Hi-Tec Oil Traders Pty Ltd ABN 28 053 837 362
5 Tarlington Place Smithfield NSW 2164
Correspondence: P.O Box 322 Castle Hill NSW 1765
Ph: 1300 796 009 | **Fax:** (02) 9604 1611 | **Email:** hitecoils@hi-tecoils.com.au
www.hi-tecoils.com.a

SAFETY DATA SHEET

Product name: **Long Life Coolant Red**

1. COMPANY DETAILS AND PRODUCT IDENTIFICATION

COMPANY: ADDRESS:	Hi-Tec Oil Traders Pty Ltd. (ABN 28 053 837 362) PO Box 322 Castle Hill NSW 1765 5 Tarlington Place, Smithfield NSW 2164
TELEPHONE NUMBER:	1300 796 009
FAX NUMBER:	(02) 9604 1611
EMERGENCY TELEPHONE NUMBER:	1300 796 009
PRODUCT NAME:	Long Life Coolant Red
OTHER NAMES:	Long Life Coolant Red Concentrate,
MANUFACTURER'S PRODUCT CODE:	HI8- 3250
USE:	Ethylene Glycol based engine cooling system treatment
ADDITIONAL INFORMATION:	Refer to Product Information Sheet for additional information.
OTHER INFORMATION:	Visit our website: www.hi-tecoils.com.au Email: hitecoils@hi-tecoils.com.au

2. HAZARDS IDENTIFICATION

HAZARD CLASSIFICATION:	HAZARDOUS SUBSTANCE NON-DANGEROUS GOODS Hazard classification according to criteria of NOHSC and GHS Dangerous goods classification according to Australian Dangerous Goods Code.
POISONS SCHEDULE:	Not applicable.

GHS LABEL ELEMENTS

SIGNAL WORD:	WARNING

2. HAZARDS IDENTIFICATION (CONT)

GHS CLASSIFICATIONS

ACUTE TOXICITY (ORAL):	Category 4
SKIN CORROSION/IRRITATION:	Category 2
EYE IRRITATION:	Category 2A
HAZARD STATEMENT(S):	H302 Harmful if swallowed. H315 Causes skin irritation. H319 Causes serious eye irritation.
PRECAUTIONARY STATEMENT(S) PREVENTION:	P270 Do not eat, drink or smoke when using this product. P280 Wear protective gloves/protective clothing/eye protection/face protection.
PRECAUTIONARY STATEMENT(S) RESPONSE:	P362 Take off contaminated clothing and wash before reuse. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337+P313 If eye irritation persists: Get medical advice/attention. P301+P312 IF SWALLOWED: Call the POISON INFORMATION CENTER on 131126 or a doctor if you feel unwell.
PRECAUTIONARY STATEMENT(S) STORAGE:	Not Applicable
PRECAUTIONARY STATEMENT(S) DISPOSAL:	P501 Dispose of contents/container in accordance with local regulations.

3. IDENTIFICATION / COMPOSITION OF INGREDIENTS

SUBSTANCES: See section below for composition of mixtures.

INGREDIENTS:

CHEMICAL ENTITY:	CAS No.	PROPORTION
Ethylene Glycol	107-21-1	>60%
2-Ethylhexanoic Acid	149-57-5	<2.6%
Sodium Hydroxide	1310-73-2	<1%
Tolyltriazole 99.5%	29385-43-1	<0.6%
Bitrex (25% Denatonium Benzoate in MEG)	3734-33-6	0.01%
Other components not considered to be harmful		To 100%

4. FIRST AID MEASURES

HEALTH EFFECTS

SWALLOWED: **IF SWALLOWED, REFER FOR MEDICAL ATTENTION, WHERE POSSIBLE, WITHOUT DELAY.** For advice, contact a Poisons Information Centre or a doctor. Urgent hospital treatment is likely to be needed. In the mean time, qualified first-aid personnel should treat the patient following observation and employing supportive measures as indicated by the patient's condition. If the services of a medical officer or medical doctor are readily available, the patient should be placed in his/her care and a copy of the SDS should be provided. Further action will be the responsibility of the medical specialist. If medical attention is not available on the worksite or surroundings send the patient to a hospital together with a copy of the SDS.

Where medical attention is not immediately available or where the patient is more than 15 minutes from a hospital or unless instructed otherwise:
INDUCE vomiting with fingers down the back of the throat, **ONLY IF CONSCIOUS**. Lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.
NOTE: Wear a protective glove when inducing vomiting by mechanical means.

EYE: Wash out immediately with fresh running water. Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. Seek medical attention without delay; if pain persists or recurs seek medical attention. Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

SKIN: Immediately remove all contaminated clothing, including footwear. Flush skin and hair with running water (and soap if available). Seek medical attention in event of irritation.

INHALED: If fumes or combustion products are inhaled remove from contaminated area. Lay patient down. Keep warm and rested. Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures. Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.
Transport to hospital, or doctor.

FIRST AID FACILITIES: Normal washroom facilities are generally suitable. Ensure an eye wash station and safety shower is available and ready for use. Keep water and mild soap near work site.

ADVICE TO DOCTOR: Treat symptomatically, for advice, contact the Poisons Information Centre 131 126

5. FIRE FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA:	Alcohol stable foam. Dry chemical powder. BCF (where regulations permit), Carbon dioxide.
FIRE INCOMPATIBILITY:	Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result.
FIRE-FIGHTING:	Alert Fire Brigade and tell them location and nature of hazard. Wear full body protective clothing with breathing apparatus. Prevent, by any means available, spillage from entering drains or water course. Use water delivered as a fine spray to control fire and cool adjacent area.
FIRE / EXPLOSION HAZARD:	Combustible. Slight fire hazard when exposed to heat or flame. Heating may cause expansion or decomposition leading to violent rupture of containers. On combustion, may emit toxic fumes of carbon monoxide (CO). Combustion products include: carbon dioxide (CO2) other pyrolysis products typical of burning organic material. May emit poisonous fumes. May emit corrosive fumes
PROTECTIVE MEASURES:	Fire fighters should wear self-contained breathing apparatus if risk of exposure to products of combustion. Water spray may be used to cool down heat-exposed containers

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES:	Refer section 8
ENVIRONMENTAL PRECAUTIONS:	Refer section 12
MINOR SPILLS:	Slippery when spilt. Remove all ignition sources. Clean up all spills immediately. Avoid breathing vapours and contact with skin and eyes. Control personal contact with the substance, by using protective equipment
MAJOR SPILLS:	Slippery when spilt. Moderate hazard. Clear area of personnel and move upwind. Alert Fire Brigade and tell them location and nature of hazard. Wear breathing apparatus plus protective gloves.

7. HANDLING AND STORAGE

FOR SAFE HANDLING:	**DO NOT** allow clothing wet with material to stay in contact with skin Avoid all personal contact, including inhalation. Wear protective clothing when risk of exposure occurs. Use in a well-ventilated area. Prevent concentration in hollows and sumps.
OTHER INFORMATION:	Material is hygroscopic, i.e. absorbs moisture from the air. Keep containers well sealed in storage. Store in original containers. Keep containers securely sealed. No smoking, naked lights or ignition sources. Store in a cool, dry, well-ventilated area.
SUITABLE CONTAINER:	Metal can or drum. **DO NOT** use aluminium or galvanised containers. Packaging as recommended by manufacturer. Check all containers are clearly labelled and free from leaks.
STORAGE INCOMPATIBILITY:	Avoid strong acids, bases. Avoid reaction with oxidising agents

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE LIMITS (OEL)

Ingredient Data

Source	Ingredient	TWA	STEL	Peak	Notes
Australia Exposure Standards	Ethylene glycol(particulate/vapour)	10 mg/m^3/ 52mg/m^3 / 20 ppm	104 mg/m^3 /40 ppm	NA	sk
Australia Exposure Standards	Sodium Hydroxide	NA	NA	2 mg/m^3	NA

NA = Not Available

Emergency Limits

Ingredient	TEEL-1	TEEL-2	TEEL-3
Ethylene glycol	30 ppm	40 ppm	60 ppm
2-Ethylhexanoic acid	15 mg/m^3	140 mg/m^3	590 mg/m^3
Sodium Hydroxide	Not Available	Not Available	Not Available
Tolytriazole 99.5%	2 mg/m^3	22 mg/m^3	130 mg/m^3

Ingredient	Original IDLH	Revised IDLH
Ethylene glycol	Not Available	Not Available
2-Ethylhexanoic acid	Not Available	Not Available
Sodium Hydroxide	250 mg/m^3	10 mg/m^3
Tolytriazole 99.5%	Not Available	Not Available
Bitrex (25% Denatonium Benzoate in MEG)	Not Available	Not Available

LEGEND
TWA = Time Weighted Average
STEL = Short Term Exposure Limit
TEEL = Temporary Emergency Exposure Limit
IDLH = Immediately Dangerous to Life and Health Concentrations

8. EXPOSURE CONTROLS / PERSONAL PROTECTION (CONT)

APPROPRIATE ENGINEERING CONTROLS:	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are: Process controls which involve changing the way a job activity or process is done to reduce the risk. Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.
EYE AND FACE PROTECTION:	Safety glasses with side shields. Chemical goggles. Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task.
HANDS/FEET/SKIN PROTECTION:	Wear chemical protective gloves, e.g. PVC. Wear safety footwear or safety gumboots, e.g. Rubber.The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application. The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and.has to be observed when making a final choice. Personal hygiene is a key element of effective hand care.
BODY PROTECTION:	See other protection above.
OTHER PROTECTION:	Overalls. P.V.C. apron. Barrier cream.
HYGIENE MEASURES:	Always wash hands before eating, drinking, smoking or using the toilet. If contamination occurs, change clothing. Launder contaminated clothing before reuse. Discard internally contaminated gloves.
THERMAL HAZARDS:	Not available.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION (CONT)

GLOVE SELECTION INDEX
Glove selection is based on a modified presentation of the: ***"Forsberg Clothing Performance Index".***
The effect(s) of the following substance(s) are taken into account in the ***computer- generated*** selection:

Long Life Coolant Red

Material	**CPI**
##2-ethylhexanoic	acid
BUTYL	C
NAT+NEOPR+NITRILE	C
NATURAL RUBBER	C
NATURAL+NEOPRENE	C
NEOPRENE	C
NEOPRENE/NATURAL	C
NITRILE	C
NITRILE+PVC	C
PE	C
PE/EVAL/PE	C
PVA	C
PVC	C
SARANEX-23	C
SARANEX-23 2-PLY	C
TEFLON	C
VITON/CHLOROBUTYL	C
##sodium	hydroxide

* CPI - Chemwatch Performance Index
A: Best Selection
B: Satisfactory; may degrade after 4 hours continuous immersion
C: Poor to Dangerous Choice for other than short term immersion
NOTE: As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. - * Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

Type A-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)
Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required.
Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

Required Minimum Protection Factor	**Half-Face Respirator**	**Full-Face Respirator**	**Powered Air Respirator**
up to 5 x ES	A-AUS / Class 1 P2	-	A-PAPR-AUS / Class 1 P2
up to 25 x ES	Air-line*	A-2 P2	A-PAPR-2 P2
up to 50 x ES	-	A-3 P2	-
50+ x ES	-	Air-line**	-

8. EXPOSURE CONTROLS / PERSONAL PROTECTION (CONT)

^ - Full-face
A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO2), G = Agricultural chemicals, K = Ammonia(NH3), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content. The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE:	Liquid
COLOUR:	Red
ODOUR:	Not available
ODOUR THRESHOLD:	Not available
pH (AS SUPPLIED):	Not available
MELTING POINT (°C):	Not available
INITIAL BOILING POINT (°C):	Not available
FLASH POINT:	Not available
FLAMMABILITY:	Not available
UPPER EXPLOSIVE LIMIT (%):	Not available
LOWER EXPLOSIVE LIMIT (%):	Not available
VAPOUR PRESSURE (kPa):	Not available
SOLUBILITY IN WATER:	Soluble
VAPOUR DENSITY (AIR = 1):	Not available
RELATIVE DENSITY (WATER):	1.1
PARTION COEFFICIENT N-OCTANOL / WATER:	Not available

9. PHYSICAL AND CHEMICAL PROPERTIES (CONT)

AUTO-IGNITION TEMPERATURE (°C):	Not available
DECOMPOSITION TEMPERATURE (°C):	Not available
VISCOSITY (cSt):	Not available
MOLECULAR WEIGHT (g/mol):	Not applicable
VOLATILE COMPONENT (%vol):	Not available
pH AS A SOLUTION (1%):	9 (33%)
VOC g/L:	Not available
OTHER INFORMATION:	These physical data and other properties do not constitute a specification.

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY:	Unstable in the presence of incompatible materials. Product is considered stable. Hazardous polymerisation will not occur.
POSSIBILITY OF HAZARDOUS REACTIONS:	Refer section 7
CONDITIONS TO AVOID:	Refer section 7
INCOMPATIBLE MATERIALS:	Refer section 7
HAZARDOUS DECOMPOSITION PRODUCTS:	Refer section 5

11. TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

INHALED:	Inhalation of vapours may cause drowsiness and dizziness. This may be accompanied by narcosis, reduced alertness, loss of reflexes, lack of coordination and vertigo. Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may be damaging to the health of the individual.
INGESTION:	Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual.

11. TOXICOLOGICAL INFORMATION

SKIN CONTACT:

The material may accentuate any pre-existing dermatitis condition.
Open cuts, abraded or irritated skin should not be exposed to this material
Entry into the blood-stream through, for example, cuts, abrasions, puncture wounds or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.

Evidence exists, or practical experience predicts, that the material either produces inflammation of the skin in a substantial number of individuals following direct contact, and/or produces significant inflammation when applied to the healthy intact skin of animals, for up to four hours, such inflammation being present twenty-four hours or more after the end of the exposure period. Skin irritation may also be present after prolonged or repeated exposure; this may result in a form of contact dermatitis (nonallergic). The dermatitis is often characterised by skin redness (erythema) and swelling (oedema) which may progress to blistering (vesiculation), scaling and thickening of the epidermis. At the microscopic level there may be intercellular oedema of the spongy layer of the skin (spongiosis) and intracellular oedema of the epidermis.

EYE:

Evidence exists, or practical experience predicts, that the material may cause eye irritation in a substantial number of individuals and/or may produce significant ocular lesions which are present twenty-four hours or more after instillation into the eye(s) of experimental animals.
Repeated or prolonged eye contact may cause inflammation characterised by temporary redness (similar to windburn) of the conjunctiva (conjunctivitis); temporary impairment of vision and/or other transient eye damage/ulceration may occur.

CHRONIC:

Limited evidence suggests that repeated or long-term occupational exposure may produce cumulative health effects involving organs or biochemical systems.

There is some evidence to provide a presumption that human exposure to the material may result in impaired fertility on the basis of: some evidence in animal studies of impaired fertility in the absence of toxic effects, or evidence of impaired fertility occurring at around the same dose levels as other toxic effects but which is not a secondary non-specific consequence of other toxic effects.
There is some evidence that human exposure to the material may result in developmental toxicity. This evidence is based on animal studies where effects have been observed in the absence of marked maternal toxicity, or at around the same dose levels as other toxic effects but which are not secondary non-specific consequences of the other toxic effects.

11. TOXICOLOGICAL INFORMATION (CONT)

LONG LIFE COOLANT RED

TOXICITY	**IRRITATION**
Not Available	Not Available

ETHYLENE GLYCOL

TOXICITY		**IRRITATION**	
DERMAL (RABBIT) LD50:	9,530 mg/kg[2]	EYE (RABBIT):	100 mg/1h - mild
INHALATION (RAT) LC50:	50.1 mg/L/8 hr[2]	EYE (RABBIT):	12 mg/m^3/3D
ORAL (RAT) LD50:	4,700 mg/kg[2]	EYE (RABBIT):	1,440mg/6h-moderate
		EYE (RABBIT):	500 mg/24h - mild
		SKIN (RABBIT):	555 mg(open)-mild

2-ETHYLHEXANOIC ACID

TOXICITY		**IRRITATION**	
DERMAL (RAT) LD50:	>2,000 mg/kg[1]	EYE (RABBIT):	4.5 mg - SEVERE
ORAL (RAT) LD50:	2,043 mg/kg[1]	SKIN (RABBIT):	10 mg/24h - mild
		SKIN (RABBIT):	450 mg open - mild

SODIUM HYDROXIDE

TOXICITY		**IRRITATION**	
ORAL (RABBIT) LD50:	325 mg/kg[1]	EYE (RABBIT):	0.05 mg/24h - SEVERE
		EYE (RABBIT):	1 mg/24h - SEVERE
		EYE (RABBIT):	1 mg/30s rinsed – SEVERE
		SKIN (RABBIT):	500 mg/24h - SEVERE

TOLYTRIAZOLE 99.5%

TOXICITY		**IRRITATION**
DERMAL (RABBIT) LD50:	>2,000 mg/kg[2]	Not available
ORAL (RAT) LD50:	675 mg/kg[2]	

BITREX (25% DENATONIUM BENZOATE IN MEG)

TOXICITY		**IRRITATION**
ORAL (RAT) LD50:	584 mg/kg[2]	Not available

***Legend**: 1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2.* Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances*

ETHLENE GLYCOL:

For ethylene glycol: Ethylene glycol is quickly and extensively absorbed through the gastrointestinal tract. Limited information suggests that it is also absorbed through the respiratory tract; dermal absorption is apparently slow. Following absorption, ethylene glycol is distributed throughout the body according to total body water. In most mammalian species, including humans, ethylene glycol is initially metabolised by alcohol. [Estimated Lethal Dose (human) 100 ml; RTECS quoted by Orica] Substance is reproductive effector in rats (birth defects). Mutagenic to rat cells.

11. TOXICOLOGICAL INFORMATION (CONT)

2-ETHYLHEXANOIC ACID:	The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis.
SODIUM HYDROXIDE:	The material may produce severe skin irritation after prolonged or repeated exposure, and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) thickening of the epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis. Prolonged contact is unlikely, given the severity of response, but repeated exposures may produce severe ulceration.
BITREX (25% DENATONIUM BENZOATE IN MEG):	Most undiluted cationic surfactants satisfy the criteria for classification as Harmful (Xn) with R22 and as Irritant (Xi) for skin and eyes with R38 and R41. For quaternary ammonium compounds (QACs): Quaternary ammonium compounds (QACs) are cationic surfactants. They are synthetic organically tetra-substituted ammonium compounds, where the R substituents are alkyl or heterocyclic radicals. A common characteristic of these synthetic compounds is that one of the R's is a long-chain hydrophobic aliphatic residue The cationic surface active compounds are in general more toxic than the anionic and non-ionic surfactants. The positively-charged cationic portion is the functional part of the molecule and the local irritation effects of QACs appear to result from the quaternary ammonium cation. Somnolence, tremor, ataxia recorded.
2-ETHYLHEXANOIC ACID & SODIUM HYDROXIDE:	The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.
2-ETHYLHEXANOIC ACID (2-EH ACID) & SODIUM HYDROXIDE & BITREX 25% (25% DENATONIUM BENZOATE IN MEG) :	Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. Key criteria for the diagnosis of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. A reversible airflow pattern, on spirometry, with the presence of moderate to severe bronchial hyperreactivity on methacholine challenge testing and the lack of minimal lymphocytic inflammation, without eosinophilia, have also been included in the criteria for diagnosis of RADS.

11. TOXICOLOGICAL INFORMATION (CONT)

ACUTE TOXICITY:	Data required to make classification available.
SKIN IRRITATION/CORROSION:	Data required to make classification available.
SERIOUS EYE DAMAGE/IRRITATION:	Data required to make classification available.
RESPIRATORY OR SKIN SENSITISATION:	Data not available to make classification.
MUTAGENICITY:	Data not available to make classification.
CARCINOGENICITY:	Data not available to make classification.
REPRODUCTIVITY:	Data not available to make classification.
STOT – SINGLE EXPOSURE:	Data not available to make classification.
STOT – REPEATED EXPOSURE:	Data not available to make classification.
ASPIRATION HAZARD:	Data not available to make classification.

12. ECOLOGICAL INFORMATION

ECOTOXICITY:

Ingredient	Endpoint	Test Duration (hr)	Species	Value	Source
Ethylene glycol	LC50	96	Fish	2,284.940 mg/L	3
Ethylene glycol	EC50	48	Crustacea	5,046.29 mg/L	5
Ethylene glycol	EC50	96	Algae or other aquatic plants	6,500-13,000 mg/L	1
Ethylene glycol	EC50	Not Applicable	Crustacea	= 10 mg/L	1
Ethylene glycol	NOEC	552	Crustacea	>1,000 mg/L	2
2-Ethylhexanoic Acid	LC50	96	Fish	48.777 mg/L	3
2-Ethylhexanoic Acid	EC50	48	Crustacea	= 85.4 mg/L	1
2-Ethylhexanoic Acid	EC50	96	Algae or other aquatic plants	= 41 mg/L	1
2-Ethylhexanoic Acid	EC50	384	Crustacea	= 11.962 mg/L	3
2-Ethylhexanoic Acid	NOEC	504	Crustacea	18 mg/L	2
Sodium Hydroxide	LC50	96	Fish	4.16158 mg/L	3
Sodium Hydroxide	EC50	96	Algae or other aquatic plants	1,034.0043 mg/L	3
Sodium Hydroxide	EC50	384	Crustacea	2,7901.643 mg/L	3
Sodium Hydroxide	NOEC	96	Fish	56 mg/L	4

Legend: *Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data*

12. ECOLOGICAL INFORMATION (CONT)

PERSISTENCE AND DEGRADABILITY:

Ingredient	Persistence: Water/Soil	Persistence: Air
Ethylene glycol	LOW (Half-life = 24 days)	LOW (Half-life = 3.46 days)
2-Ethylhexanoic Acid	LOW	LOW
Sodium Hydroxide	LOW	LOW

BIOACCUMULATIVE POTENTIAL:

Ingredient	Bioaccumulation
Ethylene glycol	LOW (BCF = 200)
2-Ethylhexanoic Acid	LOW (LogKOW = 2.64)
Sodium Hydroxide	LOW (LogKOW = -3.8796)

MOBILITY IN SOIL

Ingredient	Mobility
Ethylene glycol	HIGH (KOC = 1)
2-Ethylhexanoic Acid	LOW (KOC = 24.06)
Sodium Hydroxide	LOW (KOC = 14.3)

13. DISPOSAL CONSIDERATIONS

DISPOSAL CONSIDERATIONS:

Containers may still present a chemical hazard/ danger when empty. Return to supplier for reuse/ recycling if possible.

If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill. Where possible retain label warnings and SDS and observe all notices pertaining to the product. Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked. A Hierarchy of Controls seems to be common - the user should investigate: Reduction Reuse Recycling Disposal (if all else fails)

This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. **DO NOT** allow wash water from cleaning or process equipment to enter drains. It may be necessary to collect all wash water for treatment before disposal. In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first. Where in doubt contact the responsible authority. Recycle wherever possible or consult manufacturer for recycling options. Consult State Land Waste Authority for disposal. Bury or incinerate residue at an approved site.
Recycle containers if possible, or dispose of in an authorised landfill.

14. TRANSPORT INFORMATION

ROAD & RAIL TRANSPORT

ADG REQUIREMENT: Not classified as a Dangerous Good according to the Australian Code for the Transport of Dangerous Goods by Road and Rail.

MARITIME TRANSPORT

IMO/IMDG REQUIREMENT: Not classified as a Dangerous Good according to the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.

AIR TRANSPORT

ICAO/IATA REQUIREMENT: Not classified as a Dangerous Good according to the criteria of the International Maritime Air Transport Association (IATA) Dangerous Goods Regulations for transport by air.

15. REGULATORY INFORMATION

POISON SCHEDULE: Not applicable.

PACKING & LABELLING: No special packaging or labelling requirements.

ETHYLENE GLYCOL (MEG)(107-21-1) IS FOUND ON THE FOLLOWING REGULATORY LISTS
Australia Exposure Standards, Australia Hazardous Substances Information System - Consolidated Lists and Australia Inventory of Chemical Substances (AICS)

2-ETHYLHEXANOIC ACID (2-EH ACID)(149-57-5) IS FOUND ON THE FOLLOWING REGULATORY LISTS
Australia Hazardous Substances Information System - Consolidated Lists and Australia Inventory of Chemical Substances (AICS)

SODIUM HYDROXIDE(1310-73-2) IS FOUND ON THE FOLLOWING REGULATORY LISTS
Australia Exposure Standards, Australia Hazardous Substances Information System - Consolidated Lists
And Australia Inventory of Chemical Substances (AICS)

TOLYTRIAZOLE 99.5%(29385-43-1) IS FOUND ON THE FOLLOWING REGULATORY LISTS
Australia Inventory of Chemical Substances (AICS)

BITREX 25% (25% DENATONIUM BENZOATE IN MEG)(3734-33-6) IS FOUND ON THE FOLLOWING REGULATORY LISTS
Australia Inventory of Chemical Substances (AICS)

16. OTHER INFORMATION

CONTACT PERSON/POINT: General Manager 1300 796 009

This information was prepared in good faith from the best information available at the time of issue. It is based on the present level of research and to this extent we believe it is accurate. However, no guarantee of accuracy is made or implied and since conditions of use are beyond our control, all information relevant to usage is offered without warranty. The manufacturer will not be held responsible for any unauthorised use of this information or for any modified or altered versions.

If you are an employer it is your duty to tell your employees, and any others that may be affected, of any hazards described in this sheet and of any precautions that should be taken.

Safety Data Sheets are updated frequently. Please ensure you have a current copy.

LITERATURE REFERENCES:

* NOHSC: 2011 National Code of Practice for the preparation of Safety Data Sheets.
* Safe Work Australia: 2016 Preparation of Safety Data Sheets for Hazardous Chemicals
* NOHSC: 1008 Approved Criteria for Classifying Hazardous Substances.
* NOHSC: 10005 List of Designated Hazardous Substances.
* NOHSC: 1005 Control of Workplace Hazardous Substances, National Code of Practice.
* NOHSC: 2007 Control of Workplace Hazardous Substances, National Code of Practice.
* NOHSC: 1003 Exposure Standards for Atmospheric Contaminants in the Occupational Environment, National Exposure Standards.
* NOHSC: 3008 Exposure Standards for Atmospheric Contaminants in the Occupational Environment, Guidance Note.
* NOHSC: 1015 Storage and Handling of Workplace Dangerous Goods, National Standard.
* NOHSC: 2017 Storage and Handling of Workplace Dangerous Goods, National Code of Practice.
* SUSDP: Standard for the Uniform Scheduling of Drugs and Poisons
* ADG: Australian Dangerous Goods Code
* SDS of component materials.

LAST CHANGE: Supercedes document issued: 21 May 2021
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END OF SDS