

Product Code -	PERTAMINA Downstream Directorate – Marketing and Trading	Making date : Nov 2009 Revision date : 01/06/2010
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MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION

PRODUCT NAME

BRAKE FLUID DOT – 3 Plus

OTHER MEANS OF IDENTIFICATION

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RECOMENDED USE OF THE SUBSTANCES AND RESTRICTION ON USE

This fluids is used as coolant for engine as mentioned in the PDS (Product Data Sheets) application recommendation.

SUPPLIER'S DETAILS

Company Name : PERTAMINA

Address :Gedung Oil Center

JL. MH. Thamrin Kav. 55

Central Jakarta Post Code10350

Phone : 021-31907195

Facsimile : 021-31907992

EMERGENCY PHONE NUMBER

Phone : 021-31907195 (Monday-Friday, 7:00 am - 3:30 pm)

2. HAZARDS IDENTIFICATION

CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

Classification required according to GHS is Flammable Liquid Category 1and Irritant

GHS LABEL ELEMENTS



Irritant



Flammable

OTHER HAZARD

Hazardous Material Decomposition: Oxides of carbon, oxides of nitrogen (NOx), toxic gases/vapours

3. COMPOSITION/INFORMATION ON INGRIDIENTS

CHEMICAL IDENTITY OF THE MIXTURES

Glycol, Glycol ethers

CHEMICAL MIXTURES COMPONENTS

Mixture of polyalkylene glycols, polyalkylene glycols monoalkylethers, and polyoxyalkylene glycols with a trace amount of antioxidant and inhibitor.

4. FIRST AID MEASURES

Eye contact

Immediately flush eyes with large amounts of water for at least 15 minutes forcibly holding lids apart to ensure complete irrigation to all eye and lid tissue. Seek medical attention immediately.

Skin contact

Immediately remove contaminated clothing and shoes. Flush skin thoroughly with cool water; wash thoroughly with soap and water. Wash clothing before reuse. Discard non-rubber shoes, if irritation occurs, get medical attention.

Inhalation

Remove to fresh air. If breathing is difficult, have trained personnel administer oxygen. If respiration stops, give mouth-to-mouth resuscitation. Get medical attention.

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5. FIRE FIGHTING MEASURE

Fire Extinguisher

Carbon dioxide, foam, powder and water spray

Fire Extinguished Procedure

Will choke with spraying or cooling, with extinguishing media. Wear full protective clothing and self-contained breathing apparatus.

Flash point, °C

143 (ASTM D-92)

Hazardous Material Decomposition

Carbon monoxide, and or oxygenated hydrocarbon.

Special Protector Equipment

The fireman have to wear *Self Contained Breathing Apparatus* (SCBA)

6. ACCIDENTAL RELEASE MEASURE

Personal Precautions

Remove all sources of ignition. Avoid contact with skin, eyes, and clothing. (see Section 8 for detailed)

Procedure note

Report the spill happened according to system and procedure decided. If the spill could be enter the aqueduct or river, please report to authority officer as soon as possible.

Environmental Precautions

Do not flush into surface water, sanitary sewer or ground water system

Leakage and Spill Procedure

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Collect the spilled product into suitable containers, which must be tightly sealed and properly labeled.

7. HANDLING AND STORAGE

Handling

There is no special action. See section 8 for the suggestion of wearing protection equipment when handling this product. Container must be closed if not in used.

Storage

Store in cool, dry, well ventilated area away from incompatible materials. Do not mix with strong oxidants. Keep away from heat, sparks, and flames. Keep material container closed as material is hygroscopic.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Ventilation

Local exhaust recommended to control vapors, mists, or spray.

Breath Protection

Air purifying with organic cartridges, air supplied if other protective measures do not adequately control exposure to vapors. For emergencies and unknown concentrations, use positive pressure self-contained breathing apparatus.

Eye Protection

Wear chemical safety goggle or full face shield and chemical goggles to protect against splashing.

Skin Protection

Regulation for personnel hygiene still have to give a notice. Wear chemical gloves, such as butyl rubber or PVC coated.

Exposure limit

Not tested

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9. PHYSICAL AND CHEMICAL PROPERTIES

Specific Gravity at 20°C	:	1.07 g/cm ³
Equilibrium Reflux Boiling Point (ERBP)	:	255 °C
Wet ERBP	:	150 °C
Kinematic Viscosity at 100 °C, mm ² /s	:	2.1
Color	:	Yellowish
pH, Value	:	9.5

10. STABILITY AND REACTIVITY

Situation/condition have to avoid

Not determined

Material have to avoid

Strong oxidizing materials and high oxygen concentration

Hazardous decomposition products

Incomplete combustion can generate carbon monoxide and/or oxygenated hydrocarbons.

11. TOXICOLOGICAL INFORMATION

----- ROUTES OF EXPOSURE-----

Eye Contact

May cause moderate to severe irritation and moderate transient corneal injury depending upon the concentration of the glycol ether.

Skin Contact

May cause irritation if left in contact with skin. Contact with large areas of skin for extended periods of time may result in the absorption of toxic amounts.

Ingestion

May cause irritation of the gastrointestinal tract and central nervous system disturbances

Inhalation

Inhalation of mists may cause respiratory tract irritation, and central nervous system effects including headache, narcosis, weakness slurred speech and blurred vision. On the basis of the low vapor pressure of the product, inhalation of vapor is unlikely except at elevated temperatures.

----- ACUTE EXPOSURE-----

May cause severe to moderate eye irritation and transient corneal injury. Slight irritation to the skin with prolonged contact. Ingestion may produce central nervous system and gastrointestinal disturbances. Due to low vapor pressure, exposure by inhalation is minimal under normal handling conditions.

----- CARCINOGENICITY-----

NTP

None

IARC Monograph

None

OSHA Regulation

None

12. DISPOSAL CONSIDERATIONS

Waste disposal

Treat with burning or biological decomposition of the fluid. Entrust the disposal of the industrial waste to a trader concerned.

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13. TRANSPORTATION INFORMATION

Not regulated

14. REGULATION INFORMATION

Material is mixture of polyalkylene glycols, polyalkylene glycols monoalkylethers, and polyoxyalkylene glycols with a trace amount of antioxidant and inhibitor.

OSHA PEL

Not applicable

ACGIH TLV

Not Applicable

15. ANOTHER INFORMATION

Product condition and product fitting on special application out of company guarantee; all of the using risk will be the user responsibility. User and officer that handling this product must have the warning and product handling procedure. It's forbidden to change this document, except with law legacy.