



1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Engen Premium EP 0
Supplier : Engen Petroleum Limited (Tel: +27 (0) 21 403 4911, a/h: +27 (0) 21 403 4099)
Poisons Information Helpline : 0861 555 777 (South Africa)
Spill Response : 086 100 0366 (South Africa)
Customer Service Centre : 0860 036 436 (Sales and Technical Information)
Engen Website : <http://www.engen.co.za/>

2. HAZARDS IDENTIFICATION

Emergency response data : Yellowish-brown Semi-solid. Repeated exposure may cause skin dryness or cracking. DOT ERG No. - Not applicable.

GHS Classification:

Health

Skin corrosion/irritation : Not classified.

Environmental

Acute toxicity : Not classified.

Chronic toxicity : Not classified.

Physical

Flammability : Not classified.

Signal Word

: None

GHS Labels/Pictograms:

Hazard Statements

None.

Precautionary Statements

Prevention

Wash exposed skin after handling this product.

Response

IN CASE OF FIRE: Use dry sand, dry chemical or alcohol-resistant foam to extinguish. IF IN EYES: Rinse cautiously with water for several minutes. IF SWALLOWED: Get medical attention if you feel unwell. IF ON SKIN: If irritation occurs, get medical attention.

Storage

Store in accordance with local regulations and municipal bylaws.

Disposal

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

See Section 11 for further health effects/toxicological data.

Engen Premium EP 0

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS-No.	Weight%
Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts (2:1)	68649-42-3	< 1.20
Zinc Naphthenate	12001-85-3	< 1.30

See Section 8 for Exposure Limits (if applicable).

4. FIRST AID MEASURES

Inhalation	:	Under certain conditions smoke may be generated. Remove victim from further exposure.
Skin contact	:	Wash contact areas with soap and water.
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.
Products of decomposition	:	Fumes, smoke, carbon monoxide, sulphur oxides, aldehydes and other decomposition products, in the case of incomplete combustion.
Flash Point	:	> 150 °C (ASTM D-92)
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 shovelling up, or contain spilled material 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.
Personal precautions	:	See Section 8.
Environmental precautions	:	Prevent spill from entering municipal sewers, water sources or low lying

Engen Premium EP 0

areas. Advise the relevant authorities if contaminations have occurred.

7. HANDLING AND STORAGE

- Safe handling advice : High pressure injection under the skin may occur due to the rupture of pressurised lines. (See Section 16 - Injection Injury)
- 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.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational Exposure Limits (OELs)

Components	CAS-No.	Source	TWA	Value		Notations
Base oil package		ACGIH TLV	LTEL	5 mg/m ³		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 : Use in well ventilated area.
- Respiratory protection : No special requirements under ordinary conditions of use and with adequate ventilation.
- Eye protection : If eye contact is likely, normal industrial eye protection practices should be employed.
- Skin and body protection : If prolonged or repeated skin contact is likely wear oil impervious gloves and clothing. Good personal hygiene practices should always be followed.

9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : Semi-solid.
- Colour : Yellowish-brown
- Base component : Lithium grease
- Odour : Characteristic
- Solubility : Immiscible
- Flash Point : > 150 °C (ASTM D-92)
- Density : < 1 g/cm³ @ 25 °C (ASTM D-4052)

10. STABILITY AND REACTIVITY

- Stability : Stable.
- Conditions to avoid : Extreme heat and high energy sources of ignition, such as sparks and static electricity.

Engen Premium EP 0

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 toxicity

Components

Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts (2:1)

Acute oral toxicity	:	No available data.
Acute inhalation toxicity	:	No available data.
Acute dermal toxicity	:	No available data.

Zinc Naphthenate

Acute oral toxicity	:	No available data.
Acute inhalation toxicity	:	No available data.
Acute dermal toxicity	:	No data available

Skin corrosion/irritation

Components

Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts (2:1)

Result	:	Skin Irritation (Rabbit)
--------	---	--------------------------

Zinc Naphthenate

Result	:	Skin Irritation (Rabbit)
--------	---	--------------------------

Eye irritation

Components

Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts (2:1)

Species	:	Rabbits
Result	:	Causes serious eye irritation.

Zinc Naphthenate

Result	:	Irritating to eyes (Rabbit).
--------	---	------------------------------

Sensitization

Components

Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts (2:1)

Remarks	:	May cause skin allergy and sensitization.
---------	---	---

Zinc Naphthenate

Remarks	:	No available data.
---------	---	--------------------

Germ cell mutagenicity

Components

Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts (2:1)

Remarks	:	No known significant effects or critical hazards.
---------	---	---

Engen Premium EP 0

Zinc Naphthenate

Remarks : No available data.

Carcinogenicity

Components

Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts (2:1)

Remarks : Not classifiable as a human carcinogen.

Zinc Naphthenate

Remarks : Not classifiable as a Human Carcinogen.

Reproductive toxicity (Teratogenicity)

Components **Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts (2:1)**

Remarks : No known significant effects or critical hazards.

Zinc Naphthenate

Remarks : No known significant effects or critical hazards.

STOT - single exposure

Components

Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts (2:1)

Remarks : No known significant effects or critical hazards.

Zinc Naphthenate

Remarks : No known significant effects or critical hazards.

Specific target organ toxicity (STOT) - repeated exposure

Components

Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts (2:1)

Remarks : No known significant effects or critical hazards.

Zinc Naphthenate

Remarks : No known significant effects or critical hazards.

Aspiration hazard

Components

Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts (2:1)

Remarks : No significant effects expected.

Zinc Naphthenate

Remarks : No significant effects expected.

12. ECOLOGICAL INFORMATION

Ecotoxicity effects

Components

Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts (2:1)

Acute toxicity : This product is not expected to have short-term harmful effects on

Engen Premium EP 0

Chronic toxicity : aquatic organisms (LL50 or EL50 >100 mg/L), however, there may be long-term adverse effects.
Fish, invertebrates and algae with E(L)L50s 1 - 10 mg/L

Zinc Naphthenate

Acute toxicity : No available data.
Chronic toxicity : Fish, invertebrates and algae LC50 is 10 - 100 mg/L

Persistence and degradability Components

Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts (2:1)

Biodegradability : This product is expected to be inherently biodegradable at a slow to moderate rate.

Zinc Naphthenate

Biodegradability : This product is not readily biodegradable.

Bioaccumulation Components

Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts (2:1)

Bioaccumulation : Not established.

Zinc Naphthenate

Bioaccumulation : Not established.

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 : > 150 °C (ASTM D-92)

Engen Premium EP 0

14. TRANSPORT INFORMATION

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

15. REGULATORY INFORMATION

South African Legislation and Standards : South African OHS Act, 85 of 1993: Hazardous Chemical Substances, Regulation 9A
National Environmental Management: Waste Act 2008

South African Guidelines
SANS 10234:2008 - Globally Harmonized System of classification & labelling of chemicals
SANS 11014:2010 - Safety data sheet for chemical products - Content & order of sections

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.

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
Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts (2:1)	68649-42-3	< 1.20	18, 20, 21, 22, 24, 25
Zinc Naphthenate	12001-85-3	< 1.30	

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

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.

Engen Premium EP 0

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.
