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GUARANTEED PERFORMANCE

Material Safety Data Sheet:

Engol 15W40 Multigrade Oil Range (Agri, C14, C14+, CH4, SF/CF)

1. Product and Company Identification

Product Name :	Engol Multigrade Engine Oils
Product Use:	Automotive 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: 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:	Pratically 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 disrcharge 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 of containers <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 administrating 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 immedate: 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 whenapproaching 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:	> 220°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 recom mended 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 and 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 contain er 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:	Amber
Odour:	Slight hydrocarbon
Water solubility:	Negligible
Solubility in other solvents:	No data available.
Boiling point:	> 316°C
Upper Explosion Limit (UEL):	7.0% (V)
Lower Explosion Limit (LEL):	0.9% (V)
Vapour pressure:	> 0.1 hPa
Kinematic Viscosity:	110 mm2/s@ 40°C (ASTM D-445) 4.2mm2/s @ 100°C (ASTM D-445)

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.

10. 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).
Likely routes of exposure:	Skin and eye contact are the primary routes of exposure.
Acute oral toxicity:	Expected to be of low toxicity: LD50 > 5000 mg/kg, Rat.
Acute inhalation toxicity:	Expected to be of low toxicity: LD50 > 5000 mg/kg, Rabbit.
Skin irritation:	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.

Eye irritation:	Expected to be slightly irritating.
Respiratory irritation:	Inhalation of vapours or mists may cause irritation.
Sensitisation:	Not expected to be a skin sensitiser.
Aspiration hazard:	Not considered to be an aspiration hazard.
Repeated dose toxicity:	Not expected to be a hazard.
Mutagenicity:	Not considered to be a mutagenic hazard.
Carcinogenicity:	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 no known to be associated with carcinogenic effects.
Reproductive and developmental: toxicity	Not expected to be a hazard.
Specific target organ toxicity and: (STOT) - Single exposure	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: (STOT) - Repeated 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 expect ed 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.
Additional information:	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.

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.

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Technical Data Sheet:

Engol Hi Performance 15W-40 CI-4+

Specifications, Performance Standards & Recommendations:

- API CI 4 +
- ACEA E7 -12
- MTU Type 2.1
- DDC 93k218
- JASO DH-1,2
- Volvo VDS-4
- MAN M3575
- Global DHD -1
- CAT ECF -2, 3
- Daimler MB 228.31

Recommended for use in heavy duty four stroke turbocharged and naturally aspirated diesel engines, both on and off highway, burning high or low sulphur diesel. It is highly effective in common rail engines, including those utilizing hydraulically actuated fuel injection systems. May be used in petrol engines requiring API specification SL.

Description:

Engol Hi Performance 15W-40 represents a premium mineral-based engine crankcase oil tailored for contemporary petrol and diesel engines found in a variety of vehicles such as cars, MPVs, SUVs, and pick-ups, encompassing both naturally aspirated and turbocharged engines. This product surpasses the stipulations and holds formal approval for API Service Classifications SL/CI-4+, while also meeting the stringent engine oil performance prerequisites set by leading car manufacturers for both initial fill and subsequent top-ups. Furthermore, Engol Hi Performance 15W-40 complies with a diverse array of specifications and performance benchmarks.
Its formulation incorporates low volatility base oils, which play a pivotal role in reducing oil consumption.

Application:

Engol Hi Performance 15W-40 is highly recommended for application in a wide range of naturally aspirated and turbocharged petrol and diesel engines found in various vehicles such as cars, MPVs, SUVs, pick-ups, and four-stroke motorcycle engines. This oil holds approvals from leading engine manufacturers for both initial use and top-up applications within warranty specifications. As an SAE 15W-40 multi-grade oil, it proves suitable for diverse temperature conditions. Its notable attributes include excellent high-temperature stability, superior detergency, and a robust protective reserve that effectively safeguards engine components, minimizing wear and promoting prolonged engine longevity throughout extended service periods.

Performance Level:

API SL/CF, ACEA A3-96/B3-96, VW 501.01/505.00, MB 229.1.

Typical Physical Characteristics:

Engol CI-4+	
SAE No.	15W-40
Viscosity, cSt @ 40	112
Viscosity, cSt @ 100°C	15.2
Viscosity Index	142
Flash Point, °C	226
Pour Point, ºC	-39
Total Base	11
Sulfated Ash % wt	1.01

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

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Key Advantages:

- Enhanced capability for starting in cold temperatures.
- Exceptional safeguarding against wear and corrosion.
- Superb stability at high temperatures, along with effective detergency and protection.
- Wide operational temperature range facilitated by a low pour point and high viscosity index.
- Prolonged engine lifespan.

Pack Sizes:

- 500 ml ,1 Litre, 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 avail able on **www.engolgroup.com**

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