMATION

Full text of R-phrases referred to under sections 2 and 3

R22 - Harmful if swallowed

R41 - Risk of serious damage to eyes

R38 - Irritating to skin***

Full text of H-Statements referred to under section 2 and 3

H302 - Harmful if swallowed

Abbreviations, acronyms

Legend Section 8

+	Sensitizer	*	Skin designation
**	Hazard Designation	C:	Carcinogen
M:	Mutagen	R:	Toxic to reproduction

Revision Date: 2012-05-03

Revision Note *** Indicates updated section

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006



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This safety data sheet serves to complete but not to replace the technical product sheets. The information contained herein is given in good faith and is accurate to the best of knowledge at the date indicated above. It is understood by the user that any use of the product for purposes other than those for which it was designed entails potential risk. The information given herein in no way dispenses the user from knowing and applying all provisions regulating his activity. The user bears sole liability for the precautions required when using the product. The regulatory texts indicated herein are intended to aid the user to fulfil his obligations. This list is not to be considered complete and exhaustive. It is the user's responsibility to ensure that he is subject to no other obligations than those mentioned.

End of the safety data sheet