

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Engen Xtreme 20W-50

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 : Light Amber Liquid. DOT ERG No. - Not applicable.

GHS Classification:

Health

Skin corrosion/irritation : Hazard category 3.
Eye irritation : Hazard category 2B.

Environmental

Acute toxicity : Not classified.
Chronic toxicity : Hazard category 3.

Physical

Flammability : Not classified.

Signal Word : Warning

GHS Labels/Pictograms:



Hazard Statements

May cause eye and mild skin irritation. May cause long lasting harmful effects to aquatic life.

Precautionary Statements

Prevention

Do not handle until all safety precautions have been read and understood. 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. IF SWALLOWED: Get medical attention if you feel unwell. 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.

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 Xtreme 20W-50

3. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical name | CAS-No. | Weight% |
|---------------------------|----------------|----------------|
| Zinc alkyldithiophosphate | 84605-29-8 | <= 2.00 |

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.
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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.
- Upper Explosion Limit (UEL) : 7.0 %(V)
Lower Explosion Limit (LEL) : 0.9 %(V)
NFPA Hazard Id : Health: 0; Flammability: 1; Reactivity: 0
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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.

Engen Xtreme 20W-50

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/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 : 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 : Light Amber
- Odour : Mild
- Solubility : Negligible
- Boiling point : > 316 °C

Engen Xtreme 20W-50

| | | |
|-----------------------------|---|---|
| Upper Explosion Limit (UEL) | : | 7.0 %(V) |
| Lower Explosion Limit (LEL) | : | 0.9 %(V) |
| Vapour pressure | : | < 0.1 hPa |
| Pour point | : | -30 °C |
| Viscosity, kinematic | : | 161.4 mm ² /s @ 40 °C (ASTM D-445) |
| | | 17.9 mm ² /s @ 100 °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 toxicity

Components

Zinc alkyldithiophosphate

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

Skin corrosion/irritation

Components

Zinc alkyldithiophosphate

| | | |
|--------|---|-------------------------|
| Result | : | Causes skin irritation. |
|--------|---|-------------------------|

Eye irritation

Components

Zinc alkyldithiophosphate

| | | |
|--------|---|----------------------------|
| Result | : | Causes serious eye damage. |
|--------|---|----------------------------|

Sensitization

Components

Zinc alkyldithiophosphate

| | | |
|---------|---|--|
| Remarks | : | This product is not a skin sensitizer. |
|---------|---|--|

Germ cell mutagenicity

Components

Zinc alkyldithiophosphate

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

Carcinogenicity

Components

Zinc alkyldithiophosphate

| | | |
|---------|---|---|
| Remarks | : | Not classifiable as a human carcinogen. |
|---------|---|---|

Reproductive toxicity (Teratogenicity)

Components

Zinc alkyldithiophosphate

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

Engen Xtreme 20W-50

STOT - single exposure **Components**

Zinc alkyldithiophosphate

Remarks : No known significant effects or critical hazards.

Specific target organ toxicity (STOT) - repeated exposure **Components**

Zinc alkyldithiophosphate

Remarks : No known significant effects or critical hazards.

Aspiration hazard **Components**

Zinc alkyldithiophosphate

Remarks : No available data.

12. ECOLOGICAL INFORMATION

Ecotoxicity effects **Components**

Zinc alkyldithiophosphate

Acute toxicity : No available data.

Chronic toxicity : No available data.

Persistence and degradability **Components**

Zinc alkyldithiophosphate

Biodegradability : This product is not readily biodegradable.

Bioaccumulation **Components**

Zinc alkyldithiophosphate

Bioaccumulation : Log Kow: 0,56 (Measured)

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.

Engen Xtreme 20W-50

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.

14. TRANSPORT INFORMATION

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

Static Accumulator (50 picosiemens or less) : Yes

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.

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

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 |
|---------------------------|------------|-------------------|----------------|
| Zinc alkyldithiophosphate | 84605-29-8 | <= 2.00 | |

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

Engen Xtreme 20W-50

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.
