

SAFETY DATA SHEET

SECTION 1 – IDENTIFICATION: PRODUCT IDENTIFIER/CHEMICAL IDENTITY

1.1 PRODUCT IDENTIFIER: MC4 Semi Synthetic 15W-50

1.2 PRODUCT CODE: MC4SEMI15

1.3 RELEVANT IDENTIFIED USES OF THE MIXTURE AND USES ADVISED AGAINST:

RELEVANT IDENTIFIED USES: Diesel engine oil.

RESTRICTIONS ON USE: None known.

1.4 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET:

SUPPLIER NAME: PENRITE OIL Company Pty Ltd (ABN: 25005 001 525),
ADDRESS (Australia): 110-116 Greens Road, Dandenong South VIC, Australia, 3175
TELEPHONE NUMBER (Australia): 1300 736 748; +61 3 8710 6600 (Int); Fax: 1800 736 748

ADDRESS (New Zealand): 75 Lady Ruby Drive, East Tamaki, Auckland, New Zealand, 2013

TELEPHONE NUMBER (New Zealand): 0800 533 698; Fax: 0800 533 698

E-MAIL: tech@penriteoil.com (Aust and NZ)

1.5 EMERGENCY TEL. NUMBER: Australia: 1300 736 748; New Zealand: 0800 533 698
(Poisons Information Centre (Aust 131 126; NZ 0800 764 766))

1.6 HSNO DETAILS:

HSNO APPROVAL NUMBER: HSR002605.

HSNO GROUP TITLE: Lubricants (Low Hazard) Group Standard, 2017.

SECTION 2 – HAZARD(S) IDENTIFICATION

2.1 CLASSIFICATION OF THE HAZARDOUS CHEMICAL:

GHS CLASSIFICATION HAZARD

CLASS & CATEGORY: Under the Model Work Health and Safety Regulations, the product would not be classified as hazardous.

2.2 LABEL ELEMENTS INCLUDING PRECAUTIONARY STATEMENTS:

SIGNAL WORD: Not Applicable.

PICTOGRAMS: Not Applicable.

HAZARD STATEMENTS: Not Applicable.

PRECAUTIONARY STATEMENTS:

PREVENTION: Not Applicable.

RESPONSE: Not Applicable.

STORAGE: Not Applicable.

DISPOSAL: Not Applicable.

2.3 OTHER HAZARDS:

The mixture has a low order of toxicity associated with it. Excessive exposure may result in mild irritation to the skin or respiratory system as well as possible irritation to the eye. People with pre-existing skin conditions, such as eczema or dermatitis, should take precautions so as not to exacerbate the condition. As for all chemical products, persons should not expose open wounds, cuts, abrasions or irritated skin to this material.

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SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS

| INGREDIENTS | CAS NUMBER | Concentration % W/W | GHS Classification* |
|---|--------------------------|------------------------|--|
| Severely treated base oils Distillates, petroleum, hydrotreated heavy paraffinic | - | 55% - 60% | Not Applic |
| Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts (Zinc dialkyl dithiophosphate) | 64742-54-7 68649-42-3 | 20% - 25% < 1.1% | Not Applic Skin Irrit 2 - H315 Eye Dam 1 - H318 Chron Aq Tox 2 - H411 |
| Phenol, tetrapropylene-, sulfurized, carbonates, calcium salts, overbased | 122384-87-6 | < 1.1% | Chron Aq Tox 4 - H413 |
| Benzenamine, ar-nonyl-N-(nonylphenyl)- | 36878-20-3 | < 0.6% | Chron Aq Tox 4 - H413 |
| Other non-hazardous ingredients | - | To 100% | Not Applic |

Not Applic = Not Applicable * Please see Section 15 of this SDS for the full text description of the Label Elements.

SECTION 4 – FIRST AID MEASURES

4.1 DESCRIPTION OF NECESSARY FIRST AID MEASURES:

INGESTION: Rinse mouth out with water. Due to the blend of ingredients present, the manufacturer recommends that if swallowed, do NOT induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. If irritation develops or persists or vomiting has occurred after ingestion, seek medical assistance.

EYE: If in eyes, hold eyelids apart and flush the eye immediately with large amounts of running water. Continue flushing for at least 15 minutes or until advised to stop by a Doctor. Check for contact lenses. If there are contact lenses, these should be removed after several minutes of rinsing by the exposed person or medical personnel if it can be done easily. After flushing, if irritation develops or persists, seek medical assistance.

SKIN CONTACT: If skin or hair contact has occurred remove any contaminated clothing and footwear, wash skin or hair thoroughly with soap and water. If irritation develops or persists, consult a Doctor.

INHALATION: If affected, remove the patient from further exposure into fresh air, if safe to do so. If providing assistance, avoid exposure to yourself - only enter contaminated environments with adequate respiratory equipment. Once removed, lay patient down in a well-ventilated area and reassure them whilst waiting for medical assistance. If not breathing, provide artificial respiration and seek immediate medical assistance. If unconscious, place in a recovery position and seek immediate medical assistance. If irritation develops or persists, consult a Doctor.

PROTECTION FOR FIRST AIDERS:

No personnel shall place themselves in a situation that is potentially hazardous to themselves. As the product is hydrocarbon based, if the person has ingested the product, caution should be exercised in using direct mouth-to-mouth resuscitation techniques. Always ensure that you are wearing gloves when dealing with first aid procedures involving chemicals and/or blood.

FIRST AID FACILITIES: Eye wash fountain and safety showers are recommended in the area where the product is used.

4.2 MOST IMPORTANT SYMPTOMS & EFFECTS, BOTH ACUTE & DELAYED, CAUSED BY EXPOSURE:

ACUTE: Ingestion or inhalation of vapours may lead to irritation of the mouth and respiratory tract. Ingestion may lead to nausea and diarrhoea. Eye contact may lead to localised burning, redness and tearing. Skin contact may lead to redness or itching.

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SECTION 4 – FIRST AID MEASURES Continued

- CHRONIC:** Skin contact may aggravate/exacerbate existing skin conditions, such as dermatitis.
- 4.3 INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NECESSARY:**
- ADVICE TO DOCTOR:** Treat symptomatically. As the product is hydrocarbon based, if vomiting has occurred after ingestion, the patient should be monitored for adverse effects to ensure that the product has not aspirated into the lungs.

SECTION 5 – FIRE FIGHTING MEASURES

5.1 EXTINGUISHING MEDIA:

SUITABLE MEDIA: Use extinguishing media appropriate for surrounding fire. Use carbon dioxide, foam, dry chemical or water spray. Spray down fumes resulting from fire.

UNSUITABLE MEDIA: Avoid using full water jet directed at residual material that may be burning. Water may cause splattering on hot residue. Product will float on water.

5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE:

COMBUSTION HAZARDS: Combustion may produce oxides of carbon, calcium, sulphur, phosphorus, nitrogen and zinc as well as small amounts of boron, molybdenum, smoke and irritating vapours.

5.3 ADVICE FOR FIREFIGHTERS:

FIRE: This product is not flammable under conditions of use. It is a hydrocarbon-based liquid that will burn if preheated - Typical Flash Point 220°C. Keep storage tanks, pipelines, fire exposed surfaces, etc. cool with water spray.

HAZCHEM CODE: Not applicable.

EXPLOSION: No information to indicate that the product is an explosion hazard. Extinguish all sources of flame or spark. Closed containers may explode when exposed to extreme heat.

PROTECTIVE EQUIPMENT:

In the event of a fire, wear full protective clothing and self-contained breathing equipment with full-face piece operated in the pressure demand or other positive pressure mode.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES:

PERSONAL PROTECTION: For small spills, wear Nitrile gloves, glasses/goggles, boots and full-length clothing. During routine operation a respirator is not required. However, if mists or vapours are generated, an approved organic vapour/particulate respirator is required. For large spills, or in confined spaces, a full chemically resistant body-suit is recommended and the atmosphere must be evaluated for oxygen deficiency. If in doubt about potential oxygen deficiency wear self-contained breathing apparatus.

CONTROL MEASURES: Ventilate area and extinguish and/or remove all sources of ignition. Stop the leak if safe to do so. **CAUTION:** The spilled product will be slippery. Avoid contact with the spilled material.

EMERGENCY PROCEDURES: In the event of a spill or accidental release, notify the relevant authorities in accordance with all applicable regulations.

6.2 ENVIRONMENTAL PRECAUTIONS:

SPILL ADVICE: Do not allow product to enter drains, surface water, sewers or watercourses - inform local authorities if this occurs.

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SECTION 6 – ACCIDENTAL RELEASE MEASURES Continued

6.3 METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP:

CONTAINMENT: Contain the spill and absorb with a proprietary absorbent material, sand or earth. For large spills prepare a bund/barrier/dyke ahead of the spill to confine the spill and allow later recovery. If there is the possibility of spills to enter drains, surface water, sewers or watercourses ensure bunding, or that drains are covered, to minimise the potential for this to occur.

CLEANING PROCEDURES: Having contained the spill, as mentioned above, collect all material quickly and place used absorbent in suitable containers. Follow local regulations for the disposal of waste. For large spills that have been banded, the material can be pumped into vessels and returned for reprocessing or destruction. Personnel must wear gloves, goggles or glasses, boots and full-length clothing during cleaning procedures. Wash contaminated area and objects with detergent and water after spill has been cleared. Rinse the cleaned area with water. Do not allow wash water or rinsings to enter drains, surface water, sewers or water courses.

SECTION 7 – HANDLING AND STORAGE, INCLUDING HOW THE CHEMICAL MAY BE SAFELY USED

7.1 PRECAUTIONS FOR SAFE HANDLING:

SAFE HANDLING: Avoid contact with the product by using appropriate protective equipment such as gloves, glasses or goggles and full-length clothing. Prevent small spills and leakage to avoid slip hazards. Properly dispose of any contaminated rags or cleaning materials in order to prevent fire hazards. Eating, drinking, and smoking should be prohibited in the area where this material is handled, stored and processed. Workers should follow good personal hygiene practices, such as washing hands before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Keep containers tightly closed when not in use. Prevent product from entering waterways, drains or sewers.

7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES:

SAFE STORAGE: This product is a hydrocarbon-based liquid that will burn if preheated. Store in a dry, well ventilated area away from direct sunlight, ignition sources, oxidising agents, foodstuffs and clothing. Keep containers closed when not in use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage.

INCOMPATIBILITIES: Oxidising substances including strong acids.

SECTION 8 – EXPOSURE CONTROLS & PERSONAL PROTECTION

8.1 EXPOSURE CONTROL MEASURES:

EXPOSURE LIMIT VALUES: Exposure standards for the product have not been established. However, in the operation of certain equipment or at elevated temperatures, if oil mists or aerosols are generated the following Exposure Standard should be observed:
TWA: 5 mg/m³
STEL: 10 mg/m³ (ACGIH)

8.2 BIOLOGICAL MONITORING:

No data available.

8.3 CONTROL BANDING:

No data available.

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SECTION 8 – EXPOSURE CONTROLS & PERSONAL PROTECTION Cont'd

8.4 ENGINEERING CONTROLS:

ENGINEERING CONTROLS: Special ventilation is not normally required when using this product in normal use scenarios. However, in the operation of certain equipment, at elevated temperatures, or in confined spaces mists or vapour may be generated and local exhaust ventilation should be provided to maintain airborne concentration levels below the nominated exposure standard and at an acceptable level that does not cause irritation.

8.5 INDIVIDUAL PROTECTION MEASURES:

EYE & FACE PROTECTION: Wear safety glasses/goggles to avoid eye contact when handling. If there is a risk of splashing during use, a full face shield is recommended. Use eye protection in accordance with AS 1336 and AS 1337.

SKIN (HAND) PROTECTION: If there is the chance of contact with the material wear gloves to provide hand protection. Nitrile rubber gloves are recommended.

SKIN (CLOTHING) PROTECTION:

During normal operating procedures, long sleeved clothing is recommended to avoid skin contact. Soiled clothing should be washed with detergent prior to re-use.

RESPIRATORY PROTECTION: During routine operation a respirator is not required. However, if mists or vapours are generated, an approved half face organic vapour/particulate respirator is required. Use respirators in accordance with AS 1715 and AS 1716.

THERMAL PROTECTION: Not applicable.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

9.1 PHYSICAL AND CHEMICAL PROPERTIES:

APPEARANCE: Viscous amber liquid.
ODOUR: Characteristic lubricating oil odour.
ODOUR THRESHOLD: No data available.
pH: Not applicable.
MELTING/FREEZING POINT: Not applicable.
INITIAL BOILING POINT: No data available.
BOILING RANGE (°C): No data available.
FLASHPOINT (°C): Typically 220°C.
EVAPORATION RATE: No data available.
FLAMMABILITY LIMITS (%): No data available.
VAPOUR PRESSURE (mmHg): No data available.
VAPOUR DENSITY: No data available.
DENSITY (g/mL @ 15°C): Typically 0.869.
SOLUBILITY IN WATER(g/L): Insoluble in water.
PARTITION COEFFICIENT: No data available for n-octanol/water.
AUTO-IGNITION TEMP (°C): No data available.
DECOMPOSITION TEMP (°C): No data available.
VISCOSITY (cSt @ 100°C): Typically 19.7.
VISCOSITY (cSt @ 40°C): Typically 163.

SECTION 10 – STABILITY AND REACTIVITY

10.1 REACTIVITY: The product does not pose any further reactivity hazards other than those listed in the following sub-sections.

10.2 CHEMICAL STABILITY: Stable under recommended storage and handling conditions (see section 7).

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SECTION 10 – STABILITY AND REACTIVITY Continued

10.3 POSSIBILITY OF

HAZARDOUS REACTIONS: Keep away from strong oxidising agents, such as strong acids, chlorates, nitrates and peroxides. Hazardous polymerisation does not occur.

10.4 CONDITIONS TO AVOID: Observe the usual precautionary measures for handling chemicals. Do not heat the container or leave the container open when not in use. Avoid sources of ignition.

10.5 INCOMPATIBLE

MATERIALS: Strong oxidising including concentrated acids.

10.6 HAZARDOUS DECOMPOSITION

PRODUCTS: Hazardous decomposition products are not expected to form during normal storage requirements. The product contains a dithiophosphate compound that if heated in the presence of water may decompose to release hydrogen sulphide gas. See Section 5.2 for Hazardous Combustion products.

SECTION 11 – TOXICOLOGICAL INFORMATION

11.1 INFORMATION ON TOXICOLOGICAL EFFECTS:

The product is a mixture and test data is not available for the product as a whole.

Zinc dialkyl dithiophosphate

Oral - LD₅₀ (Rat): >2230 mg/kg

Dermal - LD₅₀ (Rat): >2000 mg/kg

Phenol, tetrapropylene-, sulfurized, carbonates, calcium salts, overbased

Oral - LD₅₀ (Rat): >5000 mg/kg

Dermal - LD₅₀ (Rabbit): >2000 mg/kg

Benzenamine, ar-nonyl-N-(nonylphenyl)-

Oral - LD₅₀ (Rat): >5000 mg/kg

11.2 SWALLOWED:

This product is expected to have a low order of toxicity associated with it when ingested. It may cause slight irritation to the mouth, throat and digestive tract. During normal usage ingestion should not be a means of exposure.

11.3 SKIN CORROSION/ IRRITATION:

This product is not expected to exhibit Dermal Corrosivity/Irritation based on the available data and the known hazards of the components. May be mildly irritating to the skin. This product contains a component that is rated as Causes skin irritation, however this is present at amounts well below the Concentration cut-off levels. Correct handling procedures incorporating appropriate protective clothing and gloves should minimise the risk of skin irritation. People with pre-existing skin conditions, such as dermatitis, should take extreme care so as not to exacerbate the condition.

11.4 SERIOUS EYE DAMAGE/ IRRITATION:

This product is not expected to exhibit Eye Irritation or Serious Damage/Corrosivity based on the available data and the known hazards of the components according to the additive package manufacturer. May be mildly irritating to the eyes. Symptoms may include localised burning, redness and tearing. The product contains a dithiophosphate compound that is rated as Causes serious eye damage. Tests conducted by the additive package manufacturer, using this compound in base oils, indicate that this is present in the product at amounts well below the Concentration cut-off levels where the product would expect to be irritating to the eyes. Correct handling procedures incorporating appropriate eye protection should minimise the risk of eye irritation.

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SECTION 11 – TOXICOLOGICAL INFORMATION Continued

- 11.5 RESPIRATORY OR SKIN SENSITISATION:** This product is not expected to be a skin sensitizer based on the available data and the known hazards of the components. This product is not expected to be a respiratory tract sensitizer, based on the available data and the known hazards of the components.
- 11.6 GERM CELL MUTAGENICITY:** This product is not expected to be mutagenic based on the available data and the known hazards of the components.
- 11.7 CARCINOGENICITY:** This product is not expected to be a carcinogen based on the available data and the known hazards of the components. Long term animal experiments have shown that any health risks are associated with the level of aromatic and polycyclic constituents in the product. These constituents are removed during the manufacturing process to a level at which no health risks are expected as a result of normal handling. Representative testing of the Base Oils used to manufacture lubricants shows that they pass IP-346.
- 11.8 REPRODUCTIVE TOXICITY:** This product is not expected to be a reproductive hazard based on the available data and the known hazards of the components.
- 11.9 SPECIFIC TARGET ORGAN TOXICITY (STOT) - SINGLE EXPOSURE:** This product is not expected to cause organ damage from a single exposure, based on the available data and the known hazards of the components. This product is not expected to pose an irritation hazard at ambient temperature or under normal handling conditions. Not classified as a respiratory irritant, however inhalation of vapours or mist (generated at elevated temperatures or by mechanical action) may cause irritation to the nose, throat and respiratory system.
- 11.10 SPECIFIC TARGET ORGAN TOXICITY (STOT) - REPEATED EXPOSURE:** This product is not expected to cause organ damage from prolonged or repeated exposure based on the available data and the known hazards of the components.
- 11.11 ASPIRATION HAZARD:** This product is not expected to be an aspiration hazard, based on the available data and the known hazards of the components. However, as the product is hydrocarbon based, if vomiting has occurred after ingestion, the patient should be monitored for adverse effects.
- 11.12 OTHER INFORMATION:** If this material is overheated, especially in the presence of water, hydrogen sulphide may be released. Used oils may contain harmful impurities that can accumulate during usage. Due to the use of oils in different types of equipment the types of impurities that accumulate during its usage are unknown. Therefore, all used oils should be handled with caution and skin contact should be avoided by wearing suitable gloves, such as those made of nitrile rubber.

SECTION 12 – ECOLOGICAL INFORMATION

- 12.1 ECOTOXICITY:** There is no data available for the product as a whole. Some of the components have been rated as Toxic to aquatic life with long lasting effects and May cause long lasting harmful effects to aquatic life. Based upon the calculated values the product is not expected to be rated.
- 12.2 PERSISTENCE & DEGRADABILITY:** Based on the available data and the known hazards of the components and similar products the product is not expected to be readily biodegradable. Major constituents are expected to be inherently biodegradable, however the product contains components that may persist in the environment.
- 12.3 BIOACCUMULATIVE POTENTIAL:** No information is available.

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SECTION 12 – ECOLOGICAL INFORMATION Continued

12.4 MOBILITY IN SOIL: If the product enters soil, based upon similar products it is expected that it will adsorb onto soil particles and will not be mobile.

12.5 OTHER ADVERSE EFFECTS: Based on the available data and the known hazards of the components and similar products the product is not expected to have ozone depletion potential, photochemical ozone creation potential or global warming potential. The product is a mixture of non-volatile components, which are not expected to be released to the air in any significant amounts. The product will float on water.

SECTION 13 – DISPOSAL CONSIDERATIONS

13.1 DISPOSAL METHODS: PRODUCT: The product should not be released to the environment, so any unused material should be recycled wherever possible or be disposed of as hazardous waste at an appropriate collection depot. If this is not possible, the product is suitable for burning in an enclosed burner where it can be used as a fuel source. The product is also suitable for incineration at very high temperatures to prevent formation of undesirable combustion products. Spilled product that cannot be recovered should be absorbed and then shovelled into a suitable waste container, such as a plastic drum and then be treated as a solid waste. Follow Government regulations for disposal of such waste. Do not mix new or used lubricating oils with solvents, brake fluids or coolants when disposing. All unused, waste or spilled product must be taken for recycling or disposal by suitably licensed contractors in accordance with Government regulations.

CONTAINERS: Empty containers may contain residual oil. They should be completely drained and then stored until reconditioned or disposed of. Empty drums should be taken for recycling or disposal through suitably licensed contractors in accordance with Government regulations. Where the containers are of metal construction they should not be pressurised, cut by a grinder, welded, brazed, soldered, drilled or exposed to heat, flames or other sources of ignition. Closed metal containers when exposed to such conditions/treatment may explode causing serious injury or death.

SECTION 14 – TRANSPORT INFORMATION

This product is not regulated for land, sea or air transportation. (HS Code: 2710.19.91)

14.1 LAND (ADG Code):
UN NUMBER: Not applicable
UN PROPER SHIPPING NAME: Not applicable
TRANSPORT HAZARD CLASS(ES): Not applicable
PACKAGING GROUP: Not applicable
ENVIRONMENTAL HAZARDS: Not applicable
SPECIAL PRECAUTIONS FOR USER: Not applicable
HAZCHEM CODE: Not applicable

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SECTION 14 – TRANSPORT INFORMATION Continued

14.2 SEA (IMDG):

UN NUMBER: Not applicable
UN PROPER SHIPPING NAME: Not applicable
TRANSPORT HAZARD CLASS(ES): Not applicable
PACKAGING GROUP: Not applicable
ENVIRONMENTAL HAZARDS: Not applicable
SPECIAL PRECAUTIONS FOR USER: Not applicable

14.3 AIR (IATA):

UN NUMBER: Not applicable
UN PROPER SHIPPING NAME: Not applicable
TRANSPORT HAZARD CLASS(ES): Not applicable
PACKAGING GROUP: Not applicable
ENVIRONMENTAL HAZARDS: Not applicable
SPECIAL PRECAUTIONS FOR USER: Not applicable

SECTION 15 – REGULATORY INFORMATION

15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS:

APPLICABLE REGULATIONS:

SUSMP: Not scheduled.
AICS: All ingredients are on the AICS List.
MONTREAL PROTOCOL: Not applicable to this product.
STOCKHOLM CONVENTION: Not applicable to this product.
ROTTERDAM CONVENTION: Not applicable to this product.
BASEL CONVENTION: Not applicable to this product.
INTERNATIONAL CONVENTION FOR THE PREVENTION OF POLLUTION FROM SHIPS (MARPOL): Not determined.

OTHER REGULATORY INFORMATION:

GHS CLASSIFICATION HAZARD CLASS & CATEGORY

AND HAZARD STATEMENT: Skin Corrosion/Irritation Category 2; H315 - Causes skin irritation.
Serious Eye Damage/Irritation Category 1; H318 - Causes serious eye damage.
Chronic Aquatic Toxicity Category 2; H411 - Toxic to aquatic life with long lasting effects.
Chronic Aquatic Toxicity Category 4; H413 - May cause long lasting harmful effects to aquatic life

HSNO APPROVAL NUMBER: HSR002605.

HSNO GROUP TITLE: Lubricants (Low Hazard) Group Standard, 2017.

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SECTION 16 – ANY OTHER RELEVANT INFORMATION

SDS INFORMATION:

Date of SDS Preparation: 8th March 2018

Revision: 1.0

REVISION CHANGES: Changes to product formulation. Changes to Sections 3, 5, 9, 11, 15 and 16.

ACRONYMS:

| | |
|------------------|--|
| SUSMP | Standard for the Uniform Scheduling of Medicines and Poisons |
| CAS Number | Chemical Abstracts Service Registry Number |
| EINECS | European Inventory of Existing Commercial Chemical Substances |
| UN Number | United Nations Number |
| OSHA | Occupational Safety and Health Administration |
| ACGIH | American Conference of Governmental Industrial Hygienists |
| HSE-WEL | Health and Safety Executive - Workplace Exposure Limit |
| EH40 | EH40/2005 Workplace Exposure Limits |
| IMDG | International Maritime Dangerous Goods |
| IATA | International Air Transport Association |
| IUCLID | International Uniform Chemical Information Database |
| RTECS | Registry of Toxic Effects of Chemical Substances |
| %W/W | Percent weight for weight |
| OECD | Organisation for Economic Co-Operation and Development |
| ADG Code | Australian Code for the Transport of Dangerous Goods by Road and Rail |
| HAZCHEM Code | Emergency action code of numbers and letters which gives information to emergency services |
| NOHSC | National Occupational Health and Safety Commission |
| NICNAS | National Industrial Chemicals Notification & Assessment Scheme |
| IMAP | Inventory Multi-Tiered Assessment and Prioritisation |
| AICS | Australian Inventory of Chemical Substances |
| TWA | Time-Weighted Average |
| STEL | Short Term Exposure Limit |
| HSNO | Hazardous Substances and New Organisms Act 1996 |
| GHS | Globally Harmonised System of Classification and Labelling of Chemicals |
| WHS | Work Health and Safety |
| PPE | Personal Protective Equipment. |
| LD ₅₀ | Median Lethal Dose |
| LC ₅₀ | Median Lethal Concentration |
| EC ₅₀ | Effective Concentration of a substance that causes 50% of the maximum response after exposure for a nominated time |
| NOAEL | No Observed Adverse Effect Level |
| NOEC | No Observed Effect Concentration |
| ECHA | European Chemicals Agency |
| REACH | Registration, Evaluation, Authorisation and Restriction of Chemicals |
| HCIS | Hazardous Chemical Information System |

LITERATURE REFERENCES AND SOURCES OF DATA:

OECD Guidelines for Testing of Chemicals
Annex I: OECD Test Guidelines for Studies Included in SIDS
Manual for the Assessment of Chemicals Chapter 2 Data Gathering
International Toxicity Testing Guidelines
Hazardous Chemical Information System (HCIS) - Guidance Material for Hazard Classifications
Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice.
Model Work Health and Safety Regulations.
Model Work Health and Safety Regulations - Transitional Principles
Workplace Exposure Standards for Airborne Contaminants
Australian Dangerous Goods Code 7th Edition
Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004)]
Guidance on the Classification of Hazardous Chemicals under the WHS Regulations
Assigning a Hazardous Substance to a Group Standard
User Guide to the HSNO Thresholds and Classifications
Summary User Guide to the HSNO Thresholds and Classifications of Hazardous Substances
Correlation between GHS and New Zealand HSNO Hazard Classes and Categories

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SECTION 16 – ANY OTHER RELEVANT INFORMATION Continued

LITERATURE REFERENCES AND SOURCES OF DATA (Continued):

HSNO Control Regulations

Record of Group Standard Assignment

Labelling of Hazardous Substances Hazard and Precautionary Information

Thresholds and Classifications Under the Hazardous Substances and New Organisms Act 1996

Workplace Exposure Standards and Biological Exposure Indices

All information contained in this Safety Data Sheet and the health, safety and environmental information are considered to be accurate to the best of our knowledge as of the issue date specified above. However, no warranty or representation, expressed or implied, is made as to the accuracy or completeness of the data and information contained in this data sheet.

Health and safety precautions and environmental advice noted in this data sheet may not be accurate for all individuals and/or situations. It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. The Company accepts no responsibility for any injury, loss or damage, resulting from abnormal use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material.