

Material Safety Data Sheet

Identification of substance:
ENEOS Brake & Clutch Fluid (DOT4)

ISSUE DATE : 4 May 2011
REVISION DATE :
EDITION No. : 110504-EU1

1. IDENTIFICATION OF SUBSTANCE

a) Identification of substance: ENEOS Brake & Clutch Fluid (DOT4)

b) Use of the substance: Brake fluid for automobiles

c) Manufacturer/Supplier and Emergency telephone:

JX Nippon Oil & Energy Europe Limited
4th Floor
4 Moorgate
London EC2R6DA, United Kingdom

Telephone: +44-20-71860400
Telefax: + 44-20-71860419
E-mail: info@eneos.eu

2. HAZARDOUS IDENTIFICATION

a) Hazard designation: Not regulated.

b) Information pertaining to particular dangers for man and environment: No special information.

c) Classification system: The classification is in line with current EC lists. It is expanded, however, by information from technical literature and by information furnished by suppliers.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Chemical characterization

A mixture containing glycol ether and their boric acid esters, amines, additives, and stabilizers.

4. FIRST AID MEASURES

a) General information: Remove soiled or soaked clothing immediately.

b) After inhalation: Supply fresh air, consult doctor in case of symptoms.

c) After skin contact: In case of contact with skin wash off immediately with plenty of water.

d) After eye contact: Rinse opened eye for several minutes under running water. And seek medical advice.

e) After swallowing: Summon a doctor immediately.

5. FIRE FIGHTING MEASURES

a) Suitable extinguishing media: Alcohol-resistant foam, water, dry powder, carbon dioxide.

b) Extinguishing media which must not be used for safety reasons: No information.

c) Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases: Carbon monoxide(CO)

d) Special protective equipment for fire-fighters: Use self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

a) Personal precautions: Wear suitable personal protective equipment.

b) Environmental precautions: Do not allow to enter drains or waterways.

c) Methods for cleaning up: Pick up with absorbent material (eg sand, diatomaceous earth, acid binder, universal binder, sawdust) Dispose of as prescribed.

7. HANDLING AND STORAGE

7.1 Handling

a) Containment: No special requirements

b) Local and general ventilation: No special requirements

c) Measures to prevent fire: Keep away from combustible materials.

d) Measures required to protect the environment: About disposal; Refer to heading item13.

e) Any specific requirement or rules relating to the substance: No special measures necessary if handled as prescribed.

7.2 Storage

a) Specific design for storage rooms or vessels: No special requirements.

b) Incompatible materials: Strong acid or oxidizing agents.

c) Conditions of storage: Keep container tightly closed and dry.

d) Special electrical equipment and prevention of static electricity: No special requirements.

e) The type of material used in the packaging/containers of the substance: No special requirements.

7.3 Specific use(s) This product is brake fluid for automobiles.

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8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

8.1 Exposure limit values The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

8.2 Exposure controls
8.2.1 Occupational exposure controls

a) **Respiratory protection:** Not required.

b) **Hand protection:** Protective gloves (rubber).

c) **Eye protection:** Safety goggles.

d) **Skin protection:** Overalls, apron and boots recommended.

8.2.2 Environmental exposure controls: Refer to heading item 6 b). Comply with applicable Community environmental protection legislation.

9. PHYSICAL AND CHEMICAL PROPERTIES
9.1 General information

Item	Value/Range
Appearance	Light Yellow Clear liquid
Odor	Characteristic

9.2 Important health, safety and environmental information

Item	Value/Range
pH	7.4
Boiling point/boiling range °C	>260
Flash point (Cleveland Open Cup) °C	>140
Flammability (Ignition temperature) °C	Not established.
Explosive properties °C	Product is not explosive.
Relative density (20°C) g/cm ³	1.07
Water Solubility g/100mL	Soluble
Viscosity mm ² /s	2.4~2.7

9.3 Other information

Item	Value/Range
Melting point / melting range °C	Not established
Auto-ignition temperature °C	Not established

10. STABILITY AND REACTIVITY

10.1 Conditions to be avoided: No special requirements.

10.2 Materials to avoid: Strong acid or oxidizing agents.

10.3 Hazardous decomposition products: No special requirements.

11. TOXICOLOGICAL INFORMATION
11.1 Toxicological information (Animal toxicity data)

Toxicological information of this product is none.

12. ECOLOGICAL INFORMATION

Ecotoxicity information of this product is none.

13. DISPOSAL CONSIDERATION
13.1 Product

a) **Recommendation:** Must not be disposed together with household garbage. Do not allow product to reach sewage system. In accordance with regulations for special waste, must be taken to an authorized special waste incineration plant.

13.2 Uncleaness packaging

a) **Recommendation:** Disposal must be made according to official regulations.

b)

14. TRANSPORT INFORMATION

a) **UN number:** Not Classified.

15. REGULATORY INFORMATION

a) **Designation according to EC Guidelines:** The product has been classified and labeled in

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accordance with EC Directives/Ordinance on Hazardous Materials (Gefstoffv)

b) Code letter and hazard designation of product: Not applicable.

c) Hazard-determining components of labeling: None

d) Risk phrases: Not applicable.

e) Safety phrases:

2 Keep out of the reach of children.

36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

56 Dispose of this material and its container to hazardous or special waste collection point.

16. OTHER INFORMATION

a) R phrases:

Not applicable.

b) Training advice: No special requirements.

c) Recommended restrictions on use: No special requirements.

d) Technical contact point:

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4th Floor

4 Moorgate

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E-mail: info@eneos.eu

e) Sources of key data used to compile the data sheet:

1) COMMISSION DIRECTIVE 91/155/EC of 5 March 1991

2) COMMISSION DIRECTIVE 2001/58/EC of 27 July 2001

3) Directive 1999/45/EC

4) NIOSH: Registry of Toxic Effects of Chemical Substances (1998)

5) Regulation (EC) No 1907/2006

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.