APPENDIX K

HAZARDOUS FACILITIES SCREENING PROCEDURE ASSESSMENT

20 OCTOBER 2021

26 London Street
Hamilton 3204
PO Box 9266
Hamilton 3240
New Zealand
64 (0)7 957 2727

Terra Consultants

c/- Chris Dillon

Email: chris.dillon@terragroup.co.nz

HD2090 – Paewira Hazardous Facilities – Hazardous Substances Consent Requirements Evaluation

Dear Chris,

Thank you for the opportunity to provide you with an evaluation of consent requirements under the Waipa District Council (WDC) Plan for the Paewira Facility (the facility). We have been provided with a process drawing and plant description[1].

Background

Based on our review of the plant description, the facility plans to store and use:

- Diesel fuel (quantity to be determined)
- Ammonia or urea (15 m^3 of urea)
- Sodium bicarbonate (15 m^3 silo)
- Trisodium phosphate (Na_3PO_4) water conditioner (500 L)
- Ammonium hydroxide (NH_4OH) water conditioner (140 L)

The WDC Plan uses the Hazardous Facilities Screening Procedure (HFSP) to evaluate the consenting requirements for hazardous substances storage and sue. For areas that are zoned industrial, activities are either permitted or restricted discretionary activities. Permitted activities have an effects ratio ≤1 and restricted discretionary activities have an effects ratio >1.

The HFSP tool is used to calculate the effects ratio. The HFSP has numerous hazardous substances included for use in calculations. Where a substance is not included, there is technical guidance available that can be used, along with a Safety Data Sheet and chemical technical information, to complete the calculations.

[1] Lambion Energy Solutions, 2020. 01155 - RDF Power Plant 3 x 5MWel Plant Description

Effects ratio calculation basis

We calculated the effects ratio using the HSFP tool, which is attached. Our assumptions are provided below.

Diesel fuel

Diesel fuel will be stored in an above-ground storage tank. The diesel fuel is only used for start-ups, so a relatively low quantity is required. We have assumed a 5,000 L maximum storage quantity for calculation purposes. Diesel fuel is listed in the HFSP tool and default values were used.

Ammonia

Urea is much safer to store and handle than ammonia; therefore, ammonia will not be used and is not included in the calculation.

Urea

Up to 15 m^3 of urea will be stored on site. Urea is not classified as a hazardous substance (see attached Safety Data Sheet) and therefore not included in the calculations.

Sodium Bicarbonate

Up to 15 m^3 of sodium bicarbonate will be stored on site. Sodium bicarbonate is not classified as a hazardous substance (see attached Safety Data Sheet) and therefore not included in the calculations.

Water treatment chemicals

Water treatment chemicals will also be stored and used on site. They are considered non-hazardous substances and not included in the calculations.

Consenting status

Based on diesel fuel being the only regulated hazardous substance stored on site, the activity is permitted. As shown on the attached HFSP, the total effects ratio is 0.35, which is less than the permitted threshold effects ratio of 1.

Limitations

This evaluation is based on information provided by the client and has not been fully verified. Should quantities or types of hazardous substances to be stored or use change, we reserve the right to amend this letter report and attached HFSP.

Closing

Thank you for this opportunity. If you have any questions, please let me know.

Kind regards,

TERRE NICHOLSON
Principal Environmental Consultant
Terre@hdgeo.co.nz
Tel 021 061 3983

RENATE SCHÜTTE
Principal Environmental Consultant
Renate@projectlab.co.nz
Tel 021 352 712

PRIOR TO UNDERTAKING ANY CALCULATIONS USERS SHOULD CHECK THAT HFSP SUBSTANCE RATINGS AND TECHNICAL DATA TABS ARE UP-TO-DATE BY REFERRING TO THE ERMA WEB SITE: http://www.ermanz.govt.nz/

Ref. No.	Substances on this site	CAS No.	Effect Type	Hazard Rating	Base Quantity B t or m^3	Substance Form	Distance to boundary less than 30 metres? YES NO	Adjacent to water? YES NO	Type of Activity A/Above B/Under-ground Use	Adjustment Factors F1	F2	F3	Product of Adjustment Factors	Adjusted Quantity A	Proposed Quantity P t or m^3	Fire/ Explosion Quantity Ratio FQ	Human Health Quantity Ratio HQ	Environment Quantity Ratio EQ
																0.02	0.17	0.17
1	Ammonia Solution		Fire/Explosion	-	-	liquid	n		a						0			
			Human Health	Medium	10					1.0	1.0	1.0	1	10			FALSE	
			Environment	High	3			n	n	1.0	1.0	1.0	1	3				FALSE
2	Diesel	various	Fire/Explosion	Low	100	liquid	N		A	1.0	3.0	1.0	3	300	5	0.02		
			Human Health	Low	30					1.0	1.0	1.0	1	30			0.17	
			Environment	Medium	30			N		1.0	1.0	1.0	1	30				0.17
3			Fire/Explosion															
			Human Health															
			Environment															
4			Fire/Explosion															
			Human Health															
			Environment															
5			Fire/Explosion															
			Human Health															
			Environment															
6			Fire/Explosion															
			Human Health															
			Environment															
7			Fire/Explosion															
			Human Health															
			Environment															
8			Fire/Explosion															
			Human Health															
			Environment															
9			Fire/Explosion															
			Human Health															
			Environment															
10			Fire/Explosion															
			Human Health															
			Environment															
	Total Quantity Ratios															0.02	0.17	0.17

SECTION 1. IDENTIFICATION

Product name: Air1, AlliedBlue
Product type: Liquid
Product code: PA516L
ADG Class: Not applicable

Area of application: Industrial applications

Supplier: SCR Solutions Ltd

Address: 66 Aviation Ave
Mount Maunganui
New Zealand

Telephone number: +64 7 927 4452
Emergency: 0800 14 56 76
027 245 3307

NZ Poisons Information Centre: 0800 764 766

NZ Emergency Services: 111

SECTION 2. HAZARDS IDENTIFICATION

Considered a Hazardous Substance according to the criteria of the New Zealand Hazardous Substances New Organisms legislation.

CLASSES/HAZARD STATEMENTS:
Subclass 6.3 Category B - Substances that are mildly irritating to the skin.
Subclass 6.4 Category A - Substances that are irritating to the eye.
Subclass 9.3 Category C - Substances that are harmful to terrestrial vertebrates.

SAFETY DIRECTIONS:
Keep out of reach of children. Avoid contact with skin and eyes and avoid breathing dust/vapour or spray mist. Wear overalls, impervious gloves and chemical goggles. Use only in well ventilated areas. Store away from sodium hypochlorite and nitric acid. Keep containers closed when not in use.

Harmful if swallowed. Give plenty of water to drink and seek medical advice. If in eye, flush gently with running water for 15 minutes. If inhaled, remove from exposure area. If irritation persists, seek medical attention. If skin or hair contact occurs, remove contaminated clothing and flush affected areas with running water. If irritation persists, seek medical attention.

DISPOSAL:
Refer to Waste Management Authority. Dispose of material through a licensed waste contractor.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Components:	Proportion:	CAS Number:
Water	60-70%	7732-18-5
Urea	30-40%	57-13-6

SECTION 4. FIRST AID MEASURES

NZ Poisons Information Centre: 0800 764 766

NZ Emergency Services: 111

Eye contact: Rinse with plenty of running water. Check for and remove any contact lenses. Get medical attention if irritation occurs.

Inhalation: Avoid inhalation of vapor, spray or mist. If inhaled, remove to fresh air. Get medical attention if you feel unwell.

Skin contact: Flush contaminated skin with plenty of water. Get medical attention if irritation develops.

Ingestion: Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Get medical attention if you feel unwell.

Specific treatments: No specific treatment.

Notes to physician: Treat symptomatically

SECTION 5. FIRE FIGHTING MEASURES

Suitable extinguishing media: Use an extinguishing agent suitable for the surrounding fire.

Specific hazards arising from the chemical: In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products: Decomposition products may include the following materials:
carbon dioxide carbon monoxide nitrogen oxides ammonia
In case of inhalation of decomposition products in a fire, symptoms may be delayed.

Special protective actions for fire-fighters: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Remark: Non-explosive.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment. If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials.

Environmental precautions:

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Minor spill:

Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor. Material free from contamination can be used for its original purpose.

Major spill:

Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non- combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Material free from contamination can be used for its original purpose.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling:

Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities:

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well- ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. Bund storage facilities to prevent soil and water pollution in the event of spillage.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Appropriate engineering controls: No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

Environmental exposure controls: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Hygiene measures: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.

Eye/face protection: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

Hand protection: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Body protection: Personal protective equipment for the body should be selected based on the task being performed and the risks involved.

Respiratory protection: Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Liquid
Colour:	Colorless.
Odor:	Slight, ammoniacal
Odor threshold:	Not determined.
pH:	9 - 10
Melting/freezing point:	-10.5 °C (157 °F)
Boiling/condensation point:	100 °C (212 °F)
Sublimation temperature:	Not determined.
Flash point:	Not applicable
Burning time:	Not determined.
Burning rate:	Not determined.
Evaporation rate:	Not determined.
Flammability:	Non-flammable.
Vapor pressure:	Not determined.
Density:	1.09 g/cm3
Relative density:	Not determined.
Solubility:	Not determined.
Solubility in water:	> 100 g/l
Auto-ignition temperature:	Not determined.
Decomposition temperature:	Not determined.
Viscosity:	**Dynamic:** Not determined. **Kinematic:** Not determined.

SECTION 10. STABILITY AND REACTIVITY

Chemical stability:	Stable under recommended storage and handling conditions (see section 7).
Possibility of hazardous reactions:	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid:	No specific data.
Incompatible materials:	Urea reacts with calcium hypochlorite or sodium hypochlorite to form the explosive nitrogen trichloride.
Remark:	Reactive or incompatible with the following materials: Oxidizing agents acids alkalis nitrites and nitrate
Hazardous decomposition products:	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11. TOXICOLOGICAL INFORMATION

No adverse health effects are expected if the product is handled in accordance with this Safety Data Sheet.
If the product is mishandled and over exposure occurs, the following symptoms may arise:

Ingestion: May cause nausea, vomiting, diarrhoea and abdominal pain

Eye contact: Mild irritation

Skin contact: Mild irritation

Inhalation: May cause respiratory irritation

Acute toxicity: Not available

Chronic effects: Not available

SECTION 12. ECOLOGICAL INFORMATION

Toxicity:	No known significant effects or critical hazards.
Persistence/degradability:	Readily biodegradable in plants and soils. The product does not show any bioaccumulation phenomena.
Bioaccumulative potential:	No known significant effects or critical hazards.
Mobility:	This product may move with surface or groundwater flows because its water solubility is: high
Other adverse effects:	No known significant effects or critical hazards.

SECTION 13. DISPOSAL CONSIDERATIONS

Methods of disposal: The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14. TRANSPORT INFORMATION

Air: Not classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air

Marine: Not classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods (IMDG) Code

Road / Rail: Not classified as Dangerous Goods under NZS 5433:2012 Transport of Dangerous Good on Land.

SECTION 15. REGULATORY INFORMATION

Considered a Hazardous Substance according to the criteria of the New Zealand Hazardous Substances New Organisms legislation.

CLASSES:
Subclass 6.3 Category B - Substances that are mildly irritating to the skin.
Subclass 6.4 Category A - Substances that are irritating to the eye.
Subclass 9.3 Category C - Substances that are harmful to terrestrial vertebrates.

HAZARD STATEMENTS:
H316 Causes mild skin irritation
H320 Causes eye irritation
H433 Harmful to terrestrial vertebrates

SECTION 16. OTHER INFORMATION

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Safety Data Sheet

NON-Hazardous Chemical, NON-Dangerous Goods

1. MATERIAL AND SUPPLY COMPANY IDENTIFICATION

Product name: Sodium Bicarbonate

Synonyms
C-H-O3.Na
David Craig Sodium Bicarbonate
Deltrex
Food Additive 500
Na-H-CO3
Swift Brybicarb
baking soda
bicarbonate of soda
carbonic acid, monosodium salt
monosodium carbonate
soda mint
sodium acid carbonate

Product Code

Recommended use: Manufacture of many sodium salts; source of carbon dioxide; component of dry powder fire extinguishers, and also Soda-Acid extinguishers. Food additive 500; ingredient of baking powder, effervescent salines and beverages. A mild alkali, used medicinally in low doses in antacid mixes. Also available as an intravenous infusion.Available as Technical, Pure, Food and BP grades.

Supplier: Clark Products
Company No.:
Street Address: 75 Niven Street Onekawa
Napier 4110 New Zealand
Telephone: 06 8433163
Facsimile: 06 8432958
Email: orders@clarkproducts.co.nz

Emergency Telephone number: 0800 CHEMCALL (0800 243 6225)

2. HAZARDS IDENTIFICATION

Based on available information, this material is not classified as hazardous according to criteria of EPA New Zealand.

DANGEROUS GOOD CLASSIFICATION

Not classified as Dangerous Goods by the criteria of the "Australian Code for the Transport of Dangerous Goods by Road & Rail" and the "New Zealand NZS5433: Transport of Dangerous Goods on Land".

3. COMPOSITION INFORMATION

CHEMICAL ENTITY	CAS NO	PROPORTION
Sodium bicarbonate	144-55-8	>99 % (w/w)
		100%

4. FIRST AID MEASURES

If poisoning occurs, contact a doctor or Poisons Information Centre (Phone Australia 131 126, New Zealand 0800 764 766).

Inhalation: Remove victim from exposure - avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. Seek medical advice if effects persist.

Skin Contact: If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. If swelling, redness, blistering or irritation occurs seek medical assistance.

Eye contact: If in eyes wash out immediately with water. In all cases of eye contamination it is a sensible precaution to seek medical advice.

Ingestion: Rinse mouth with water. If swallowed, do NOT induce vomiting. Give a glass of water to drink. Never give anything by the mouth to an unconscious patient. If vomiting occurs give further water. Seek medical advice.

PPE for First Aiders: Wear safety shoes, overalls, gloves, apron, chemical goggles, respirator. Use with adequate ventilation. If inhalation risk exists wear organic vapour/particulate respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716. Available information suggests that gloves made from butyl rubber, nitrile rubber should be suitable for intermittent contact. However, due to variations in glove construction and local conditions, the user should make a final assessment. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

Notes to physician: Treat symptomatically.

5. FIRE FIGHTING MEASURES

Hazchem Code: Not applicable.

Suitable extinguishing media: If material is involved in a fire use water fog (or if unavailable fine water spray), alcohol resistant foam, standard foam, dry agent (carbon dioxide, dry chemical powder).

Specific hazards: Non-combustible material.

Fire fighting further advice: Not applicable.

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILLS
Wear protective equipment to prevent skin and eye contamination. Avoid inhalation of vapours or dust. Wipe up with absorbent (clean rag or paper towels). Collect and seal in properly labelled containers or drums for disposal.

LARGE SPILLS
Clear area of all unprotected personnel. Slippery when spilt. Avoid accidents, clean up immediately. Wear protective equipment to prevent skin and eye contamination and the inhalation of dust. Work up wind or increase ventilation. Cover with damp absorbent (inert material, sand or soil). Sweep or vacuum up, but avoid generating dust. Collect and seal in properly labelled containers or drums for disposal. If contamination of crops, sewers or waterways has occurred advise local emergency services.

Dangerous Goods - Initial Emergency Response Guide No: Not applicable

7. HANDLING AND STORAGE

Handling: Avoid eye contact and repeated or prolonged skin contact. Avoid inhalation of dust.

Storage: Store in a cool, dry, well-ventilated place and out of direct sunlight. Store away from foodstuffs. Store away from incompatible materials described in Section 10. Store away from sources of heat and/or ignition. Keep container standing upright. Keep containers closed when not in use - check regularly for spills.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

National occupational exposure limits: No value assigned for this specific material by WorkSafe New Zealand.

Biological Limit Values: As per the WorkSafe New Zealand the ingredients in this material do not have a Biological Limit Allocated.

Engineering Measures: Natural ventilation should be adequate under normal use conditions..

Personal Protection Equipment: SAFETY SHOES, OVERALLS, GLOVES, APRON, CHEMICAL GOGGLES, RESPIRATOR.

Personal protective equipment (PPE) must be suitable for the nature of the work and any hazard associated with the work as identified by the risk assessment conducted.

Barrier cream, skin cleansing cream

Wear safety shoes, overalls, gloves, apron, chemical goggles, respirator. Use with adequate ventilation. If inhalation risk exists wear organic vapour/particulate respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716. Available information suggests that gloves made from butyl rubber, nitrile rubber should be suitable for intermittent contact. However, due to variations in glove construction and local conditions, the user should make a final assessment. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

Hygiene measures: Keep away from food, drink and animal feeding stuffs. When using do not eat, drink or smoke. Wash hands prior to eating, drinking or smoking. Avoid contact with clothing. Avoid eye contact and repeated or prolonged skin contact. Avoid inhalation of dust. Ensure that eyewash stations and safety showers are close to the workstation location.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form:	Solid
Colour:	white
Odour:	odourless

Solubility:	in water. Insoluble in alcohol
Solubility in water:	Miscible
Specific Gravity:	(water) 2.16
Density:	N_Av
Relative Vapour Density (air=1):	N_App
Vapour Pressure (20 °C):	N_App
Flash Point (°C):	N_App
Flammability Limits (%):	N_App
Autoignition Temperature (°C):	N_App
Melting Point/Range (°C):	70
Boiling Point/Range (°C):	N_App
Decomposition Point (°C):	270
pH:	(1% solution) 8.4
Viscosity:	N_App

Evaporation Rate (n-Butyl acetate=1):	N_App
Total VOC (g/Litre):	N_Av
% Volatile by Volume:	Nil
Molecular Weight:	84.0

(Typical values only - consult specification sheet)
N Av = Not available, N App = Not applicable

10. STABILITY AND REACTIVITY

Chemical stability: This material is thermally stable when stored and used as directed.

Conditions to avoid: Elevated temperatures and sources of ignition.

Incompatible materials: Oxidising agents.

Hazardous decomposition products: Oxides of carbon and nitrogen, smoke and other toxic fumes.

Hazardous reactions: No known hazardous reactions.

11. TOXICOLOGICAL INFORMATION

No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are:

Acute Effects

Inhalation: Material may be an irritant to mucous membranes and respiratory tract.

Skin contact: Contact with skin may result in irritation.

Ingestion: Swallowing can result in nausea, vomiting and irritation of the gastrointestinal tract.

Eye contact: May be an eye irritant. Exposure to the dust may cause discomfort due to particulate nature. May cause physical irritation to the eyes.

Acute toxicity

Inhalation: This material has been classified as non-hazardous. Acute toxicity estimate (based on ingredients): LC50 > 5.0 mg/L

Skin contact: This material has been classified as non-hazardous. Acute toxicity estimate (based on ingredients): >5,000 mg/Kg bw

Ingestion: This material has been classified as non-hazardous. Acute toxicity estimate (based on ingredients): >5,000 mg/Kg bw

Corrosion/Irritancy: Eye: this material has been classified as not corrosive or irritating to eyes. Skin: this material has been classified as not corrosive or irritating to skin.

Sensitisation: Inhalation: this material has been classified as not a respiratory sensitiser. Skin: this material has been classified as not a skin sensitiser.

Aspiration hazard: This material has been classified as non-hazardous.

Specific target organ toxicity (single exposure): This material has been classified as non-hazardous.

Chronic Toxicity

Mutagenicity: This material has been classified as non-hazardous.

Carcinogenicity: This material has been classified as non-hazardous.

Reproductive toxicity (including via lactation):

This material has been classified as non-hazardous.

Specific target organ toxicity (repeat exposure): This material has been classified as non-hazardous.

12. ECOLOGICAL INFORMATION

Avoid contaminating waterways.

Acute aquatic hazard: This material has been classified as non-hazardous. Acute toxicity estimate (based on ingredients): >100 mg/L

Long-term aquatic hazard: This material has been classified as non-hazardous. Non-rapidly or rapidly degradable substance for which there are adequate chronic toxicity data available OR in the absence of chronic toxicity data, Acute toxicity estimate (based on ingredients): >100 mg/L, where the substance is not rapidly degradable and/or BCF < 500 and/or log K_{ow} < 4.

Ecotoxicity in the soil environment: This material has been classified as non-hazardous.

Ecotoxicity to terrestrial vertebrates: This material has been classified as non-hazardous.

Ecotoxicity to terrestrial invertebrates: This material has been classified as non-hazardous.

Ecotoxicity: No information available.

Persistence and degradability: No information available.

Bioaccumulative potential: No information available.

Mobility: No information available.

13. DISPOSAL CONSIDERATIONS

Persons conducting disposal, recycling or reclamation activities should ensure that appropriate personal protection equipment is used, see "Section 8. Exposure Controls and Personal Protection" of this SDS.

If possible material and its container should be recycled. If material or container cannot be recycled, dispose in accordance with local, regional, national and international Regulations.

14. TRANSPORT INFORMATION

ROAD AND RAIL TRANSPORT
Not classified as Dangerous Goods by the criteria of the "Australian Code for the Transport of Dangerous Goods by Road & Rail" and the "New Zealand NZS5433: Transport of Dangerous Goods on Land".

MARINE TRANSPORT
Not classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.

AIR TRANSPORT
Not classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air.

15. REGULATORY INFORMATION

This material is not subject to the following international agreements:
Montreal Protocol (Ozone depleting substances)
The Stockholm Convention (Persistent Organic Pollutants)
The Rotterdam Convention (Prior Informed Consent)
Basel Convention (Hazardous Waste)
International Convention for the Prevention of Pollution from Ships (MARPOL)

- All components of this product are listed on or exempt from the New Zealand Inventory of Chemical (NZIoC).

16. OTHER INFORMATION

Reason for issue: Minor Text Changes

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.