Engen Gearlube EP 85W-140 LS

SAFETY DATA SHEET

Revision Date :28.05.2020

1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	Engen Gearlube EP 85W-140 LS
Product use	:	Gear Lubricant
Supplier	:	Engen Petroleum Limited (Tel: +27 (0) 21 403 4911, a/h: +27 (0) 21 403 4099)
Health Emergency Telephone	:	+27 (0) 21 689 5227 (Red Cross Poison Service)
Transport Emergency Telephone	:	+27 (0) 11 975 1278/83 (Hazchemwise)
Customer Service Centre	:	0860 036 436 (Sales and Technical Information)
Engen Website	:	http://www.engen.co.za/

2. HAZARDS IDENTIFICATION

Emergency response data : Dark brown Liquid. DOT ERG No. - Not applicable.

GHS Classification:

Health		
Acute inhalation toxicity	Hazard category 4. May be harmful if inhaled.	Warning
Acute oral toxicity	Hazard category 5. May be harmful if swallowed.	Warning
Skin irritation	Hazard category 3. Practically non-irritating.	Warning
Eye irritation	Hazard category 2B. Mild irritant.	Warning
Environmental		
Aquatic toxicity :	Hazard category 2. Very toxic to fish, aquatic organisms and wildlife.	Warning
Physical		
Flammability :	This product is non-flammable. Combustible liquid.	Warning

GHS Labels/Pictograms:

Hazard Statements

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

Precautionary Statements

Response
IN CASE OF FIRE: Use carbon dioxide, foam or dry chemical for extinction. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: get medical attention. IF SWALLOWED: Get medical attention if you feel unwell. Do NOT induce vomiting. IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breath. IF ON SKIN: Immediately remove all contaminated clothing. Gently wash skin with plenty of soap and water. Launder contaminated clothing before re-use. If skin irritation occurs: Get medical attention.

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

See Section 11 for further health effects/toxicological data.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS-No.	Weight%
Base oil package		<= 85.00
Additive package		>= 15.00

See Section 8 for Exposure Limits (if applicable).

4. FIRST AID MEASURES

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. (See Section 16 - Injection Injury)
Eye contact	:	Flush thoroughly with water. If irritation occurs call a doctor.
Ingestion	:	Not expected to be a problem. However, if discomfort occurs seek medical attention. Do not induce vomiting.

5. FIRE-FIGHTING MEASURES

Extinguishing media	:	Carbon dioxide, foam, dry chemical and water fog.
Special fire fighting 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	:	For fires in enclosed areas, fire fighters must use Self-Contained Breathing Apparatus.
Unusual fire and explosive hazards	:	None.
Products of decomposition	:	Fumes, smoke, carbon monoxide, sulphur oxides, aldehydes and other decomposition products, in the case of incomplete combustion.
Flash Point	:	> 180 °C (ASTM D-92)
Upper Explosion Limit (UEL)	:	7.0 %(V)
Lower Explosion Limit (LEL)	:	0.9 %(V)
NFPA Hazard Id	:	Health: 0; Flammability: 1; Reactivity: 0

6. ACCIDENTAL RELEASE MEASURES

Procedure if material is released or spilled	:	Report spills/releases as required to appropriate authorities.
Methods for cleaning up	:	LAND SPILL: Shut off source taking normal safety precautions. Take measures to minimize the effects on ground water. Recover by pumping using explosion-proof equipment or contain spilled liquid with sand or

other suitable absorbent and remove mechanically into containers. If necessary, dispose of absorbed 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.

Personal precautions : See Section 8.

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

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7. HANDLING AND STORAGE

Safe handling advice : No special precautions are necessary beyond normal good hygiene practices.

Storage information : Keep containers closed when not in use. Do not store in open or unlabelled containers. Do not store near heat sources, sparks, flames, strong oxidizing agents and combustible materials.

Storage and handling procedures : Prevent small spills and leakages to avoid slip hazard.

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8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational Exposure Limits (OELs)

Components	CAS-No.	Source	TWA	Value		Notations
Base oil package		ACGIH TLV	LTEL	5 mg/m3		Oil mists

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 Protective Equipment (PPE)

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.

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9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Liquid.
Colour : Dark brown
Odour : Mild
Solubility : Negligible

Boiling point	:	> 316 °C
Flash Point	:	> 180 °C (ASTM D-92)
Upper Explosion Limit (UEL)	:	7.0 %(V)
Lower Explosion Limit (LEL)	:	0.9 %(V)
Vapour pressure	:	< 0.1 hPa
Density	:	0.9018 g/cm3 @ 20 °C (ASTM D-4052)
Pour point	:	-18 °C
Viscosity, kinematic	:	26.53 mm2/s @ 100 °C (ASTM D-445) 364.5 mm2/s @ 40 °C (ASTM D-445)

10. STABILITY AND REACTIVITY

Stability	:	Stable.
Conditions to avoid	:	Extreme heat and high energy sources of ignition, such as sparks and static electricity.
Materials to avoid	:	Strong oxidizers.
Hazardous decomposition products	:	Fumes, smoke, carbon monoxide, sulphur oxides, aldehydes and other decomposition products, in the case of incomplete combustion.

11. TOXICOLOGICAL INFORMATION

Acute oral toxicity	:	(Rats): Practically non-toxic (LD50: Greater than 2000 mg/kg). Based on testing of similar products and/or components. Warning Hazard category 5. May be harmful if swallowed.
Acute dermal toxicity	:	(Rabbits): Practically non-toxic (LD50: greater than 2000 mg/kg). Based on testing of similar products and/or the components. Warning Hazard category 5. May be harmful in contact with skin.
Acute inhalation toxicity	:	(Rats): Harmful (LC50: greater than 10 but less than 20mg/l) 4 hours. Based on testing of similar products and/or the components. Warning Hazard category 4. May be harmful if inhaled.
Skin irritation	:	(Rabbits): Mild irritant. (Primary Irritation Index: greater than 0.5 but less than 3). Based on testing of similar products and/or the components. Warning Hazard category 3. Causes mild skin irritation.
Eye irritation	:	(Rabbits): Mild irritant. (Draize score: greater than 6 but 15 or less). Based on testing of similar products and/or the components. Warning Hazard category 2B. May cause mild eye irritation.
Respiratory and skin sensitization	:	Not expected to be sensitizing based on tests of this product, components, or similar products.
Germ cell mutagenicity	:	This product tested negative in a series of mutagenic tests.
Carcinogenicity	:	Chronic mouse skin painting studies of severely solvent refined mineral base oils showed no evidence of carcinogenic effects. Synthetic base oils have been tested in the Ames assay and other tests of mutagenicity with negative results. These base oils are not expected to be carcinogenic with chronic dermal exposures. Used petrol engine oils have shown evidence of skin carcinogenic activity in laboratory tests when no effort was made to wash the oil off between applications. Used oil from diesel engines did not produce this effect.
Reproductive toxicity (Teratogenicity)	:	No teratogenic effects would be expected from dermal exposure, based on laboratory developmental toxicity studies of major components in this formulation and/or materials of similar composition.
Specific target organ toxicity	:	Although an acute inhalation study was not performed with this product,

(STOT) - single exposure		a variety of mineral and synthetic oils, such as those in this product, have been tested. These samples had virtually no effect other than a 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 effects.
Specific target organ toxicity (STOT) - repeated exposure	:	No significant adverse effects were found in studies using repeated dermal applications of similar formulations to the skin of 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.
Aspiration hazard	:	Overexposure to oil mist may result in oil droplet deposition and/or granuloma formation.

12. ECOLOGICAL INFORMATION

Ecotoxicity effects

Toxicity to fish	:	(Salmon) LC/EC50: 8.1 mg/l at 96 hours. Warning Hazard category 2.
Toxicity to aquatic organisms	:	(Daphnia magna) LC/EC50: 6 mg/l at 48 hours. (Green algae) LC/EC50: 9.4 mg/l at 8 hours.

Elimination information (persistence and degradability)

Biodegradability	:	This product is expected to be inherently biodegradable.
Mobility	:	Adsorption to sediment and soil will be the predominant behaviour.
Bioaccumulation	:	Minimal owing to low water solubility.

Further information on ecology

Remarks	:	In the absence of specific environmental data for this product, this assessment is based on information for representative substances.

13. DISPOSAL CONSIDERATIONS

Waste disposal	:	Product is suitable for burning in an enclosed, controlled burner for fuel value or disposal by supervised incineration. Such burning may be limited pursuant to the Resource Conservation and Recovery Act. In addition, the product is suitable for processing by an approved recycling facility or can be disposed of at any government approved waste disposal facility. Use of these methods is subject to user compliance with applicable laws and regulations and considerations of product characteristics at time of disposal.
Contaminated packaging	:	Empty containers retain residue (liquid and/or vapour) 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. Do not attempt to refill or clean container since residue is difficult to remove. Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.
Other regulations	:	The unused product, in our opinion, is not specifically listed by the EPA

as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrosivity, or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

Flash Point : > 180 °C (ASTM D-92)

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14. TRANSPORT INFORMATION

Note : This product is not regulated by the following: U.S. DOT (CFR), ADR, IATA and IMDG.

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15. REGULATORY INFORMATION

US OSHA Hazard Communication Standard : When used for its intended purposes, this product is not classified as hazardous in accordance with OSHA 29 CFR 1910.1200.

Governmental Inventory Status : All components comply with TSCA, EINECS/ELINCS, AICS, METI, DSL, KECI, ENCS, PICCS and IECSC.

EU Labelling : Product is not dangerous as defined by the European Union Dangerous Substances/Preparations Directives. EU labelling not required.

SARA

U.S. Superfund Amendments and Reauthorization Act SARA Title III : This product contains no "EXTREMELY HAZARDOUS SUBSTANCES".

SARA (311/312) Reportable Hazard Categories : None

The following product ingredients are cited on the lists below

Chemical name	CAS-No.	Concentration [%]	List Citations
Base oil package		<= 85.00	Not listed
Additive package		>= 15.00	Not listed

Regulatory List Searched

1 = ACGIH ALL	6 = IARC 1	11 = TSCA 4	17 = CA P65	22 = MI 293
2 = ACGIH A1	7 = IARC 2A	12 = TSCA 5a2	18 = CA RTK	23 = MN RTK
3 = ACGIH A2	8 = IARC 2B	13 = TSCA 5e	19 = FL RTK	24 = NJ RTK
4 = NTP CARC	9 = OSHA CARC	14 = TSCA 6	20 = IL RTK	25 = PA RTK
5 = NTP SUS	10 = OSHA Z	15 = TSCA 12b	21 = LA RTK	26 = RI RTK

Code Key: CARC = Carcinogen; SUS = Suspected Carcinogen

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16. OTHER INFORMATION

Note: Engen products do not contain PCBs.

INJECTION INJURY WARNING: If product is injected into or under the skin, or into any 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. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

Note: No significant changes have been made to this Safety Data Sheet since the previous date.

Disclaimer

Information given herein is offered in good faith as accurate, but without guarantee. Conditions of use and suitability of the product for particular uses are beyond our control; all risks of use of the product are therefore assumed by the user and we expressly disclaim all warranties of every kind and nature, including warranties of merchantability and fitness for a particular purpose in respect to the use or suitability of the product. Nothing is intended as a recommendation for uses which infringe valid patents or as extending license under valid patents. Appropriate warnings and safe handling procedures should be provided to handlers and users.

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