

# Material Safety Data Sheet

**Identification of substance:**  
ENEOS Long Lasting Antifreeze / Coolant

ISSUE DATE : 5 May 2011  
REVISION DATE :  
EDITION No. : 110505-EU1

## 1. IDENTIFICATION OF SUBSTANCE

a) **Identification of substance:** ENEOS Long Lasting Antifreeze / Coolant

b) **Use of the substance:** Automobile engine coolant

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:** Xn Harmful

b) **Information pertaining to particular dangers for man and environment:** R22 Harmful if swallowed.

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

a) **Dangerous components:**

EINECS No.	ELINECS No	CAS No.	Chemical name	%	Classification	Labeling
						R-phrases
203-473-3		107-21-1	Ethane-diol	45~50	Xn	22

## 4. FIRST AID MEASURES

a) **General information:** Symptoms of poisoning may even occur after several hours, therefore medical observation for at least 48 hours after the accident.

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

c) **After skin contact:** Rinse skin for several minutes under running water.

d) **After eye contact:** Rinse opened eye for several minutes under running water.

e) **After swallowing:** Instantly call doctor.

## 5. FIRE FIGHTING MEASURES

a) **Suitable extinguishing media:** Use water fog, dry powder, foam, or carbon dioxide. Water or foam may cause frothing. Use water to cool fire-exposed containers. If a leak or spill has not ignited, use water fog to disperse the vapours and to provide protection for persons attempting.

b) **Extinguishing media which must not be used for safety reasons :** Water jet.

c) **Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases :** None.

d) **Special protective equipment for fire-fighters:** The nature of special protective equipment required will depend upon the size of the fire, the degree of confinement of the fire and the natural ventilation available. Fire-resistant clothing and self-contained breathing apparatus is recommended for fires in confined spaces and poorly-ventilated areas. Full fire-proof clothing is recommended for any large fires involving this product.

## 6. ACCIDENTAL RELEASE MEASURES

a) **Personal precautions:** Eliminate all sources of ignition in vicinity the spilled material. About personal protective equipment ; Refer to heading item 8.

b) **Environmental precautions :** Dilute with much water. Keep away from drains, surface- and ground-water and soil.

c) **Methods for cleaning up:** Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Dispose of contaminated material as waste according to item 13.

## 7. HANDLING AND STORAGE

### 7.1 Handling

a) **Containment :** Maintained at all times.

b) **Local and general ventilation :** Normal ventilation recommended.

c) **Measures to prevent fire:** No fire.

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 requirements. Use normal precautions in handling any liquid chemicals.

### 7.2 Storage

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**a) Specific design for storage rooms or vessels:** In accord with official regulation.  
**b) Incompatible materials:** Strong acid or oxidizing agents.  
**c) Conditions of storage:** Store with container closed in a dry place away from excessive heat. And other condition in accord with official regulation.  
**d) Special electrical equipment and prevention of static electricity:** In according to official regulation.  
**e) The type of material used in the packaging/containers of the substance:** Polyethylene, tin, steel covered by iron phosphate and steel covered by zinc phosphate.  
**7.3 Specific use(s)** This product is Automobile Engine Coolant. For intended product uses please refer to the product information leaflet.

## 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

### 8.1 Exposure limit values

CAS No.	Chemical name	%	Limit Values		
107-21-1	Ethane-diol	45~50	ACGIH	TLV-C	C 100mg/m <sup>3</sup>

### 8.2 Exposure controls

#### 8.2.1 Occupational exposure controls

- a) Respiratory protection:** Respiratory protection recommended.  
**b) Hand protection:** Protective gloves (rubber) recommended.  
**c) Eye protection:** Protective goggles recommended during refilling.  
**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	Red liquid
Odor	Mild odor

### 9.2 Important health, safety and environmental information

Item	Value/Range
pH	7.5
Boiling point/boiling range °C	108
Flash point (Cleveland Open Cup) °C	Product is not flashed
Flammability (Ignition temperature) °C	Not established.
Explosive properties °C	Product is not explosive.
Relative density (20°C) g/cm <sup>3</sup>	1.08
Water Solubility g/100mL	Fully miscible
Viscosity mm <sup>2</sup> /s	Not established

### 9.3 Other information

Item	Value/Range
Melting point / melting range °C	Not established
Auto-ignition temperature °C	Product is not auto-igniting.

## 10. STABILITY AND REACTIVITY

- 10.1 Conditions to be avoided:** No decomposition if used according to specification.  
**10.2 Materials to avoid:** Strong acid or oxidizing agents.  
**10.3 Hazardous decomposition products:** None.

## 11. TOXICOLOGICAL INFORMATION

**11.1 Toxicological information (Animal toxicity data)** Toxicological information of this product is none. Therefore, reference to specific health effects of certain components provided under heading 2 in preparations.

### a) Ethanediol

#### 1) Acute Toxicity:

oral	human	TDL <sub>0</sub> 1195mg/kg
oral	rat	LD <sub>50</sub> 4700mg/kg
inhalation	human	TCL <sub>0</sub> 10000mg/m <sup>3</sup>

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dermal rabbit LD <sub>50</sub> 9530 μ L/kg <b>2) Primary irritation:</b> 22mg/L→Irritant to the upper part of respiratory organs. 60mg/L→Feel irritation 80mg/L→Can not stand respiratory organs scorching Skin rabbit 555mg mild Eye rabbit 500mg mild <b>3) Sensitization:</b> Negative <b>4) Chronic toxicity · long-term toxicity:</b> Give high dosage for animal→ Cause kidney trouble <b>5) Mutagenicity:</b> Negative (for microbe)
<b>12. ECOLOGICAL INFORMATION</b> <b>12.1 Ecotoxicity:</b> Ecotoxicity information of this product is none. Therefore, reference information of certain components provided under heading 2 in preparations. <b>a) Ethanediol:</b> LC <sub>50</sub> 5000mg/L min. (goldfish)
<b>13. DISPOSAL CONSIDERATIONS</b> <b>13.1 Product</b> <b>a) Recommendation:</b> Must not be disposed together with household garbage. Do not allow product to reach sewage system. Disposal must be made according to official regulations. <b>13.2 Uncleaned packaging</b> <b>a) Recommendation:</b> Disposal must be made according to official regulations.
<b>14. TRANSPORT INFORMATION</b> <b>a) UN Number :</b> No UN Number classification. <b>b) IATA :</b> Not regulated (Non Hazardous) <b>c) IMDG Code :</b> Not regulated (Non Hazardous)
<b>15. REGULATORY INFORMATION</b> <b>a) Designation according to EC Guidelines:</b> The product has been classified and labeled in accordance with EC Directives/Ordinance on Hazardous Materials (Gefstoffv) <b>b) Code letter and hazard designation of product:</b> Xn Harmful <b>c) Hazard-determining components of labeling:</b> Ethanediol <b>d) Risk phrases:</b> 22 Harmful if swallowed. <b>e) Safety phrases:</b> 2 Keep out of the reach children. 46 If swallowed, seek medical advice immediately and show this container or label. 13 Keep away from food, drink and animal feeding stuffs. 36 Wear suitable protective clothing.
<b>16. OTHER INFORMATION</b> <b>a) R phrases:</b> 22 Harmful if swallowed. <b>b) Training advice:</b> In accord with official regulation. <b>c) Recommended restrictions on use:</b> For intended product uses please refer to the product information leaflet. <b>d) Technical contact point:</b> 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 <b>e) Sources of key data used to compile the data sheet:</b> 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.

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1	11.05.05	新設