

**Material Safety Data Sheet:**

Engol Hydraulic Oil Lubricant range (10W, 22, 32, 46, 68, 100, 150, 220)

**1. Product and Company Identification**

Product Name : Engol Hydraulic Oil Range  
Product Use: Hydraulic Lubricant  
Supplier: Engol Group (Pty) Ltd  
4 Silicon Road,  
Pinetown,  
4147  
Health Emergency Telephone: 10111  
Contact Information: info@engolgroup.com  
Engol Website : http://www.engolgroup.com

**2. Hazards Identification**

Emergency response data: Light Amber Liquid. DOT ERG No. - Not applicable.

**GHS Classification:****Health**

Acute inhalation toxicity warning: May be harmful if inhaled. Hazard category 4.  
Acute oral toxicity warning: May be harmful if swallowed. Hazard category 5.  
Skin irritation warning: Practically non-irritating. Hazard category 3.  
Eye irritation warning: Mild irritant. Hazard category 2B.

**Environmental**

Aquatic toxicity warning: Hazard category 3. Toxic to fish, aquatic life and wildlife

**Physical**

Flammability warning: Combustible liquid. This product is non-flammable.

**Hazard Statement**

Combustible liquid. May cause mild eye irritation. May be harmful if swallowed or inhaled.

**Precautionary Statements****Response**

IN CASE OF FIRE: Use dry chemical, foam or carbon dioxide for extinction.  
IF IN EYES: Rinse cautiously with water for several minutes.  
IF SWALLOWED: Seek medical attention if you feel unwell.  
IF INHALED: Remove person to fresh air and keep up at a resting position for breathing.

**Disposal**

Do not discharge into lakes, streams, ponds and ground water supply.

**3. Composition / information on ingredients**

Substance: Not Applicable.

Preparation Description: Highly refined mineral oils and additives.

Additional information: The highly refined mineral oil contains &lt;3% (w/w) DMSO-extract, according to IPA346.

#### 4. First Aid Measures

General Information:	Not expected to be a health hazard when used under normal conditions.
Inhalation:	Not expected to be a problem. However, if respiratory irritation occurs due to excessive vapour or mist exposure, seek immediate medical assistance. If breathing has stopped, assist ventilation with mechanical device or use mouth-to-mouth resuscitation.
Skin Contact:	Remove contaminated clothing. Dry wipe exposed skin and cleanse with hand cleaner, soap and water. Launder contaminated clothing before reuse.
Eye Contact:	Flush thoroughly with water. If irritation occurs consult a doctor.
Ingestion:	Not expected to be a problem. However if discomfort occurs seek medical attention. Do not induce vomiting.
Self-protection of the First Aider:	When administering first aid, ensure that the appropriate personal protective equipment are worn, according to the incident, injury and surroundings.
Most important symptoms and effects, both acute and delayed:	Oil acne/folliculitis signs and symptoms may include formation of black pustule and spots on the skin of exposed area.
Indication of any immediate medical notes to doctor/physician	Treat symptomatically.

#### 5. Fire-Fighting Measures

**Clear fire area of all non-emergency personnel.**

Extinguishing Media:	Foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be Used for small fires only.
Special firefighting procedure:	Water or foam may cause frothing. Use water to keep fire exposed containers cool. Water spray may be used to flush spills away from exposure. Prevent runoff from fire control or Dilution from entering streams, municipal sewers, or drinking water supply.
Special protective equipment: for firefighters	Proper protective equipment including breathing apparatus must be worn when approaching a fire in a confined space.
Unusual fire and explosive: Hazard	None
Products of decomposition:	Fumes, carbon monoxide, sulphur dioxide, aldehydes and other decomposition products, In the case of incomplete combustion.
Flash Point:	> 200°C (ASTM D92)
Upper Explosion Limit (UEL):	7.0% (V)
Lower Explosion Limit (LEL):	0.9% (V)
NFPA Hazard ID:	Health: 0 ; Flammability: 1 ; Reactivity: 0
Advice for firefighters:	Proper protective equipment including chemical resistant gloves are to be worn; chemical Resistant suit is indicated if excessive contact with spilled product is expected. Self-Contained Breathing Apparatus must be worn when approaching a fire in a confined space. Select fire fighter's clothing approved to relevant standards.

#### 6. Accident Release Measures

Personal precautions:	See Section 8.
Procedure if material is released: or spilled	Report spills/releases as required to appropriate authorities.

Methods for cleaning up and: containment

**LAND SPILL:** Shut off source taking normal safety precautions. Take measures to minimise the effects on ground water. Recover by pumping using explosion-proof equipment or contain spilled liquid with sand or other suitable absorbent or remove mechanically into containers.

If necessary, dispose of absorbent residues as directed in Section 13.

**WATER SPILL:** Notify port and relevant authorities. Confine with booms if skimming equipment is available to recover the spill for later recycling or disposal.

Warn other ships in the vicinity. If allowed by regulatory authorities the use of suitable dispersants should be considered where recommended in local oil spill procedures.

Environmental precautions:

Prevent spill from entering municipal sewers, water sources or low lying areas. Advise the Relevant authorities if contaminations have occurred.

Additional advice:

Local authorities should be advised if significant spillages cannot be contained.

## 7. Handling & Storage

General precautions:

Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols. Properly dispose of any contaminated rags or cleaning materials in order to prevent fire. Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material.

Handling:

Avoid prolonged or repeated contact with skin. Avoid inhaling vapours and/or mists. When handling product in drums, safety footwear should be worn & proper handling equipment should be used.

Storage:

Keep container tightly closed and in a cool, well-ventilated place. Use properly labelled and closeable container. Storage temperature: 0 - 50°C / 32 - 122° F. Do not store near heat sources, flames, sparks combustible material or strong oxidising agents.

Product transfer:

This material has the potential to be a static accumulator. Proper grounding and bonding procedure should be used during bulk transfer operations.

Conditions for safe storage:  
including any incompatibilities

Store at ambient temperature.

Recommended materials:

Use mild steel or high density polyethylene for containers or container linings.

Unsuitable materials:

PVC

Specific end use(s):

Not applicable.

Additional information:

Polyethylene containers should not be exposed to high temperatures because of possible risk of distortion.

## 8. Exposure Control / Personal Protection

Occupational Exposure Limits (OELs)

Components	CAS-No	Source	TWA	Value	Notation
LTEL:		Long Term Exposure Limits - Time Weight Average (TWA) over 8 hours.			
STEL:		Short Term Exposure Limits - Time Weight Average (TWA) over 15 minutes.			
Note:		Limits Shown for guidance only. Follow applicable regulations.			

### Personal Protection Equipment:

Engineering controls:	If mists are generated, use ventilation, local exhaust or enclosures to control below exposure limits.
Respiratory protection:	Approved respiratory equipment must be used when mist concentrations exceed the recommended exposure limits.
Eye protection:	If splash with liquid is possible, chemical type goggles should be worn.
Skin and body protection:	No special equipment required. However, if frequent splashing or liquid contact is likely to occur, wear oil impervious gloves and clothing. Good personal hygiene practices should always be followed.

## 9. Physical and Chemical Properties

Appearance:	Liquid at room temperature.
Colour:	Light Amber
Odour:	Slight hydrocarbon
Water solubility:	Negligible
Solubility in other solvents:	No data available.
Boiling point:	> 300°C
Upper Explosion Limit (UEL):	7.0% (V)
Lower Explosion Limit (LEL):	0.9% (V)
Vapour pressure:	> 0.1 hPa

Engol Anti-Wear								
ISO VG	10W	22	32	46	68	100	150	220
Viscosity, cSt @ 40°C	37.5	22	32	46	68	100	150	220
Viscosity, cSt @ 100°C	6.4	4.3	5.5	6.9	9.2	11.4	14.7	19.2
Flash Point °C	220	220	220	226	230	234	234	236
Pour Point °C	-33	-21	-18	-18	-15	-15	-9	-9

## 10. Stability & Reactivity

Reactivity:	The product does not pose any further reactivity hazards in addition to those listed in the following sub-paragraph.
Chemical stability:	No hazardous reaction is expected when handled and stored according to provisions.
Possibility of hazardous reactions:	Reacts with strong oxidising agents.
Stability:	Stable
Conditions to avoid:	Extremes of temperature and direct sunlight.
Materials to avoid:	Strong oxidising agents.
Hazardous decomposition products:	Fumes, smoke, carbon monoxide, sulphur oxides, aldehydes and other decomposition products, in the case of incomplete combustion.

## 11. Toxicological Information

Basis for assessment:	Information given is based on data on the components and the toxicology of similar products. Unless otherwise indicated, the data presented is representative of the product as a whole, rather than for individual component(s). Skin and eye contact are the primary routes of exposure.
Likely routes of exposure:	Expected to be of low toxicity: LD50 > 5000 mg/kg, Rat.
Acute oral toxicity:	Expected to be of low toxicity: LD50 > 5000 mg/kg, Rabbit.
Acute inhalation toxicity:	Expected to be slightly irritating. Prolonged or repeated skin contact without proper cleaning can clog the pores of the skin resulting in disorders such as oil acne/folliculitis.
Skin irritation:	Expected to be slightly irritating.
Eye irritation:	Inhalation of vapours or mists may cause irritation.
Respiratory irritation:	Not expected to be a skin sensitiser.
Sensitisation:	Not considered to be an aspiration hazard.
Aspiration hazard:	Not expected to be a hazard.
Repeated dose toxicity:	Not considered to be a mutagenic hazard.
Mutagenicity:	Product contains mineral oils of types shown to be non-carcinogenic in animal skin-painting studies. Highly refined mineral oils are not classified as carcinogenic by the International Agency for Research on Cancer (IARC). Other compounds are not known to be associated with carcinogenic effects.
Carcinogenicity:	Not expected to be a hazard.
Reproductive and developmental toxicity:	Although an acute inhalation study was not performed with this product, a variety of mineral synthetic oils, such as those in this product, have been tested. These samples had virtually no effect other than nonspecific inflammatory response in the lung to the aerosolized mineral oil. The presence of additives in other tested formulations (in approximately the same amounts as in the present formulation) did not alter the observed results.
Specific target organ toxicity and: (STOT) - Single exposure	No significant adverse effects were found in studies using repeated dermal applications of formulations to the skin of the laboratory animals for 13 weeks at doses significantly higher than those expected during normal industrial exposure. The animals were evaluated extensively for effects of exposure (haematology, serum chemistry, urinalysis, organ weights, microscopic examination of tissues etc.). Repeated and/or prolonged exposure may cause irritation to the skin, eyes or respiratory tract.
Specific target organ toxicity: (STOT) - Repeated exposure	Used oil may contain harmful impurities that have accumulated during use. The concentration of such impurities will depend on use and they may present risk to health and the environment on disposal. ALL used oil should be handled with caution and skin contact avoided as far as possible. Continuous contact with used engine oils has caused skin cancer in animal tests.
Additional information:	

## 12. Ecological Information

### Ecotoxicity Effects

Toxicity to fish:	(Salmon) LC/EC50: 8.1 mg/l at 96 hours.
Toxicity to aquatic organisms:	(Daphnia magna) LC/EC50: 9.4 mg/l at 8 hours.
Mobility:	Liquid under most environmental conditions. Floats on water. If it enters soil, it will absorb into soil particles and not be mobile.
Persistence / degradability:	Expected to be not readily biodegradable. Major Constituents are expected to be inherently biodegradable, but the product contains components that may persist in the environment.

Bioaccumulation:	Contains components with the potential to bioaccumulate.
Other adverse effects:	Product is a mixture of non-volatile components, which are not expected to be released to air in any significant quantities. Not expected to have ozone depletion potential, photochemical ozone creation potential or global warming potential.

### 13. Disposal Considerations

Waste disposal:	Recover or recycle if possible. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations. Do not dispose into the environment, in drains or in water courses.
Contaminated packaging:	Empty containers retain residue (liquid and/or vapour) and can be dangerous. Do not Pressurize, cut, weld, braze, solder etc. or expose such containers to heat, flames, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.
Local legislation:	Disposal should be in accordance with applicable regional, national, and local laws and regulations.

### 14. Transport Information

ADR:	This material is not classified as dangerous under ADR regulations.
RID:	This material is not classified as dangerous under RID regulations.
ADNR:	This material is not classified as dangerous under ADNR regulations
IMDG:	This material is not classified as dangerous under IMDG regulations
IATA (Country variations may apply)	This material is not classified as dangerous under IMDG regulations

### 15. Regulatory Information

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

EC Classification:	Not classified as dangerous under EC criteria.
EC Symbols:	No hazard symbol required.
EC Risk Phrases:	Not classified.
EC Safety Phrases:	Not classified.
EINECS:	All components listed or polymer exempt.
TSCA:	All components listed.

### 16. Other Information

R-Phrase(s):	Not classified.
MSDS Version Number:	1.0
MSDS Effective Date	01.05.2017
INJECTION INJURY WARNING:	If product is injected into or under the skin, or into and part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a doctor as a surgical emergency.

## Technical Data Sheet:

### Engol Anti-Wear Hydraulic Lubricant Range

#### Specifications, Performance Standards & Recommendations:

- Cincinnati Millicon P-68, P-69, P-70
- DIN 51524 Part 2 & Part 3
- ISO 11158 Categories HM
- ASTM D6158 Type HM
- AFNOR NF E 48-603 HM
- Vickers M – 2950-S

Engol Anti- Wear Hydraulic Lubricant Range is recommended for use in hydraulic systems, in industrial, marine and mobile services, particularly where the manufacturer specifies the use of anti-wear hydraulic fluids to cater for highly stressed pumps delivering large volumes at high pressures and temperatures. These oils are also suitable for many circulation, splash, bath and ring oiling systems feeding lubricant to gears and bearings of industrial machinery. They should not be used with silver and/or silver coated components. The SAE 10W grade is recommended for basic hydraulic systems (Hydraulic jacks, tippers, auxiliary equipment etc).

#### Description:

Premium quality anti-wear hydraulic Lubricants specially developed to provide multimetal compatibility and improved wear protection in heavy duty service hydraulic systems. Made from solvent refined, high viscosity index mineral oils, they contain stabilized anti-wear, antioxidation, antirust and defoamant additives.

#### Benefits:

- Superior wet and dry filterability.
- Multimetal compatibility (except for silver components).
- Outstanding thermal and oxidation stability.
- Good demulsibility for rapid separation of water.

#### Typical Physical Characteristics:

Engol Anti-Wear								
ISO VG	10W	22	32	46	68	100	150	220
Viscosity, cSt @ 40°C	37.5	22	32	46	68	100	150	220
Viscosity, cSt @ 100°C	6.4	4.3	5.5	6.9	9.2	11.4	14.7	19.2
Viscosity Index,	110	100	100	105	105	97	96	96
Flash Point, °C	220	220	220	226	230	234	234	236
Pour Point, °C	-33	-21	-18	-18	-15	-15	-9	-9

\*The values of the specifications shown in this table are typical values given as an indicator only.

#### Pack Sizes:

- 5 Litre and 20 Litre Plastic Bottles
- 208 Litre Steel Drums
- 1000 Litre IBC

#### Health and Safety Information:

For recommendations on safe handling and use of this product, please refer to the Material Safety Data sheet available on [www.engolgroup.com](http://www.engolgroup.com)