


I - Identification of substance / preparation and company

Name of the substance or preparation	MaxiCool
Grade(s)	MaxiCool Conc. MaxiCool Premix
CAS Number	Mixture
Product use	Anitfreeze/Coolant
Name/Company address	U & P Private Limited
Address	No. 2 Banyan Place Jurong Island Singapore 627700
Telephone	(65) 6789 9898
Fax	(65) 6861 2629

II - Identification of hazards

Classification: Target Organ Toxicant (repeated exposure): Category 2 Reproductive Toxicant (developmental): Category 2 Acute Oral Toxicant: Category 4	
Label Symbol	
Signal word	Warning
Hazard Statement(s)	Health: H302. Harmful if swallowed. Health: H361D. Suspected of damaging the unborn child. Target Organs: H373. May cause damage to organs (Kidney) through prolonged or repeated exposure.
Precautionary Statement(s)	<u>Prevention:</u> P201: Obtain special instructions before use. P202: Do not handle until all safety precautions have been read and understood. P260: Do not breathe dust / fume / gas / mist / vapours / spray. P264: Wash skin thoroughly after handling. P270: Do not eat, drink or smoke when using this product. P280: Wear protective gloves and eye / face protection. <u>Response:</u> P301 + P312: IF SWALLOWED: Call a POISON CENTRE or doctor/physician if you feel unwell. P308 + P313: IF exposed or concerned: Get medical advice/attention. P314: Get medical advice/attention if you feel unwell. P330: Rinse mouth. <u>Storage:</u>

	<p>P405: Store locked up.</p> <p><u>Disposal:</u> P501: Dispose of contents/container in accordance with applicable local / regional / national / International regulations.</p>
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III - Composition / Component Data

Substance/mixture: Mixture
CAS number : Not applicable.

Components	CAS number	Approx. % wt
Ethylene Glycol	107-21-1	30 - 98
Sodium 2-ethylhexanoate	19766-89-3	< 5

Any concentration shown as a range is to protect confidentiality or is due to batch variation.
There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.

IV - First Aid

In the event of serious problems :	Call a doctor or summon medical assistance urgently.
Information in the event of :	
- inhalation :	Take the person into the fresh air.
- contact with the skin	Rinse off with water and remove contaminated clothing.
- contact with the eyes:	Bathe the eyes with sterile water
- ingestion :	Do not induce vomiting. If person is conscious, give water or milk. Never give anything by mouth to an unconscious person. Take the victim to hospital as soon as possible.

V - Fire-fighting procedures

Methods of extinguishing	Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames. Dry Chemical, CO2, AFFF Foam or alcohol resistant foam.
Fire fighting instructions	This material will burn though it is not easily ignited. See Section 7 for proper handling and storage.
Special methods of action	None.
Combustion or decomposition 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.
Protection for fire-fighters	Wear full protective clothing and positive pressure breathing apparatus.

VI - Measures to be taken in the event of accidental dispersion

Individual precautions :	Depending on the risk of exposure, wear
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	gloves, goggles, and protective clothing.
Environmental protection precautions:	Design the installations and take all the measures necessary to avoid water and soil pollution : Containment, absorbent materials, etc.
Protective measures:	Remove all sources of fire
Methods of cleaning:	Use appropriate techniques such as applying non-combustible absorbent materials or by pumping.
Recovery :	Dam and then recover with the aid of physical resources.
Disposal :	Send contaminated materials to an approved collection facility.

VII - Handling and storage

General handling information	Do not taste or swallow antifreeze or solution. Keep out of the reach of children and pets.
Precautionary measures	Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Do not breathe vapour or fumes. Wash thoroughly after handling. Keep out of the reach of children.
Static Hazard	Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures.
Storage information	Do not store in open or unlabeled containers.
Container warning	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 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. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

VIII - Exposure controls / 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
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	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.			
Technical measures	Use the product in a well-ventilated atmosphere with anti-deflagrating materials			
Monitoring parameters :				
Occupational Exposure limit (Ethylene Glycol)	Country/ Agency	TWA	STEL	Ceiling/ Notation
	ACGIH	-	-	100 mg/m ³ (Ceiling)
	Singapore	-	127 mg/m ³	-
	Note: Limits/standards shown for guidance only. Follow applicable regulations.			
Respiratory protection	Wear appropriate breathing equipment if exposure levels exceed the limit values. Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.			
Protection for the hands	Use impermeable hydrocarbon-resistant gloves. Suggested materials for protective gloves include: 4H (PE/EVAL), Nitrile Rubber, Silver Shield, Viton.			
Protection for the eyes	Wear goggles in the event of the risk of emissions.			
Hygiene measures	Avoid prolonged and repeated contact with skin.			

IX - Physical and chemical properties

Physical state at 20°C	Liquid
Colour	Clear liquid
Odour	Mild odour
pH	7.5 – 9.0
Flash point (Cleveland Open Cup)	> 100° C
Auto ignition temperature	No data available
Melting point	No data available
Boiling point	~110°C (50% dilution)
Freezing point	~-18°C to -38°C
Vapour pressure	0.12 mmHg @ 20°C (68°F)
Vapour density (Air = 1)	>1
Density at 15 °C	1.05 – 1.15 kg/l
Solubility	Soluble in water
Octanol/Water Partition Coefficient	No data available

X - Stability and reactivity

Stability	Stable product at conventional temperatures for storage, handling, and use.
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Hazardous decomposition products	Ketones (Elevated temperatures), Aldehydes (Elevated temperatures)
Substances to be avoided	Avoid powerful acids and oxidising agents such as chlorates, nitrates, peroxides, etc.
Polymerization	Hazardous polymerization will not occur.

XI - Toxicological data

Contact with the eyes	Not expected to cause prolonged or significant irritation or injury during normal use based on evaluation of data for similar materials or product components.
Contact with the 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.
- 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	May be harmful if swallowed.
- Acute oral toxicity	The acute oral toxicity hazard is based on evaluation of data for similar materials or product components.
Inhalation	Not expected to be harmful if inhaled. 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	1677 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)

	<p>following repeated inhalation at concentrations above the recommended exposure limit: Kidney Risk depends on duration and level of exposure.</p>
Additional toxicological information	<p>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.</p> <p>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, vapours 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.</p> <p>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.</p>

XII - Ecological data

Ecotoxicity	This material is not expected to be harmful to aquatic organisms. The product has not been tested. The statement has been derived from the properties of the individual components.
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
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XIII – Disposal considerations

Surplus or wastes	Do not discharge into the sewerage system or natural environment. This product can be disposed of in a suitable incinerator provided that national/local legislation is complied with.
Methods relating to elimination	Recovery by a Specialist Waste Contractor, with recycling or incineration in an approved facility.

XIV - Data relating to transport

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.	
DOT Classifications:	PROPRIETARY ANTIFREEZE PREPARATION IN NON-BULK PACKAGING; NOT REGULATED FOR TRANSPORT UNDER 49 CFR Additional Information: Bulk shipments containing a reportable quantity (RQ, 5000 pounds or more) of ethylene glycol in a single packaging are transported as hazardous material. The shipping description is: UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (ETHYLENE GLYCOL CONTAINS BITTERANT), 9, III, RQ (ETHYLENE GLYCOL)
IMO/IMDG shipping description	NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER THE IMDG CODE
ICAO/IATA shipping description	NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORTATION UNDER ICAO
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable
Other information	Not dangerous cargo. Keep separate from foodstuffs.

XV - Regulatory data

Regulatory lists search: 01-1=IARC Group 1 01-2A=IARC Group 2A 01-2B=IARC Group 2B	No component of this material was found on the regulatory lists.
All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), KECI (Korea), PICCS (Philippines), TSCA (United States).	

XVI - Other information

Recommended uses and restriction on use :	Use of the product : see section I
Revision date	25 Feb 2019 (new)
Reason(s) for revision	-

Others	No further information
Prepared according to the Singapore Standard SS 586: 2014	

This dossier supplements the technical notifications for use, but does not replace them. The information which it contains is based on our knowledge relating to the product in question on the date indicated.

The information is given in good faith. The user's attention is also drawn to possible risks incurred if a product is employed for uses other than those for which it was designed.

The information dossier does not, under any circumstances, discharge the user from the obligation of being aware of, and of applying, all the texts which govern his sphere of activity. He shall be solely responsible for taking the precautions associated with the use which he makes of the product.

All the statutory provisions referred to are intended simply to assist the recipient in fulfilling the obligations incumbent upon him. This enumeration must not be considered to be exhaustive.

The recipient must ensure that no obligations are incumbent upon him, as a result of texts other than those cited, relating to the holding and handling of the product, for which he alone is responsible.

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