

## 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Engen Agrifluid Plus  
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/>

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## 2. HAZARDS IDENTIFICATION

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

### GHS Classification:

#### Health

Skin corrosion/irritation : Hazard category 3.  
Eye irritation : Hazard Category 2A

#### Environmental

Acute toxicity : Not classified.  
Chronic toxicity : Not classified.

#### Physical

Flammability : Not classified.

#### Signal Word

: Warning

### GHS Labels/Pictograms:



### Hazard Statements

Causes mild skin irritation. Causes serious eye irritation.

### Precautionary Statements

#### Prevention

Use personal protective equipment as required.

#### 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. 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. Call a POISON CENTRE or doctor if you feel unwell. IF ON SKIN (or hair): 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.

# **Engen Agrifluid Plus**

## **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.

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### **3. COMPOSITION/INFORMATION ON INGREDIENTS**

<b>Chemical name</b>	<b>CAS-No.</b>	<b>Weight%</b>
Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts (2:1)	68649-42-3	<= 2.00
Calcium long-chain alkaryl sulfonate	Proprietary	<= 0.80
Alkyl Phosphonate	Proprietary	<= 0.05

See Section 8 for Exposure Limits (if applicable).

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### **4. FIRST AID MEASURES**

Inhalation	:	Move to well-ventilated area.  Monitor for respiratory distress; administer oxygen and assist ventilation as required.
Skin contact	:	Remove all contaminated clothing. Wash area with soap and water for 10 to 15 minutes.
Eye contact	:	Remove contact lenses and irrigate exposed eyes for at least 15 minutes. Irrigate before and after removing the lenses to prevent a carry-over of the substances to the shielded area of the lens.
Ingestion	:	Not expected to be a problem. However, if discomfort occurs seek medical attention.

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### **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.

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## **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)**

<b>Components</b>	<b>CAS-No.</b>	<b>Source</b>	<b>TWA</b>	<b>Value</b>		<b>Notations</b>
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.

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Eye protection : If splash with liquid is possible, chemical type goggles should be worn.

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### **9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance : Liquid.  
Colour : Amber  
Odour : Mild  
Solubility : Negligible  
Boiling point : > 316 °C  
Vapour pressure : < 0.1 hPa  
Density : 0.886 g/cm<sup>3</sup> @ 20 °C  
DMSO extractable compounds : < 3% (IP346)  
Pour point : -30 °C  
Viscosity, kinematic : 145 mm<sup>2</sup>/s @ 40 °C (ASTM D-445)  
14.5 mm<sup>2</sup>/s @ 100 °C (ASTM D-445)

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### **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.

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### **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.

##### **Calcium long-chain alkaryl sulfonate**

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

##### **Alkyl Phosphonate**

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

#### **Skin corrosion/irritation**

##### **Components**

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

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Result : Skin Irritation (Rabbit)

### **Calcium long-chain alkaryl sulfonate**

Result : Causes skin irritation.

### **Alkyl Phosphonate**

Result : Skin irritation (Rabbit, 4h)

### **Eye irritation Components**

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

Species : Rabbits

Result : Causes serious eye irritation.

### **Calcium long-chain alkaryl sulfonate**

Result : No known significant effects or critical hazards.

### **Alkyl Phosphonate**

Result : Causes serious eye damage.

### **Sensitization Components**

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

Remarks : May cause skin allergy and sensitization.

### **Calcium long-chain alkaryl sulfonate**

Remarks : No known significant effects or critical hazards.

### **Alkyl Phosphonate**

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.

### **Calcium long-chain alkaryl sulfonate**

Remarks : No known significant effects or critical hazards.

### **Alkyl Phosphonate**

Remarks : No known significant effects or critical hazards.

### **Carcinogenicity Components**

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

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Remarks : Not classifiable as a human carcinogen.

### **Calcium long-chain alkaryl sulfonate**

Remarks : Not classifiable as a human carcinogen.

### **Alkyl Phosphonate**

Remarks : Not classifiable as a human carcinogen.

### **Reproductive toxicity Components**

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

Remarks : No known significant effects or critical hazards.

#### **Calcium long-chain alkaryl sulfonate**

Remarks : No known significant effects or critical hazards.

#### **Alkyl Phosphonate**

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.

#### **Calcium long-chain alkaryl sulfonate**

Remarks : No known significant effects or critical hazards.

#### **Alkyl Phosphonate**

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.

#### **Calcium long-chain alkaryl sulfonate**

Remarks : No known significant effects or critical hazards.

#### **Alkyl Phosphonate**

Remarks : May cause damage to organs.

### **Aspiration hazard Components**

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

Remarks : No significant effects expected.

#### **Calcium long-chain alkaryl**

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**sulfonate**  
Remarks : No significant effects expected.

**Alkyl Phosphonate**  
Remarks : May be fatal if swallowed and enters airways.

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### **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 aquatic organisms (LL50 or EL50 >100 mg/L), however, there may be long-term adverse effects.

Chronic toxicity : Fish, invertebrates and algae with Fish, invertebrates and algae with LC/EC50 >1 - 10 mg/L

##### **Calcium long-chain alkaryl sulfonate**

Acute toxicity : No available data.

Chronic toxicity : No available data.

##### **Alkyl Phosphonate**

Acute toxicity : No available data.

Chronic toxicity : No available data.

#### **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.

##### **Calcium long-chain alkaryl sulfonate**

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

##### **Alkyl Phosphonate**

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

#### **Bioaccumulation** **Components**

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

Bioaccumulation : Not established.

##### **Calcium long-chain alkaryl sulfonate**

Bioaccumulation : Not established.

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### **Alkyl Phosphonate**

Bioaccumulation : Does not bio-accumulate significantly.

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### **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.
- Other regulations : This material must be disposed according to applicable regional, national, and local laws and regulations.
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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**

- 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
- Other regulations : Globally Harmonized System of Classification and Labelling of Chemicals (GHS) [GHS (Rev. 7) (2017)]
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### **16. OTHER INFORMATION**



## **Engen Agrifluid Plus**

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.

### **Abbreviations That May Have Been Used In This Document:**

TLV - Threshold Limit Value	TWA - Time Weighted Average
LTEL - Long-term Exposure Limit	STEL - Short-term Exposure Limit
ACGIH - American Conference of Governmental Industrial Hygienists	CAS - Chemical Abstract Service Number
IMO/IMDG - International Maritime Dangerous Goods Code	SDS – Safety Data Sheet
SANS – South African National Standards	GHS - Globally Harmonized System of Classification and Labelling of Chemicals
STOT – Specific Target Organ Toxicity	OHS Act – Occupational Health and Safety Act
NFPA - National Fire Protection Association (USA)	ECHA - European Chemicals Agency

Sources of key data used to compile the Safety Data Sheet : European Oil Company Organisation for Environment, Health and Safety)  
ECHA (<https://echa.europa.eu/information-on-chemicals>)

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### **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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