SAFETY DATA SHEET

Revision: 13 September 2010 SDS No. V161500101 Version number: 1

1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

1.1	**Product identifier**	ENEOS SUPER HYDRAULIC 68
1.2	**Use**	Hydraulic oil.
1.3	**Details of the supplier of the safety data sheet**	JX Nippon Oil & Energy Europe Limited. 4th Floor, 4 Moorgate, London EC2R 6DA, U.K.
1.4	**Telephone number**	+44-20-7186-0400
1.5	**FAX number**	+44-20-7186-0419

2 HAZARDS IDENTIFICATION

Classification system : The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

Hazard classification : This preparation is not classified as dangerous according to Directive 1999/45/EC as amended and adapted.

Other hazards

Human health hazards : Prolonged or repeated contact may cause skin to become dry or cracked.

Physical/chemical hazards : None.

Environmental hazards : This product floats on water and may affect the oxygen-balance in the water.

Primary route of exposure : Skin and eyes contact.

Effects and symptoms

- Inhalation : At normal ambient temperatures this product will be unlikely to present an inhalation hazard because of its low volatility. May be harmful by inhalation if exposure to vapour, mists or fumes resulting from thermal decomposition products occurs.

- Skin contact : Unlikely to cause harm to the skin on brief or occasional contact but prolonged or repeated exposure may lead to dermatitis.
High-pressure injection under skin may cause serious damage.

- Eye contact : Unlikely to cause more than transient stinging or redness if accidental eye contact occurs.

- Ingestion : Bad taste. Unlikely to cause harm if accidentally swallowed in small doses, though larger quantities may cause nausea and diarrhoea.

3 COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Preparation : Preparation.

Chemical characterization : Mineral oil and additives.

Components : This product is not hazardous but contains hazardous components.

Composition : Substances presenting a health or environmental hazard within the meaning of Directive 67/548/EEC / Substances for which there are Community workplace

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3 COMPOSITION/INFORMATION ON INGREDIENTS (continued)

exposure limits :

Substance name		Conc. (wt%)	CAS No	EC No	Annex No		Classification
Zinc alkyldithiophosphate	:	Between 0.1 and 1 %	-----	224-235-5	-----	-----	N; R51-53

Other information : Occupational Exposure Limit(s), if available, are listed in section 8.
The base oil contains less than 3% DMSO-extract measured according IP 346, therefor it is NOT classified as T/R45: "May cause cancer" (Note L).

Text of R-Phrases : See Heading 16.

4 FIRST AID MEASURES

- General information : Seek medical attention if ill effect develops.

- Inhalation : Allow the victim to rest.
Assure fresh air breathing.

- Skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.
High pressure injection of product into the skin may lead to local necrosis if the product is not surgically removed.

- Eye contact : Check for and remove contact lenses.
Ensure adequate flushing of eyes by separating eyelids with the fingers. Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist.

- Ingestion : Rinse mouth. Do not induce vomiting.
If vomiting occurs spontaneously, keep head below the hips to prevent aspiration.
Vomitting after ingestion may cause aspiration into the lungs, which may cause severe lungdamage or death.
Never give anything by mouth to an unconscious person.

Note to physician : Treat symptomatically.

5 FIRE-FIGHTING MEASURES

Specific hazards : When exposed to heat, may decompose liberating hazardous gases.

Hazardous combustion products : Metal oxides.
CO, CO2, POx, NOx, SOx, H2S.
Under fire conditions, hazardous fumes will be present.

- Suitable extinguishing media : Water fog. Dry powder. Carbon dioxide. Foam.

- Unsuitable extinguishing media : Do not use a heavy water stream.

Surrounding fires : Use water spray or fog for cooling exposed containers.

Special procedures : Exercise caution when fighting any chemical fire.
Avoid (reject) fire-fighting water to enter environment.

Special protective equipment for fire fighters : Do not enter fire area without proper protective equipment, including respiratory protection. Use self-contained breathing apparatus.

6 ACCIDENTAL RELEASE MEASURES

Personal precautions : When the risk of skin exposure is high (e.g. when cleaning up spillages or if there is a risk of splashing) then chemical resistant aprons and/or impervious chemical suits and boots will be required.
Spill area may be slippery.
Equip cleanup crew with proper protection.

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6 ACCIDENTAL RELEASE MEASURES (continued)

Environmental precautions	:	Stop the flow of material, if possible without risk. Dike spilled material, where this is possible. Recover the cleaning water for later dis posal. Prevent entry to sewers and public waters. Notify authorities if product enters sewers or public waters.
Clean up methods	:	Take up large spills with pump or vacuum. Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- on water	:	On water, recover/skim from surface and pour out in disposal container.
- on soil	:	Clean up any spills as soon as possible, using an absorbent material to collect it. Use suitable disposal containers.
Contaminated product, soil, water	:	Sweep up and remove to a suitable, clearly marked container for disposal in accordance with local regulations.

7 HANDLING AND STORAGE

General	:	Handle in accordance with good industrial hygiene and safety procedures.
Precautions in handling and storage	:	Avoid contact with skin and eyes.
Storage	:	Always keep in containers of same material as the original one. Do not store in open or unlabelled containers. Store in tightly closed, properly ventilated containers away from heat, sparks, open flame.
Storage life	:	5 years.
Storage - away from	:	Strong oxidizing agents. Strong acids.
Handling	:	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. Wash hands and other exposed areas with mild soap and water before eat, drink or smoke and when leaving work. Wash clothing before re-using. Where contact with eyes or skin is likely, wear suitable protection.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits	:	Exposure-value for oil mist: 10 mg/m3 (15 min.) or 5 mg/m3 (8 hours).
Industrial hygiene	:	Do not put the product-soaked rags into the pockets of working clothes. Do not use cloths stained with the product to dry hands. Wash hands and other exposed areas with mild soap and water before eat, drink or smoke and when leaving work. Wash clothing before re-using. When using, do not eat, drink or smoke.
- Respiratory protection	:	Respiratory protective equipment is not normally required where there is adequate natural or local exhaust ventilation to control exposure. Where excessive vapour, mist, or dust may result, use approved respiratory protection equipment. Respiratory protective equipment must be checked to ensure it fits correctly each time it is worn. Provided an air-filtering/air-purifying respirator is suitable, a filter for particulates can be used for mist or fume. Use filter type P or comparable standard. A combination filter for particles and organic gases and vapours (boiling point >

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8 EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

65°C) may be required if vapour or abnormal odour is also present due to high product temperature. Use filter type AP or comparable standard.

- Hand protection : In case of repeated or prolonged contact wear gloves.
The gloves should be replaced immediately in case of damage or signs of wear. It is recommended to use preventative skin protection (skin cream).
The protection glove should be tested for its specific suitability (e.g. mechanical strength, product compatibility, anti-static properties).

Material	Thickness (mm)	Breakthrough time (min)	Level	according
Nitril.	0.4	480	6	EN 374
Neoprene.(chloroprene)	0.65	60	3	EN 374

- Eye protection : Safety glasses with side shields. Equipment should conform to EN 166.
Eye protection should only be necessary where liquid could be splashed or sprayed.

- Skin protection : No special clothing/skin protection equipment is recommended under normal conditions of use.
Avoid repeated or prolonged skin contact.
If repeated skin contact or contamination of clothing is likely, protective clothing should be worn.

Environmental Exposure Controls : See Heading 6. See Heading 12.

9 PHYSICAL AND CHEMICAL PROPERTIES

Physical state at 20 °C : Oily liquid.
Colour : Amber.
Odour : Characteristic.
Pour point [°C] : < -24
Boiling point [°C] : > 280
Density (kg/l) @ 20 °C : 0.87
Vapour pressure [kPa @20°C] : < 0.01
Relative vapour density (air=1) : > 1
Viscosity at 40°C [mm2/s] : 50 - 150
Viscosity at 20°C [mm2/s] : 150 - 300
Solubility in water : Not miscible with water.
Flash point [°C] : > 200
Auto-ignition temperature [°C] : > 240
Explosion limits - lower [%] : 0.6
Explosion limits - upper [%] : 7
Log P octanol / water at 20°C : > 3
Evaporation rate (BuAc=1) : < 0.1

10 STABILITY AND REACTIVITY

Stability and reactivity : Stable under normal conditions.
Hazardous decomposition products : On exposure to high temperature, may decompose, releasing toxic/flammable vapours.
CO, CO2, POx, NOx, SOx, H2S. Metal oxides.

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10 STABILITY AND REACTIVITY (continued)

Hazardous reactions	: None under normal conditions.
Hazardous polymerization	: Will not occur.
Materials to avoid	: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
Conditions to avoid	: See Heading 6. See Heading 7. See Heading 15.

11 TOXICOLOGICAL INFORMATION

Basis for Assessment	: Toxicological data have not been determined specifically for this product. Information given is based on a knowledge of the components and the toxicology of similar products.
Toxicokinetics, metabolism and distribution	: No data available.
Acute effects (acute toxicity, irritation and corrosivity)	
- Acute toxicity	: At normal ambient temperatures this product will be unlikely to present an inhalation hazard because of its low volatility. May be harmful by inhalation if exposure to vapour, mists or fumes resulting from thermal decomposition products occurs.
--On product	
- Irritation	: Unlikely to cause more than transient stinging or redness if accidental eye contact occurs.
- Corrosivity	: No data available.
CMR effects	
- Carcinogenity	: Unknown.
- Mutagenicity	: Unknown.
- Reproductive and Developmental Toxicity	: Unknown.
Repeated dose toxicity	: Unlikely to cause harm to the skin on brief or occasional contact but prolonged or repeated exposure may lead to dermatitis. Repeated dermal contact with material can lead to defatting of the skin.
- Other	: The base oil contains less than 3% DMSO-extract measured according IP 346, therefor it is NOT classified as T/R45: "May cause cancer" (Note L). High pressure injection of product into the skin may lead to local necrosis if the product is not surgically removed.

12 ECOLOGICAL INFORMATION

Basis for Assessment	: Ecotoxicological data have not been determined specifically for this product. Information given is based on a knowledge of the components and the ecotoxicology of similar products.
Ecological effects information	
On product	: This product floats on water and may affect the oxygen-balance in the water.
Ecotoxicity	: No data available.
--On product	
Bioaccumulative potential	: This product is not expected to bioaccumulate through food chains in the environment.
Persistence - degradability	: Major constituents are expected to be inherently biodegradable, but the product contains components that may persist in the environment.

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12 ECOLOGICAL INFORMATION (continued)

VOC -(g/l) (Volatile organic compounds) : None.

Mobility : Not miscible with water.
Spillages may penetrate the soil causing ground water contamination.

Results of PBT assessment : Unknown.

Other Adverse Effects : Unknown.

13 DISPOSAL CONSIDERATIONS

General : Avoid release to the environment. Dispose of this material and its container at hazardous or special waste collection point. Dispose in a safe manner in accordance with local/national regulations.

Industrial waste number : 13 02 05 - Mineral-based non-chlorinated engine, gear and lubricating oils. (Hazardous waste pursuant to Directive 91/689/EEC on hazardous waste)

Contaminated packaging : Dispose in a safe manner in accordance with local/national regulations.
Dispose of this material and its container at hazardous or special waste collection point.

Special precautions : After use, this oil must be sent to a used oil collecting location.
Every mixture with foreign substances such as solvents, brake- and cooling liquids is forbidden.
Incorrect disposal of used oil endangers the environment.
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.
When not empty dispose of this container at hazardous or special waste collection point.

14 TRANSPORT INFORMATION

General information : Not classified as hazardous for transport (ADR/RID, ADNR, IMDG, ICAO/IATA)

15 REGULATORY INFORMATION

EC Classification : This preparation is not classified as dangerous according to Directive 1999/45/EC as amended and adapted.

Symbol(s) : None.

R Phrase(s) : None.

S Phrase(s) : None.

Further Phrases : Safety data sheet available for professional user on request.

• National provisions

Germany : WGK (Water-endangermant class) : 2

16 OTHER INFORMATION

Recommended uses and restrictions : Specifications and technical informations on the product may be obtained by your dealer.

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16 OTHER INFORMATION (continued)

List of relevant R phrases (heading 3) : R51/53 : Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

The contents and format of this SDS are in accordance with REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

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