

PRODUCT

HI-TEX 82230

EMERGENCY TELEPHONE NUMBER(S)

1 800 033111 (Australia) 0800 734607 (New Zealand)

CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME:

1.

HI-TEX 82230

COMPANY IDENTIFICATION:

Nalco Australia Pty Ltd 2 Anderson Street Botany N.S.W. 2019

Australia

A.B.N. 41 000 424 788 TEL: +61 2 9316 3000 FAX: +61 2 9666 5292

Nalco New Zealand Ltd

44 Cryers Road

East Tamaki, Auckland

New Zealand

TEL: +649 2745032 FAX: +649 2747924

EMERGENCY TELEPHONE NUMBER(S):

1 800 033111 (Australia)

0800 734607 (New Zealand)

Date issued :

07/20/2007

Version Number:

1.0

2. HAZARDS IDENTIFICATION

HAZARD CLASSIFICATION:

Not classified as hazardous according to the criteria of the National Occupational Health and Safety Commission (NOHSC). This product is not classified as a dangerous good according to national or international regulations.

SAFETY PHRASES

S24/25 - Avoid contact with skin and eyes.

3. COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL NAME

Ingredients determined not to be hazardous

CAS NO

% (w/w)

100

4. FIRST AID MEASURES

EYE CONTACT:

Get medical attention. Wipe or blot away excess material with clean cloth or paper towel. Wash affected areas thoroughly with water.

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SKIN CONTACT:

Wipe or blot away excess material with clean cloth or paper towel. Wash affected areas thoroughly with water. If symptoms develop, seek medical advice.

INGESTION:

Get medical attention. Do not induce vomiting: contains petroleum distillates and/or aromatic solvents. If conscious, washout mouth and give water to drink. If reflexive vomiting occurs, rinse mouth and repeat administration of water. Contact the Poison's Information Centre (eg Australia 13 1126; New Zealand 0800 764 766).

INHALATION:

Remove to fresh air, treat symptomatically. If symptoms develop, seek medical advice.

NOTE TO PHYSICIAN:

Based on the individual reactions of the patient, the physician's judgement should be used to control symptoms and clinical condition.

5. FIRE FIGHTING MEASURES

FLASH POINT:

Not flammable

EXTINGUISHING MEDIA:

Foam, Carbon dioxide, Dry powder, Other extinguishing agent suitable for Class B fires, For large fires, use water spray or fog, thoroughly drenching the burning material.

This product would not be expected to burn unless all the water is boiled away. The remaining organics may be ignitable. Use extinguishing media appropriate for surrounding fire. Water mist may be used to cool closed containers.

UNSUITABLE EXTINGUISHING MEDIA:

Do not use water unless flooding amounts are available.

FIRE AND EXPLOSION HAZARD:

Phase separation of the product may occur after prolonged storage. The top phase will be combustible hydrocarbon solvent. Water in contact with the product will cause slippery floor conditions. Empty product containers may contain product residue. Do not pressurize, cut, heat, weld, or expose containers to flame or other sources of ignition. May evolve oxides of carbon (COx) under fire conditions. May evolve oxides of nitrogen (NOx) under fire conditions.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTING :

In case of fire, wear a full face positive-pressure self contained breathing apparatus and protective suit.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS:

Restrict access to area as appropriate until clean-up operations are complete. Use personal protective equipment recommended in Section 8 (Exposure Controls/Personal Protection). Stop or reduce any leaks if it is safe to do so. Ventilate spill area if possible. Ensure clean-up is conducted by trained personnel only. Do not

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touch spilled material. Have emergency equipment (for fires, spills, leaks, etc.) readily available. Notify appropriate government, occupational health and safety and environmental authorities. Spill may be slippery.

METHODS FOR CLEANING UP:

SMALL SPILLS: Soak up spill with absorbent material. Place residues in a suitable, covered, properly labeled container. Wash affected area. LARGE SPILLS: Water in contact with the product will create a voluminous, slippery gel. Soak up as thoroughly as possible with inert absorbent material or sawdust. Do NOT hose down area until all possible traces of polymer are removed. Clean up promptly by scoop or vacuum. Dispose of material in compliance with regulations indicated in Section 13 (Disposal Considerations).

ENVIRONMENTAL PRECAUTIONS:

Do not contaminate surface water., Spilled product may pose a risk to the aquatic ecosystem if released., Prevent material from entering sewers or waterways.

HANDLING AND STORAGE 7.

HANDLING:

Do not get in eyes, on skin, on clothing. Do not take internally. Use with adequate ventilation. Avoid generating aerosols and mists. Keep the containers closed when not in use. Have emergency equipment (for fires, spills, leaks, etc.) readily available. Ensure all containers are labeled. Stir well prior to use.

STORAGE CONDITIONS:

Store in suitable labeled containers. Store the containers tightly closed. Store separately from oxidizers.

SUITABLE CONSTRUCTION MATERIAL:

Compatibility with Plastic Materials can vary; we therefore recommend that compatibility is tested prior to use.

EXPOSURE CONTROLS/PERSONAL PROTECTION 8.

OCCUPATIONAL EXPOSURE LIMITS

This product does not contain any substance that has an established exposure limit.

ENGINEERING MEASURES:

General ventilation is recommended. Use local exhaust ventilation if necessary to control airborne mist and vapor.

PERSONAL PROTECTION

GENERAL ADVICE:

The use and choice of personal protection equipment is related to the hazard of the product, the workplace and the way the product is handled. In general, we recommend as a minimum precaution that safety glasses with side-shields and workclothes protecting arms, legs and body be used. In addition any person visiting an area where this product is handled should at least wear safety glasses with side-shields.



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RESPIRATORY PROTECTION:

If significant mists, vapours or aerosols are generated an approved respirator is recommended, selected and used in accordance with AS/NZS 1715 and AS/NZS 1716. An organic vapor cartridge with dust/mist prefilter or supplied air may be used. In event of emergency or planned entry into unknown concentrations a positive pressure, full-facepiece SCBA should be used. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.

HAND PROTECTION:

When handling this product, the use of chemical gauntlets is recommended. The choice of work glove depends on work conditions and what chemicals are handled, but we have positive experience under light handling conditions using gloves made from PVC. Gloves should be replaced immediately if signs of degradation are observed. Breakthrough time not determined as preparation, consult PPE manufacturers.

SKIN PROTECTION:

Wear standard protective clothing. See general advice.

EYE PROTECTION:

When handling this product, the use of safety glasses with side shields is recommended.

HYGIENE RECOMMENDATIONS:

Use good work and personal hygiene practices to avoid exposure. Keep an eye wash fountain available. Keep a safety shower available. If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse. Always wash thoroughly after handling chemicals. When handling this product never eat, drink or smoke.

PHYSICAL AND CHEMICAL PROPERTIES 9.

Viscous liquid PHYSICAL STATE Opaque Off-white **APPEARANCE** Hydrocarbon ODOR No data available. рΗ No data available. VAPOR PRESSURE No data available. VAPOR DENSITY

SPECIFIC GRAVITY 1.09

No data available. **DENSITY** SOLUBILITY IN WATER Emulsifiable No data available. MELTING POINT No data available. **BOILING POINT** Not flammable **FLASH POINT** No data available. LOWER EXPLOSION LIMIT No data available. **UPPER EXPLOSION LIMIT AUTOIGNITION TEMPERATURE** No data available.

Note: These physical properties are typical values for this product and are subject to change.

STABILITY AND REACTIVITY 10.

STABILITY:

Stable under normal conditions.



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CONDITIONS TO AVOID:

Freezing temperatures. Avoid temperatures below 0 and above 93 degrees C which will cause polymer to precipitate.

INCOMPATIBLE MATERIALS:

Addition of water results in gelling. Contact with strong oxidizers (e.g. chlorine, peroxides, chromates, nitric acid, perchlorate, concentrated oxygen, permanganate) may generate heat, fires, explosions and/or toxic vapors.

HAZARDOUS DECOMPOSITION PRODUCTS:

Under fire conditions:

Oxides of carbon, Oxides of nitrogen

HAZARDOUS REACTIONS:

Hazardous polymerization will not occur.

11. TOXICOLOGICAL INFORMATION

OVERVIEW OF HEALTH HAZARDS

ACUTE HAZARDS - EYE CONTACT Can cause mild irritation.

ACUTE HAZARDS - SKIN CONTACT

May cause irritation with prolonged contact.

ACUTE HAZARDS - INGESTION

Not a likely route of exposure. There may be irritation to the gastro-intestinal tract with nausea and vomiting. If swallowed a jelly mass may form which in digestion may cause blockage. Can cause chemical pneumonia if aspirated into lungs following ingestion.

ACUTE HAZARDS - INHALATION

Not a likely route of exposure. Product mist or vapors may cause headache, nausea, vomiting, drowsiness, stupor or unconsciousness.

SUMMARY OF TOXICITY INFORMATION

ACUTE TOXICITY DATA:

No toxicity studies have been conducted on this product.

SENSITIZATION:

This product is not expected to be a sensitizer.

CARCINOGENICITY:

None of the substances in this product are listed as carcinogens by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP) or the American Conference of Governmental Industrial Hygienists (ACGIH).

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For additional information on the hazard of the preparation, please consult section 2 and 12.

HUMAN HAZARD CHARACTERIZATION

Based on our hazard characterization, the potential human hazard is: Low

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL EFFECTS:

The tests for (products or similar products) were performed in clean water as set forth by USEPA (EPA/600/4-90/027). In order to evaluate the potential toxicity mitigation, the tests for (representative polymers) were performed in environmentally relevant water with dissolved organic carbon (DOC: 4.5 mg/l). The toxicity of this product is due to an external mode of action, e.g., suffocation or immobilization. In the presence of suspended material, e.g., DOC, the polymers are bound to suspended material and the bioavailability is substantially reduced. As a result, the toxicity is expected to be lower. Under normal use and discharge conditions, the LC50 values of the representative polymers tested in the presence of DOC are expected to apply to this product. However, for large spills, the clean water data is more applicable.

MOBILITY AND BIOACCUMULATION POTENTIAL:

The environmental fate was estimated using a level III fugacity model embedded in the EPI (estimation program interface) Suite TM, provided by the US EPA. The model assumes a steady state condition between the total input and output. The level III model does not require equilibrium between the defined media. The information provided is intended to give the user a general estimate of the environmental fate of this product under the defined conditions of the models. If released into the environment this material is expected to distribute to the air, water and soil/sediment in the approximate respective percentages;

Air	Water	Soil/Sediment
<5%	10 - 30%	70 - 90%

The portion in water is expected to be soluble or dispersible.

This preparation or material is not expected to bioaccumulate.

PERSISTENCY AND DEGRADATION:

The organic portion of this preparation is expected to be poorly biodegradable.

ENVIRONMENTAL HAZARD AND EXPOSURE CHARACTERIZATION

Based on our hazard characterization, the potential environmental hazard is: Moderate

13. DISPOSAL CONSIDERATIONS

Dispose of wastes in an approved incinerator or waste treatment/disposal site, in accordance with all applicable regulations. Do not dispose of wastes in local sewer or with normal garbage.

Triple rinse (or equivalent) all containers and offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.



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SPECIAL PRECAUTIONS FOR LANDFILL OR INCINERATION:

No additional special precautions have been identified.

14. TRANSPORT INFORMATION

The information in this section is for reference only and should not take the place of a shipping paper (bill of lading) specific to an order. Please note that the proper Shipping Name / Hazard Class may vary by packaging, properties, and mode of transportation. Typical Proper Shipping Names for this product are as follows.

LAND TRANSPORT

Proper Shipping Name:

PRODUCT IS NOT REGULATED DURING

TRANSPORTATION

AIR TRANSPORT (ICAO/IATA)

Proper Shipping Name:

PRODUCT IS NOT REGULATED DURING

TRANSPORTATION

MARINE TRANSPORT (IMDG/IMO)

Proper Shipping Name:

PRODUCT IS NOT REGULATED DURING

TRANSPORTATION

REGULATORY INFORMATION 15.

AUSTRALIA:

NICNAS:

All substances in this product comply with the National Industrial Chemicals Notification & Assessment Scheme (NICNAS).

SUSDP SCHEDULE:

Not Listed

NEW ZEALAND:

HAZARDOUS SUBSTANCES AND ORGANISMS ACT

This product complies with Parts XI - XV of the HSNO Act (1996).

INTERNATIONAL CHEMICAL CONTROL LAWS

UNITED STATES:

The substances in this preparation are included on or exempted from the TSCA 8(b) Inventory (40 CFR 710)

The substances in this preparation are listed on the Domestic Substances List (DSL), are exempt, or have been reported in accordance with the New Substances Notification Regulations.

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EUROPE:

The substances in this preparation have been reviewed for compliance with the EINECS or ELINCS inventories.

JAPAN:

All substances in this product comply with the Law Regulating the Manufacture and Importation Of Chemical Substances and are listed on the Ministry of International Trade & industry List (MITI).

CHINA:

All substances in this product comply with the Chemical Control Law and are listed on the Inventory of Existing Chemical Substances China (IECSC).

KOREA:

All substances in this product comply with the Toxic Chemical Control Law (TCCL) and are listed on the Existing Chemicals List (ECL)

THE PHILIPPINES:

All substances in this product comply with the Republic Act 6969 (RA 6969) and are listed on the Philippine Inventory of Chemicals & Chemical Substances (PICCS).

16. OTHER INFORMATION

This product material safety data sheet provides health and safety information. The product is to be used in applications consistent with our product literature. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, exposures should be evaluated so that appropriate handling practices and training programs can be established to insure safe workplace operations. Please consult your local sales representative for any further information.

REFERENCES

Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices, American Conference of Governmental Industrial Hygienists, OH., (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.

Hazardous Substances Data Bank, National Library of Medicine, Bethesda, Maryland (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Man, Geneva: World Health Organization, International Agency for Research on Cancer.

Integrated Risk Information System, U.S. Environmental Protection Agency, Washington, D.C. (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

Annual Report on Carcinogens, National Toxicology Program, U.S. Department of Health and Human Services, Public Health Service.

Title 29 Code of Federal Regulations, Part 1910, Subpart Z, Toxic and Hazardous Substances, Occupational Safety and Health Administration (OSHA), (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.



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Registry of Toxic Effects of Chemical Substances, National Institute for Occupational Safety and Health, Cincinnati, OH, (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

Ariel Insight# (An integrated guide to industrial chemicals covered under major regulatory and advisory programs), North American Module, Western European Module, Chemical Inventories Module and the Generics Module (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.

The Teratogen Information System, University of Washington, Seattle, WA (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

REVISED INFORMATION: Signficant changes to regulatory or health information for this revision is indicated by a bar in the left-hand margin of the MSDS.

Prepared By: Nalco Asia Pacific, Safety, Health and Environment (SHE) Specialist, (02) 9316 3162

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PRODUCT

ULTRION(R) 8588

EMERGENCY TELEPHONE NUMBER(S)

1 800 033111 (Australia) 0800 734607 (New Zealand)

CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME:

ULTRION(R) 8588

APPLICATION:

POTABLE COAGULANT

COMPANY IDENTIFICATION:

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Australia

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Date issued:

08/08/2007

Version Number:

1 1

HAZARDS IDENTIFICATION 2.

HAZARD CLASSIFICATION: IRRITANT

Hazardous according to the criteria of the National Occupational Health and Safety Commission (NOHSC). This product is classified as a dangerous good according to national and/or international regulations.

RISK PHRASES

R36 - Irritating to eyes.

SAFETY PHRASES

S24/25 - Avoid contact with skin and eyes.

S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S28 - After contact with skin, wash immediately with plenty of water.

S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection.

COMPOSITION/INFORMATION ON INGREDIENTS 3.

CHEMICAL NAME Aluminum Hydroxychloride CAS NO

% (w/w) 10 - 30

1327-41-9

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The balance of the substances in this product are not classified as hazardous or are present below hazard cut-off limits

FIRST AID MEASURES

EYE CONTACT:

Immediately flush with plenty of water for at least 15 minutes. If symptoms develop, seek medical advice.

SKIN CONTACT:

Flush affected area with water. If symptoms develop, seek medical advice.

Get medical attention. Do not induce vomiting without medical advice. If conscious, washout mouth and give water to drink. If reflexive vomiting occurs, rinse mouth and repeat administration of water. Contact the Poison's Information Centre (eg Australia 13 1126; New Zealand 0800 764 766).

INHALATION:

Remove to fresh air, treat symptomatically. If symptoms develop, seek medical advice.

NOTE TO PHYSICIAN:

Based on the individual reactions of the patient, the physician's judgement should be used to control symptoms and clinical condition.

FIRE FIGHTING MEASURES 5.

FLASH POINT:

Not flammable

HAZCHEM CODE::

2X

EXTINGUISHING MEDIA:

Not expected to burn. Use extinguishing media appropriate for surrounding fire.

FIRE AND EXPLOSION HAZARD:

Not flammable or combustible. May evolve oxides of carbon (COx) under fire conditions. May evolve oxides of nitrogen (NOx) under fire conditions. Contact with reactive metals (e.g. aluminum) may result in the generation of flammable hydrogen gas.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTING:

In case of fire, wear a full face positive-pressure self contained breathing apparatus and protective suit.

ACCIDENTAL RELEASE MEASURES 6.

PERSONAL PRECAUTIONS:

Restrict access to area as appropriate until clean-up operations are complete. Use personal protective equipment recommended in Section 8 (Exposure Controls/Personal Protection). Stop or reduce any leaks if it is safe to do so. Ventilate spill area if possible. Ensure clean-up is conducted by trained personnel only. Do not touch spilled material. Have emergency equipment (for fires, spills, leaks, etc.) readily available. Notify appropriate government, occupational health and safety and environmental authorities.

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INITIAL EMERGENCY RESPONSE GUIDE NO: 37

METHODS FOR CLEANING UP:

SMALL SPILLS: Soak up spill with absorbent material. Place residues in a suitable, covered, properly labeled container. Wash affected area. LARGE SPILLS: Contain liquid using absorbent material, by digging trenches or by diking. Reclaim into recovery or salvage drums or tank truck for proper disposal. Contact an approved waste hauler for disposal of contaminated recovered material. Dispose of material in compliance with regulations indicated in Section 13 (Disposal Considerations).

ENVIRONMENTAL PRECAUTIONS:

Do not contaminate surface water.

7. HANDLING AND STORAGE

HANDLING:

Do not get in eyes, on skin, on clothing. Do not take internally. Use with adequate ventilation. Ensure all containers are labeled. Keep the containers closed when not in use. Avoid generating aerosols and mists.

STORAGE CONDITIONS:

Store in suitable labeled containers. Store the containers tightly closed.

SUITABLE CONSTRUCTION MATERIAL:

Compatibility with Plastic Materials can vary; we therefore recommend that compatibility is tested prior to use.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE LIMITS

Exposure guidelines have not been established for this product. Available exposure limits for the substance(s) are shown below.

Country/Source

Substance(s)

Category:

ppm mg/m3

AUSTRALIA

Aluminum (as Al), Soluble Salts as Al

TWA

NEW

Aluminum (as Al), Soluble Salts as Al

TWA

2

ZEALAND

USA

Aluminum (as Al), Soluble Salts as Al

ACGIH/TWA

2

ENGINEERING MEASURES:

General ventilation is recommended. Local exhaust ventilation may be necessary when dusts or mists are generated.

^{*} A skin notation refers to the potential significant contribution to overall exposure by the cutaneous route, including mucous membranes and the eyes.



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PERSONAL PROTECTION

GENERAL ADVICE:

The use and choice of personal protection equipment is related to the hazard of the product, the workplace and the way the product is handled. In general, we recommend as a minimum precaution that safety glasses with side-shields and workclothes protecting arms, legs and body be used. In addition any person visiting an area where this product is handled should at least wear safety glasses with side-shields.

RESPIRATORY PROTECTION:

If the occupational exposure limit is likely to be exceeded, an approved respirator must be selected and used in accordance with AS/NZS 1715 and AS/NZS 1716. A dust, mist, fume cartridge may be used. In event of emergency or planned entry into unknown concentrations a positive pressure, full-facepiece SCBA should be used. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.

HAND PROTECTION:

NEOPRENE, NITRILE, OR BUTYL GLOVES Gloves should be replaced immediately if signs of degradation are observed. Breakthrough time not determined as preparation, consult PPE manufacturers.

SKIN PROTECTION:

Wear standard protective clothing.

EYE PROTECTION:

When handling this product, the use of safety glasses with side shields is recommended.

HYGIENE RECOMMENDATIONS:

Use good work and personal hygiene practices to avoid exposure. Keep an eye wash fountain available. Keep a safety shower available. If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse. Always wash thoroughly after handling chemicals. When handling this product never eat, drink or smoke.



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PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE

Liquid

APPEARANCE

Colorless

ODOR

No data available.

pH (100 %)

VAPOR PRESSURE

No data available.

VAPOR DENSITY

No data available.

SPECIFIC GRAVITY

1.19 - 1.23 (23 °C)

DENSITY

No data available.

SOLUBILITY IN WATER MELTING POINT

Complete

BOILING POINT

No data available. No data available.

FLASH POINT

Not flammable

LOWER EXPLOSION LIMIT **UPPER EXPLOSION LIMIT**

No data available.

AUTOIGNITION TEMPERATURE

No data available. No data available.

Note: These physical properties are typical values for this product and are subject to change.

10. STABILITY AND REACTIVITY

STABILITY:

Stable under normal conditions. After 24 hours dilute solutions of less than 3% will start to hydrolyse to a white turbid solution.

CONDITIONS TO AVOID:

Avoid extremes of temperature.

INCOMPATIBLE MATERIALS:

Contact with strong oxidizers (e.g. chlorine, peroxides, chromates, nitric acid, perchlorate, concentrated oxygen, permanganate) may generate heat, fires, explosions and/or toxic vapors. Contact with strong alkalies (e.g. ammonia and its solutions, carbonates, sodium hydroxide (caustic), potassium hydroxide, calcium hydroxide (lime), cyanide, sulfide, hypochlorites, chlorites) may generate heat, splattering or boiling and toxic vapors. Contact with reactive metals (e.g. aluminum) may result in the generation of flammable hydrogen gas.

HAZARDOUS DECOMPOSITION PRODUCTS:

Under fire conditions:

Oxides of carbon, Oxides of nitrogen, HCI

HAZARDOUS REACTIONS:

Hazardous polymerization will not occur.

TOXICOLOGICAL INFORMATION 11.

OVERVIEW OF HEALTH HAZARDS

ACUTE HAZARDS - EYE CONTACT

Irritating, and may injure eye tissue if not removed promptly.

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ACUTE HAZARDS - SKIN CONTACT

May cause irritation with prolonged contact.

ACUTE HAZARDS - INGESTION

Not a likely route of exposure. There may be irritation to the gastro-intestinal tract with nausea and vomiting.

ACUTE HAZARDS - INHALATION

Not a likely route of exposure. Aerosols or product mist may irritate the upper respiratory tract.

SUMMARY OF TOXICITY INFORMATION

ACUTE TOXICITY DATA:

No toxicity studies have been conducted on this product.

SENSITIZATION:

This product is not expected to be a sensitizer.

CARCINOGENICITY:

None of the substances in this product are listed as carcinogens by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP) or the American Conference of Governmental Industrial Hygienists (ACGIH).

For additional information on the hazard of the preparation, please consult section 2 and 12.

HUMAN HAZARD CHARACTERIZATION

Based on our hazard characterization, the potential human hazard is: Low

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL EFFECTS:

No toxicity studies have been conducted on this product.

MOBILITY AND BIOACCUMULATION POTENTIAL:

The environmental fate was estimated using a level III fugacity model embedded in the EPI (estimation program interface) Suite TM, provided by the US EPA. The model assumes a steady state condition between the total input and output. The level III model does not require equilibrium between the defined media. The information provided is intended to give the user a general estimate of the environmental fate of this product under the defined conditions of the models. If released into the environment this material is expected to distribute to the air, water and soil/sediment in the approximate respective percentages;

Air	Water	Soil/Sediment	
<5%	30 - 50%	30 - 50%	

The portion in water is expected to be soluble or dispersible.

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PRODUCT

ULTRION(R) 8588

EMERGENCY TELEPHONE NUMBER(S)

1 800 033111 (Australia)

0800 734607 (New Zealand)

This preparation or material is not expected to bioaccumulate.

PERSISTENCY AND DEGRADATION:

Greater than 95% of this product consists of inorganic substances for which a biodegradation value is not applicable.

ENVIRONMENTAL HAZARD AND EXPOSURE CHARACTERIZATION

Based on our hazard characterization, the potential environmental hazard is: Moderate

13. DISPOSAL CONSIDERATIONS

Hazardous wastes must be transported by a licensed hazardous waste transporter and disposed of or treated in a properly licensed hazardous waste treatment, storage, disposal or recycling facility. Consult local, state, and federal regulations for specific requirements.

Triple rinse (or equivalent) all containers and offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

SPECIAL PRECAUTIONS FOR LANDFILL OR INCINERATION:

No additional special precautions have been identified.

14. TRANSPORT INFORMATION

The information in this section is for reference only and should not take the place of a shipping paper (bill of lading) specific to an order. Please note that the proper Shipping Name / Hazard Class may vary by packaging, properties, and mode of transportation. Typical Proper Shipping Names for this product are as follows.

LAND TRANSPORT

Proper Shipping Name:

CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.

Technical Name(s): Aluminum Hydroxychloride

UN/ID No: UN 3264

Hazard Class - Primary : 8
Packing Group : III
IERG No: 37

IERG No:: 37 HAZCHEM CODE:: 2X

SPECIAL PRECAUTIONS FOR USER: Dangerous goods of Class 8 (Acids) are incompatible in a

placard load with any of the following:

Class 1 Explosives

Class 4.3 Dangerous when wet substances

Class 5.1 Oxidising agents
Class 5.2 Organic peroxides
Class 6 Cyanides only

Class 7 Radioactive substances

and are incompatible with food or food packaging in any

quantity.



PRODUCT

ULTRION(R) 8588

EMERGENCY TELEPHONE NUMBER(S)

Aluminum Hydroxychloride

1 800 033111 (Australia)

0800 734607 (New Zealand)

AIR TRANSPORT (ICAO/IATA)

Proper Shipping Name:

CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.

Technical Name(s): UN/ID No:

UN 3264

Hazard Class - Primary:

8 Ш

Packing Group:

IATA Cargo Packing Instructions:

820

IATA Cargo Aircraft Limit:

60 L (Max net quantity per package)

IATA Passenger Packing Instructions:

Y818 / 818

IATA Passenger Aircraft Limit:

1 L / 5 L

MARINE TRANSPORT (IMDG/IMO)

Proper Shipping Name:

CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.

Technical Name(s):

Aluminum Hydroxychloride UN 3264

UN/ID No:

8

Hazard Class - Primary : Packing Group:

Ш

EmS-Nr.:

F-A, S-B

REGULATORY INFORMATION 15.

AUSTRALIA:

NICNAS:

All substances in this product comply with the National Industrial Chemicals Notification & Assessment Scheme (NICNAS).

SUSDP SCHEDULE:

Not Listed

NEW ZEALAND:

Group Standard Name:

Water Treatment Chemicals (Subsidiary Hazard)

Group Standard 2006

Group Standard Number:

HSR002684

INTERNATIONAL CHEMICAL CONTROL LAWS

JAPAN:

This product contains substance(s) which are not in compliance with the Law Regulating the Manufacture and Importation Of Chemical Substances and are not listed on the Ministry of International Trade & industry List (MITI).

CHINA:

All substances in this product comply with the Chemical Control Law and are listed on the Inventory of Existing Chemical Substances China (IECSC).

Nalco Australia Pty Ltd 2 Anderson Street • Botany N.S.W. 2019, Australia

TEL: +61 2 9316 3000 FAX: +61 2 9666 5292

Nalco New Zealand Ltd 44 Cryers Road • East Tamaki, Auckland, New Zealand

TEL: +649 2745032 FAX: +649 2747924

8 / 10



PRODUCT

ULTRION(R) 8588

EMERGENCY TELEPHONE NUMBER(S)

1 800 033111 (Australia) 0800 734607 (New Zealand)

KORFA

All substances in this product comply with the Toxic Chemical Control Law (TCCL) and are listed on the Existing Chemicals List (ECL)

THE PHILIPPINES:

All substances in this product comply with the Republic Act 6969 (RA 6969) and are listed on the Philippine Inventory of Chemicals & Chemical Substances (PICCS).

16. OTHER INFORMATION

This product material safety data sheet provides health and safety information. The product is to be used in applications consistent with our product literature. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, exposures should be evaluated so that appropriate handling practices and training programs can be established to insure safe workplace operations. Please consult your local sales representative for any further information.

REFERENCES

Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices, American Conference of Governmental Industrial Hygienists, OH., (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.

Hazardous Substances Data Bank, National Library of Medicine, Bethesda, Maryland (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Man, Geneva: World Health Organization, International Agency for Research on Cancer.

Integrated Risk Information System, U.S. Environmental Protection Agency, Washington, D.C. (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

Annual Report on Carcinogens, National Toxicology Program, U.S. Department of Health and Human Services, Public Health Service.

Title 29 Code of Federal Regulations, Part 1910, Subpart Z, Toxic and Hazardous Substances, Occupational Safety and Health Administration (OSHA), (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.

Registry of Toxic Effects of Chemical Substances, National Institute for Occupational Safety and Health, Cincinnati, OH, (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

Ariel Insight# (An integrated guide to industrial chemicals covered under major regulatory and advisory programs), North American Module, Western European Module, Chemical Inventories Module and the Generics Module (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.

The Teratogen Information System, University of Washington, Seattle, WA (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.



PRODUCT

ULTRION(R) 8588

EMERGENCY TELEPHONE NUMBER(S)

1 800 033111 (Australia) 0800 734607 (New Zealand)

REVISED INFORMATION: Signficant changes to regulatory or health information for this revision is indicated by a bar in the left-hand margin of the MSDS.

Prepared By: Nalco Asia Pacific, Safety, Health and Environment (SHE) Specialist, (02) 9316 3162

SESL BATCH #: 6575

JOB CONTROL SHEET. (JCS)

JOB CONTROL SHEET. (JCS)	10/5/00
Client/Company:	DATE: 1915/08 TIME: 16:45 SESC
GRAEME BURFOOT	Client #: 4987 New Client [
Contact Name: SAMPUT FROM	lors NICCEZ -ANZ)
Landline: 94394233. Mobile:	
Email:	Fax:
Project Name: Imported Topso!	Plend
Project Location:	
Client Job #: Client C	Order #:
Is there a SESL Quote? Yes / No SESL Quo	ote #:
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Report Format: Mail Email spreadshee	t Email-PDF Fax
Purpose of request:	
Who Collected Samples: Da	e Sampled:
On Site Charges: Site time: @ \$95/120	0//150/180/200/hour
Travel time: @ \$70/hor	<u>ur</u>
Sample TAT required: Urgent / Priority / Normal Resu	ilts Due:
Is a surcharge applicable? Yes No Appro	eved by: Date:
Consultant: 25	SRA Emailed:
Office Use Only	
Subcontractors Statement Required Sent Sent Sent Sent Sent Sent Sent Sent	Reporting Hours
Invoice #: Date Invoiced:	Invoice Amount:
	Issue Date: August 2007
SESL Record 1001 v 4.7 Page 1 of 2	Authorised by: Catherine Blake

SESL BATCH#: 6576 JOB CONTROL SHEET. (JCS) DATE: 22/198 TIME: 12:00 Client/Company: Regal (MOUS NON) Contact Name: _ Glen Bird ____ Mobile: _____ Landline: Email: Project Name: Project Location: Beare Reserve Elizabeth Bay Client Job #: Client Order #: Is there a SESL Quote? Yes / No SESL Quote #: -Recommendations Reporting Method: Results Mail Email PDF Fax Report Format: Email spreadsheet Purpose of request: Date Sampled: $\frac{77}{5}$ Who Collected Samples: ____ @\$9\$\120//150/180/200/hour On Site Charges: Site time: @ \$70/hour Travel time: Sample TAT required: Urgent / Priority (Normal Results Due:_____ Yes No Approved by: Date: Is a surcharge applicable? Consultant: SRA Emailed: Office Use Only Sent 🔲 Subcontractors Statement Required Reporting Hours ___

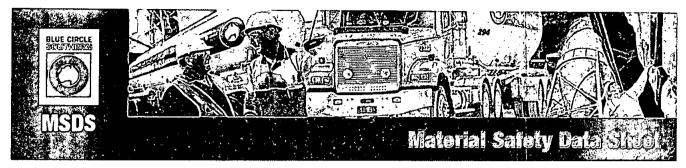
Issue Date: August 2007

Invoice Amount:

Invoice #:

Date Invoiced:

AMBER



PRODUCT NAME HYDRATED LIME (BCSC)

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Supplier Name BLUE CIRCLE SOUTHERN CEMENT LIMITED

Address Clunies Ross Street, Prospect, NSW, AUSTRALIA, 2148

Telephone (02) 9033 4000 Fax (02) 9033 4055 Emergency 1800 033 111

Emergency Email

Web Site http://www.bluecirclesoutherncement.com.au/

Synonym(s) LIME HYDRATE • SLAKED LIME • PLASTER LIME • CALCIUM HYDROXIDE • CALCIUM HYDRATE •

GENERAL PURPOSE LIME

Use(s) AGRICULTURAL LIMING • BINDER FOR MASONRY • NEUTRALISING AGENT • PH CONTROL • SOIL

STABILISATION • WATER TREATMENT

2. HAZARDS IDENTIFICATION

CLASSIFIED AS HAZARDOUS ACCORDING TO NOHSC CRITERIA

NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE

UN No. None Allocated Hazchem Code None Allocated Pkg Group None Allocated

DG Class None Allocated Subsidiary Risk(s) None Allocated EPG None Allocated

3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient	Formula	Conc.	CAS No.
CALCIUM HYDROXIDE	Ca-O-H2	94-98%	1305-62-0
MAGNESIUM OXIDE	Mg-O	<1%	1309-48-4
SILICA, CRYSTALLINE - QUARTZ	Si-O2	<1%	14808-60-7
CALCINED CLAY	Not Available	<5%	Not Available
CALCIUM CARBONATE	Ca-CO3	<2%	1317-65-3
CALCIUM OXIDE	Ca-O	<1%	1305-78-8
MAGNESIUM HYDROXIDE	H2-Mg-O2	<1%	1309-42-8

4. FIRST AID MEASURES

Eye Hold eyelids apart and flush continuously with water. Continue until advised to stop by the Poisons Information

Centre, a doctor, or for at least 15 minutes. Keep patient calm.

Inhalation If over exposure occurs leave exposure area immediately. If irritation persists, seek medical attention.

Skin Remove contaminated clothing and gently flush affected areas with water. Seek medical attention if irritation

develops. Launder clothing before reuse.

Ingestion DO NOT induce vomiting. Immediately wash out mouth with water, and then give water to drink. Seek medical

attention.

Advice to Treat symptomatically

Doctor



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Reviewed: 23 Jan 2007 Printed: 25 Jan 2007



PRODUCT NAME HYDRATED LIME (BCSC)

5. FIRE FIGHTING MEASURES

Flammability Non flammable. No fire or explosion hazard exists.

Fire and **Explosion** Non flammable. No fire or explosion hazard exists.

Extinguishing

Non flammable.

Hazchem Code None Allocated

6. ACCIDENTAL RELEASE MEASURES

Spillage

If spilt (bulk), contact emergency services if appropriate. Wear dust-proof goggles, PVA/rubber gloves, a Class P1 (Particulate) respirator (where an inhalation risk exists), coveralls and rubber boots. Clear area of all unprotected personnel. Prevent spill entering drains or waterways. Collect and place in sealable containers for disposal or reuse. Avoid generating dust.

7. STORAGE AND HANDLING

Storage

Store in cool, dry, well ventilated area, removed from moisture, oxidising agents (eg. hydrogen fluoride, phosphorus oxide), acids, ethanol, interhalogens (eg. chlorine trifluoride) and foodstuffs. Ensure packages are adequately labelled, protected from physical damage and sealed when not in use. Also store removed from maleic anhydride, nitroethane, nitromethane, nitroparaffins, nitropropene and phosphorus.

Handling

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Ventilation

Do not inhale dust/ powder. Use with adequate natural ventilation. Where a dust inhalation hazard exists, mechanical extraction ventilation is recommended. Maintain dust levels below the recommended exposure standard.

Exposure Standards CALCIUM HYDROXIDE (1305-62-0)

ES-TWA: 5 mg/m3 WES-TWA: 5 mg/m3

MAGNESIUM OXIDE (1309-48-4) ES-TWA: 10 mg/m3 (fume)

ES-TWA#: 10 mg/m3 Inspirable dust

WES-TWA: 10 mg/m3

SILICA, CRYSTALLINE - QUARTZ (14808-60-7)

ES-TWA: 0.1 mg/m3 (Silica Quartz, respirable, NOHSC) ES-TWA#: 0.1 mg/m3 (QLD); 0.15 mg/m3 (NSW)

WES-TWA: 0.2 mg/m3

CALCIUM CARBONATE (1317-65-3)

ES-TWA: 10 mg/m3 WES-TWA: 10 mg/m3 CALCIUM OXIDE (1305-78-8) ES-TWA: 2 mg/m3 (Peak level)

WES-TWA: 2 mg/m3

PPE

Wear dust-proof goggles and rubber or PVC gloves. Where an inhalation risk exists, wear a Class P1 (Particulate) Respirator. When using large quantities or where heavy contamination is likely, wear coveralls. At high dust levels, wear a Class P3 (Particulate) respirator or a Powered Air Purifying Respirator (PAPR) with Class P3 (Particulate) filter.







AMBER

PRODUCT NAME HYDRATED LIME (BCSC)

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance FINE WHITE POWDER Solubility (water) 1.6 g/L Odour **ODOURLESS** Specific Gravity 2.1 - 2.3

рΗ 13 % Volatiles NOT AVAILABLE

NOT AVAILABLE NON FLAMMABLE Vapour Pressure Flammability Vapour Density NOT AVAILABLE Flash Point NOT RELEVANT

Melting Point 580°C **Upper Explosion Limit** NOT RELEVANT **Boiling Point** 580°C **Lower Explosion Limit** NOT RELEVANT

Evaporation Rate NOT AVAILABLE NOT AVAILABLE **Autoignition Temperature**

350 - 600 kg/m3 (Bulk) Decomposition Temperature 580°C Density

10. STABILITY AND REACTIVITY

Incompatible with oxidising agents (eg. phosphorus oxide, hydrogen fluoride), ethanol, interhalogens (eg. chlorine Reactivity

trifluoride) and acids. Also incompatible with maleic anhydride, nitroethane, nitromethane, nitroparaffins,

nitropropene and phosphorus.

Decomposition

May evolve toxic gases if heated to decomposition.

Products

11. TOXICOLOGICAL INFORMATION

Health Hazard Summary

Corrosive. Use safe work practices to avoid eye - skin contact and dust generation-inhalation. Once water is added, an inhalation hazard is not anticipated. Chronic respiratory effects are not anticipated with over exposure at high levels due to the immediate irritant and/or corrosive effects. Crystalline silica is classified as carcinogenic to humans (IARC Group 1). Crystalline silica can cause silicosis (lung disease) with chronic over exposure, however due to low levels present and product application, adverse health effects associated with this ingredient

are greatly reduced. Eye

Corrosive. Severe irritant upon contact with powder/ dust. Over exposure may result in pain, redness, corneal

burns and ulceration with possible permanent damage.

Corrosive. Over exposure to powder - dust (when mixing) may result in severe mucous membrane irritation of Inhalation

nose and throat, coughing and bronchitis at high levels.

Corrosive. Prolonged and repeated contact with powder or wetted form may result in skin rash and dermatitis. Skin

Corrosive. Ingestion may result in ulceration and burns to the mouth and throat, nausea, vomiting, abdominal pain Ingestion

and diarrhoea.

CALCIUM HYDROXIDE (1305-62-0) **Toxicity Data**

LD50 (Ingestion): 7300 mg/kg (mouse) SILICA, CRYSTALLINE - QUARTZ (14808-60-7)

Carcinogenicity: Classified as a human carcinogen (IARC Group 1)

MAGNESIUM HYDROXIDE (1309-42-8) LD50 (Ingestion): 8500 mg/kg (rat, mouse)

12. ECOLOGICAL INFORMATION

Environment

The aquatic toxicity of calcium hydroxide is due to its alkalinity. It is neutralised to calcium carbonate by absorption of atmospheric carbon dioxide and is not degraded by oxidation. Calcium hydroxide does not bioaccumulate in the environment.

13. DISPOSAL CONSIDERATIONS

Waste Disposal

Reuse or recycle where possible. Alternatively, ensure product is covered with moist soil to prevent dust generation and dispose of to an approved landfill site. Contact the manufacturer for additional information.

Legislation

Dispose of in accordance with relevant local legislation.

14. TRANSPORT INFORMATION

NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE

CHEM ALERI

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Reviewed: 23 Jan 2007 Printed: 25 Jan 2007



PRODUCT NAME HYDRATED LIME (BCSC)

Shipping Name None Allocated

UN No. None Allocated

DG Class

None Allocated

Subsidiary Risk(s) None Allocated

None Allocated Hazchem Code

None Allocated

PG None Allocated

15. REGULATORY INFORMATION

Poison Schedule AICS

Pkg Group

A poison schedule number has not been allocated to this product using the criteria in the Standard for the

Uniform Scheduling of Drugs and Poisons (SUSDP).

All chemicals listed on the Australian Inventory of Chemical Substances (AICS).

16. OTHER INFORMATION

Additional Information

RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

ABBREVIATIONS:

mg/m3 - Milligrams per cubic metre

ppm - Parts Per Million

TWA/ES - Time Weighted Average or Exposure Standard.

CNS - Central Nervous System NOS - Not Otherwise Specified

pH - relates to hydrogen ion concentration - this value will relate to a scale of 0 - 14, where 0 is highly acidic and 14 is highly alkaline.

CAS# - Chemical Abstract Service number - used to uniquely identify chemical compounds.

M - moles per litre, a unit of concentration.

IARC - International Agency for Research on Cancer.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:

The recommendation for protective equipment contained within this Chem Alert report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:

It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a Chem Alert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

COLOUR RATING SYSTEM: RMT has assigned all Chem Alert reports a colour rating of Green, Amber or Red for the sole purpose of providing users with a quick and easy means of determining the hazardous nature of a product. Safe handling recommendations are provided in all Chem Alert reports so as to clearly identify how users can control the hazards and thereby reduce the risk (or likelihood) of adverse effects. As a general guideline, a Green colour rating indicates a low hazard, an Amber colour rating indicates a moderate hazard and a Red colour rating indicates a high hazard.

While all due care has been taken by RMT in the preparation of the Colour Rating System, it is intended as a guide only and RMT does not provide any warranty in relation to the accuracy of the Colour Rating System. As far as is lawfully possible, RMT accepts no liability or responsibility whatsoever for the actions or omissions of any person in reliance on the Colour Rating System.

Report Status

This document has been compiled by RMT on behalf of the manufacturer of the product and serves as the manufacturer's Material Safety Data Sheet ('MSDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer.

While RMT has taken all due care to include accurate and up-to-date information in this MSDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this MSDS.



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RMT

Reviewed: 23 Jan 2007 Printed: 25 Jan 2007

AMBER

PRODUCT NAME HYDRATED LIME (BCSC)

Prepared By

Risk Management Technologies 5 Ventnor Ave, West Perth Western Australia 6005 Phone: +61 8 9322 1711 Fax: +61 8 9322 1794 Email: info@rmt.com.au Web: www.rmt.com.au

> MSDS Date: 23 January 2007 **End of Report**

