



MATERIAL & SAFETY DATA SHEET



SECTION 1: MATERIAL AND SUPPLY COMPANY IDENTIFICATION

Product Name:

PRO ANTIFREEZE / COOLANT (FULL CONC & RTU)

Recommended Use: Vehicle System Coolant for Radiator and water pump.

Supplier: Pro Oil SA (PTY) LTD
Unit 3, Shalem Park
60 Lauda Road
Killarney Gardens
Cape Town
South Africa
7441

Telephone: (+27) 21 556 6109 (24hrs)

Fax To Email: 086 733 8707

SECTION 2: HAZARDS IDENTIFICATION

Contains: MEG (monoethylene glycol)

CLASSIFICATION: 6.9B - Target organ toxicant (single exposure): Category 2. 6.8B - Reproductive toxicant (developmental): Category 2. 6.1D - Acute oral toxicant: Category 4. 9.3C - Harmful to terrestrial vertebrates.

Symbol: Health Hazard; Exclamation mark
Signal Word: Warning



GHS08 - Health Hazard



GHS07 - Harmful

Health Hazards: Suspected of damaging fertility or the unborn child (H361). Harmful if swallowed (H302).

Target Organs:

May cause damage to organs (H371) (Kidney).

PRECAUTIONARY STATEMENTS:

Prevention: Obtain special instructions before use (P201). Do not handle until all safety precautions have been read and understood (P202). Do not breathe dust/fume/gas/mist/vapours/spray (P260). Use personal protective equipment as required (P281). Do not eat, drink or smoke when using this product (P270). Wash thoroughly after handling (P264). Avoid release to the environment (P273).

Response: Rinse mouth (P330). **IF SWALLOWED:** (P301) **IF exposed or if you feel unwell:** (P309) **IF exposed or concerned:** Get medical advice/attention (P308+P313). Call a POISON CENTER or doctor/physician (P311). Call a POISON CENTER or doctor/physician if you feel unwell (P312).

Storage: Store locked up (P405).

Disposal: Dispose of contents/container in accordance with applicable local/regional/national/international regulations (P501).

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Ingredients determined to be Non-Hazardous.

Substance(s) or Complex Substance(s).

Name	CAS#	Concentration*	GHS Hazard Codes
Monoethylene Glycol (full concentrate)		96% weight (full concentrate)	
Monoethylene Glycol (RTU)		50% weight (RTU)	
Rust & oxidation inhibitors (full concentrate)		4% weight (full concentrate)	
Rust & oxidation inhibitors (RTU)		4% weight (RTU)	
Distilled water (RTU)		46% weight (RTU)	

SECTION 4: FIRST AID MEASURES

Eye: No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.

Skin: No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.

Ingestion: If swallowed, get immediate medical attention. Do not induce vomiting. Never give anything by mouth to an unconscious person.

Inhalation: No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs. Move the exposed person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if breathing difficulties continue or if any other symptoms develop.

SECTION 5: FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Use water fog, foam, dry chemical or carbon dioxide (CO₂) to extinguish flames. Dry Chemical, CO₂, AFFF Foam or alcohol resistant foam.

PROTECTION OF FIRE FIGHTERS:

Fire Fighting Instructions: This material will burn although it is not easily ignited. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.

Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion.

SECTION 6: ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

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



PROTECTIVE MEASURES

Avoid contact with spilled material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

For emergency responders: Respiratory protection: respiratory protection will be necessary only in special cases, e.g., formation of mists. Half-face or full-face respirator with filter(s) for dust/organic vapor or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Work gloves that are resistant to hydrocarbons are recommended. Gloves made of polyvinyl acetate (PVA) are not water-resistant and are not suitable for emergency use. Chemical goggles are recommended if splashes or contact with eyes is possible. Small spills: normal antistatic work clothes are usually adequate. Large spills: full body suit of chemical resistant, antistatic material is recommended.

SPILL MANAGEMENT

Land Spill: Stop leak if you can do so without risk. Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do so without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dyke far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7: HANDLING AND STORAGE

Precautionary Measures:

Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Do not breathe vapor or fumes. Keep out of the reach of children. Wash thoroughly after handling.

General Handling Information:

Do not taste or swallow antifreeze or solution. Keep out of the reach of children and animals.

General Storage Information:

Do not store in open or unlabeled containers.

Container Warnings:

Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) 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. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

SECTION 8: EXPOSURE CONTROL / PERSONAL PROTECTION

GENERAL CONSIDERATIONS:

Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

ENGINEERING CONTROLS:

Use in a well-ventilated area. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below the recommended exposure limits.

PERSONAL PROTECTIVE EQUIPMENT

Eye/Face Protection: No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.

Skin Protection: No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances in the workplace. Suggested materials for protective gloves include: Natural rubber, Neoprene, Nitrile Rubber, Polyvinyl Chloride (PVC or Vinyl).

Respiratory Protection: Determine if airborne concentrations are below the recommended occupational exposure limits for jurisdiction of use. If airborne concentrations are above the acceptable limits, wear an approved respirator that provides adequate protection from this material, such as: Air-Purifying Respirator for Organic Vapors, Dusts and Mists.

Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

Occupational Exposure Limits:

Component	Country/Agency	TWA	STEL	Ceiling	Notation
Ethylene Glycol	ACGIH			100 mg/m ³	
Ethylene Glycol	New Zealand			127 mg/m ³	

Consult local authorities for appropriate values.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Color: Blue
Physical State: Liquid
Odor: Faint or Mild

Odor Threshold: N/D
pH: 7.5 - 9
Vapor Pressure: 0.12 mmHg (Typical) @ 20 °C (68 °F)
Vapor Density (Air = 1): 2.1
Boiling Point: 108.9°C (228°F) (Typical)
Solubility: Miscible
Freezing Point: -36.7°C (-34°F)
Specific Gravity: 1.07 @ 15.6°C (60.1°F) / 15.6°C (60.1°F)
Density: 1.07 kg/l @ 20°C (68°F)

Volatile Organic Compounds (VOC) : 91.2 %weight
Viscosity: N/D
Octanol/Water Partition Coefficient: N/D

FLAMMABLE PROPERTIES:

Flashpoint: (Pensky-Martens Closed Cup) 127 °C (260 °F) (Typical)
Autoignition: N/D

Flammability (Explosive) Limits (% by volume in air):
Lower: N/D
Upper: N/D

SECTION 10: STABILITY AND REACTIVITY

Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

Incompatibility With Other Materials: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

Hazardous Decomposition Products: Aldehydes (Elevated temperatures), Ketones (Elevated temperatures)

Hazardous Polymerization: Hazardous polymerization will not occur

SECTION 11: TOXICOLOGICAL INFORMATION

IMMEDIATE HEALTH EFFECTS

Eye: Not expected to cause prolonged or significant eye irritation.

Eye Irritation: The eye irritation hazard is based on evaluation of data for similar materials or product components.

Skin: Contact with the skin is not expected to cause prolonged or significant irritation. Contact with the skin is not expected to cause an allergic skin response. Not expected to be harmful to internal organs if absorbed through the skin. High-Pressure Equipment Information: Accidental high-velocity injection under the skin of materials of this type may result in serious injury. Seek medical attention at once should an accident like this occur. The initial wound at the injection site may not appear to be serious at first; but, if left untreated, could result in disfigurement or amputation of the affected part.

Acute Dermal Toxicity: The acute dermal toxicity hazard is based on evaluation of data for similar materials or product components.

Skin Irritation: The skin irritation hazard is based on evaluation of data for similar materials or product components.
Skin Sensitization: The skin sensitization hazard is based on evaluation of data for similar materials or product components.

Ingestion: Toxic; may be harmful or fatal if swallowed.

Acute Oral Toxicity: The acute oral toxicity hazard is based on evaluation of data for similar materials or product components.

Inhalation: Breathing this material at concentrations above the recommended exposure limits may cause central nervous system effects. Central nervous system effects may include headache, dizziness, nausea, vomiting, weakness, loss of coordination, blurred vision, drowsiness, confusion, or disorientation. At extreme exposures, central nervous system effects may include respiratory depression, tremors or convulsions, loss of consciousness, coma or death.

Acute Inhalation Toxicity: The acute inhalation toxicity hazard is based on evaluation of data for similar materials or product components.

Acute Toxicity Estimate (oral): 1006 mg/kg

DELAYED OR OTHER HEALTH EFFECTS:

Reproduction and Birth Defects: Contains material that may cause adverse reproductive effects if swallowed based on animal data. Contains material that may cause harm to the unborn child if swallowed based on animal data.

Target Organs: Contains material that may cause damage to the following organ(s) following repeated inhalation at concentrations above the recommended exposure limit: Kidney

See Section 11 for additional information. Risk depends on duration and level of exposure.

ADDITIONAL TOXICOLOGY INFORMATION:

This product contains ethylene glycol (EG). The toxicity of EG via inhalation or skin contact is expected to be slight at room temperature. The estimated oral lethal dose is about 100 cc (3.3 oz.) for an adult human. Ethylene glycol is oxidized to oxalic acid which results in the deposition of calcium oxalate crystals mainly in the brain and kidneys. Early signs and symptoms of EG poisoning may resemble those of alcohol intoxication. Later, the victim may experience nausea, vomiting, weakness, abdominal and muscle pain, difficulty in breathing and decreased urine output. When EG was heated above the boiling point of water, vapors formed which reportedly caused unconsciousness, increased lymphocyte count, and a rapid, jerky movement of the eyes in persons chronically exposed. When EG was administered orally to pregnant rats and mice, there was an increase in fetal deaths and birth defects. Some of these effects occurred at doses that had no toxic effects on the mothers. We are not aware of any reports that EG causes reproductive toxicity in human beings.

2-Ethylhexanoic acid (2-EXA) caused an increase in liver size and enzyme levels when repeatedly administered to rats via the diet. When administered to pregnant rats by gavage or in drinking water, 2-EXA caused teratogenicity (birth defects) and delayed postnatal development of the pups. Additionally, 2-EXA impaired female fertility in rats. Birth defects were seen in the offspring of mice who were administered sodium 2-ethylhexanoate via intraperitoneal injection during pregnancy.

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICITY

This material is not expected to be harmful to aquatic organisms. The product has not been tested. The statement has been derived from products of a similar structure and composition.

MOBILITY

No data available.

PERSISTENCE AND DEGRADABILITY

This material is expected to be readily biodegradable. The product has not been tested. The statement has been derived from the properties of the individual components.

POTENTIAL TO BIOACCUMULATE

Bioconcentration Factor: No data available.

Octanol/Water Partition Coefficient: No data available

SECTION 13: DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by international, country, or local laws and regulations.



SECTION 14: TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

Land Transport New Zealand Shipping Description: NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORTATION UNDER THE NEW ZEALAND LAND TRANSPORT RULE

IMO/IMDG Shipping Description: NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORTATION UNDER THE IMDG CODE

ICAO/IATA Shipping Description: Anti-freeze Preparations, Proprietary; NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER ICAO

SECTION 15: REGULATORY INFORMATION

REGULATORY LISTS SEARCHED:

01-1=IARC Group 1

01-2A=IARC Group 2A

01-2B=IARC Group 2B

No components of this material were found on the regulatory lists above.

CHEMICAL INVENTORIES:

All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), EINECS (European Union), ENCS (Japan), IECSC (China), KECI (Korea), PICCS (Philippines), TSCA (United States).
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SECTION 16: OTHER INFORMATION

KEY TO ABBREVIATIONS AND ACRONYMS:

Full Conc = full concentrate

RTU = ready-to-use

N/D = Not determined, N/A = Not applicable, STEL = Short-Term Exposure Limit, TWA = Time-Weighted Average

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value

TWA - Time Weighted Average

STEL - Short-term Exposure Limit

PEL - Permissible Exposure Limit

CAS - Chemical Abstract Service Number

ACGIH - American Conference of Governmental

Industrial Hygienists

IMO/IMDG - International Maritime Dangerous Goods Code

API - American Petroleum Institute

MSDS - Material Safety Data Sheet

NFPA - National Fire Protection Association (USA)

NTP - National Toxicology Program (USA)

IARC - International Agency for Research on Cancer

OSHA - Occupational Safety and Health Administration

Prepared according to the Hazardous Substances and New Organisms Act 1996 and Approved Code of Practice: Preparation of Safety Data Sheets (HSNO CoP 8-1 09-06)

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