SAFETY DATA SHEET

1 . Identification of the substance/preparation and company/undertaking

Product name **Energol OGL 460**

SDS no. 450004

Use of the substance/preparation Grease for industrial applications
For specific application advice see appropriate Technical Data Sheet or consult our company representative.

Supplier Castrol BP Petco Limited Liability Company
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EMERGENCY TELEPHONE NUMBER Carechem: +65 3158 1074 (24 hours)

2 . Composition/information on ingredients

Highly refined base oil (IP 346 DMSO extract < 3%). Soap. Proprietary performance additives.

Chemical name	Concentration	CAS no.
Naphthenic acids, zinc salts	1 - 5	12001-85-3

Occupational exposure limits, if available, are listed in section 8.

3 . Hazards identification

This preparation is not classified as dangerous.

Physical/chemical hazards Not classified as dangerous.

Health hazards Not classified as dangerous.

Effects and symptoms

Eyes Unlikely to cause more than transient stinging or redness if accidental eye contact occurs.

Skin Slightly irritating to the skin.

Note: High Pressure Applications
Injections through the skin resulting from contact with the product at high pressure constitute a major medical emergency.
See 'Medical Advice' under First-Aid Measures, Section 4 of this Safety Data Sheet.

Inhalation Inhalation of oil mist or vapours at elevated temperatures may cause respiratory irritation.

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

4 . First-aid measures

Eye contact In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation occurs.

Skin contact Immediately wash exposed skin with soap and water. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if irritation develops.

Inhalation If inhaled, remove to fresh air. Get medical attention if symptoms appear.

Ingestion Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If potentially dangerous quantities of this material have been swallowed, call a physician immediately.

Notes to physician Treatment should in general be symptomatic and directed to relieving any effects.

Note: High Pressure Applications
Injections through the skin resulting from contact with the product at high pressure constitute a major medical emergency. Injuries may not appear serious at first but within a few hours tissue becomes swollen, discoloured and extremely painful with extensive subcutaneous necrosis.
Surgical exploration should be undertaken without delay. Thorough and extensive debridement of the wound and underlying tissue is necessary to minimise tissue loss and prevent or limit permanent damage. Note that high pressure may force the product considerable distances along tissue planes.

5 . Fire-fighting measures

Extinguishing media

Suitable Use foam or all-purpose dry chemical to extinguish. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Not suitable Do not use water jet.

Hazardous decomposition products Combustion products may include the following:
carbon oxides
metal oxide/oxides

Special fire-fighting procedures None identified.

Protection of fire-fighters Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.

6 . Accidental release measures

Personal precautions No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).

Environmental precautions Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material.

Large spill Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

Small spill Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

7 . Handling and storage

Handling Wash thoroughly after handling.

Storage Keep container tightly closed. Keep container in a cool, well-ventilated area.

8 . Exposure controls/personal protection

Ingredient name	Occupational exposure limits
Base oil - unspecified	**ACGIH (United States).** STEL: 10 mg/m³ 15 minute(s). Form: Oil mist, mineral TWA: 5 mg/m³ 8 hour(s). Form: Oil mist, mineral

For information and guidance, the ACGIH values are included. For further information on these please consult your supplier.

Whilst specific OELs for certain components may be shown in this section, other components may be present in any mist, vapour or dust produced. Therefore, the specific OELs may not be applicable to the product as a whole and are provided for guidance only.

Exposure controls

Occupational exposure controls Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapours below their respective occupational exposure limits.

All chemicals should be assessed for their risks to health and appropriate control measures put in place to prevent or adequately control exposure. A hierarchy of control measures exists (e.g. elimination, substitution, general ventilation, containment, systems of work, changing the process or activity) that must be considered before use of personal protective equipment. Personal protective equipment should conform to appropriate standards, be suitable for use, be kept in good condition and properly maintained.
Your supplier of personal protective equipment should be consulted for advice on selection and appropriate standards. For further information contact your national organisation for standards.

The final choice of protective equipment will depend upon a risk assessment. It is important to ensure that all items of personal protective equipment are compatible.

Hygiene measures Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.

Personal protective equipment

Respiratory system None required. However, use of adequate ventilation is good industrial practice.

Skin and body Avoid prolonged or repeated contact with skin. Wear protective clothing if prolonged or repeated contact is likely.

Hands	Wear protective gloves if prolonged or repeated contact is likely. Chemical-resistant gloves. Recommended: Nitrile gloves. The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.
Eyes	Safety glasses with side shields.

9 . Physical and chemical properties

Physical state	Grease
Colour	Black.
Odour	Oily.
Flash point	Open cup: >150°C (>302°F)
Density	<1000 kg/m^3 (<1 g/cm^3) at 25°C
Solubility	insoluble in water.
Partition coefficient (LogKow)	>3

10 . Stability and reactivity

Stability	The product is stable. Under normal conditions of storage and use, hazardous polymerisation will not occur.
Conditions to avoid	Keep away from heat, sparks and flame.
Materials to avoid	Reactive or incompatible with the following materials: oxidizing materials.
Hazardous decomposition products	Decomposition products may include the following materials: carbon dioxide carbon monoxide metal oxide/oxides Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11 . Toxicological information

Acute toxicity

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

Unlikely to cause harm to the skin on brief or occasional contact but prolonged or repeated exposure may lead to dermatitis.

Unlikely to cause harm if accidentally swallowed in small doses, though larger quantities may cause nausea and diarrhoea.

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.

Chronic toxicity

Carcinogenic effects

No component of this product at levels greater than or equal to 0.1% is identified as a carcinogen by ACGIH, the International Agency for Research on Cancer (IARC) or the European Commission (EC).

12 . Ecological information

Persistence/degradability	The biodegradability of this material has not been determined.
Mobility	Spillages may penetrate the soil causing ground water contamination.
Bioaccumulative potential	This product is not expected to bioaccumulate through food chains in the environment.
Other ecological information	Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.

13 . Disposal considerations

Disposal considerations / Waste information	The generation of waste should be avoided or minimised wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

14 . Transport information

International transport regulations

Not classified as dangerous for transport (IMDG, ICAO/IATA)

15 . Regulatory information

European Union - Label requirements

Risk phrases This product is not classified as hazardous under applicable regulations.

Other regulations

Inventories

Europe inventory: All components are listed or exempted.

United States inventory (TSCA 8b): All components are listed or exempted.

Australia inventory (AICS): All components are listed or exempted.

Canada inventory: At least one component is not listed.

China inventory (IECSC): At least one component is not listed.

Japan inventory (ENCS): At least one component is not listed.

Korea inventory (KECI): All components are listed or exempted.

Philippines inventory (PICCS): At least one component is not listed.

Vietnam

Toxic classification (TCVN 3164-79) Not classified as hazardous.

16 . Other information

History

Date of issue 31 March 2008

Date of previous issue No previous validation

Prepared by Product Stewardship

Notice to reader

Indicates information that has changed from previously issued version.

All reasonably practicable steps have been taken to ensure this data sheet and the health, safety and environmental information contained in it is accurate as of the date specified below. No warranty or representation, express or implied is made as to the accuracy or completeness of the data and information in this data sheet.

The data and advice given apply when the product is sold for the stated application or applications. You should not use the product other than for the stated application or applications without seeking advice from us.

It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. The BP Group shall not be responsible for any damage or injury resulting from use, other than the stated product use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material. Purchasers of the product for supply to a third party for use at work, have a duty to take all necessary steps to ensure that any person handling or using the product is provided with the information in this sheet. Employers have a duty to tell employees and others who may be affected of any hazards described in this sheet and of any precautions that should be taken.