

MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION OF PRODUCT AND COMPANY

Product: Monotect Grout – Part A
Company: Ronacrete (Far East) Ltd., 16/F, No. 3 Lockhart Rd,
Wanchai, Hong Kong SAR
Tel/Fax: +852 2865 5872 / +852 2865 5568

2. COMPOSITION

Ingredient	CAS number	Proportion
Water	7732-18-5	HIGH
Sodium Silicate	1344-09-8	HIGH

Proportion (% weight/weight): VHIGH >60, HIGH 30 – 60, MED 10 – 29, LOW 1 – 9, VLOW <1

3. FIRST AID MEASURES

Notes to physician: Treat symptomatically.

Ingestion: Rinse mouth with water. Give large quantities of water to drink. DO NOT induce vomiting. Seek immediate medical assistance.

Inhalation: Move subject to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek medical attention.

Skin contact: Immediately flush contaminated skin with water for at least 15 minutes. Remove contaminated clothing and wash before re-use. Thoroughly clean shoes before reuse to avoid slipping. Seek medical attention.

Eye contact: Immediately irrigate with copious quantities of water for at least 15 minutes lifting eyelids occasionally. Seek immediate medical assistance.

4. FIRE FIGHTING MEASURES

Specific hazards: Not flammable. Reactions with incompatible materials will accelerate at higher temperature. See section 7 below for possible incompatible materials,

Suitable extinguishing media: Use extinguishing media appropriate for surrounding fire.

Required special equipment for fire fighters: Chemical goggles, body covering protective clothing, chemical gloves and rubber non-slip boots.

Fire fighting further advice: Not classified as flammable. Spilled material may be extremely slippery. May produce hydrogen gas in contact with incompatible metals. See section 7 below.

5. ACCIDENTAL RELEASE MEASURES**For minor spillage:**

1. Wear skin and eye protection.
2. Treat spillage with solid media (eg sand, sawdust or chemical binder).
3. Care should be taken as area of spillage will become very slippery.
4. Remove and dispose of residues according to local authority regulations.

For major spillage:

1. Clear area of all unprotected personnel
2. Prevent run off into drains and waterways.
3. Recover as much liquid as possible.

MATERIAL SAFETY DATA SHEET

4. Treat remaining liquid with solid media
5. Remove solid material and dispose of in landfill or incinerate in accordance with appropriate regulations.
6. Wash down area with excess water.
Care must be taken as area of spillage will become extremely slippery.

6. HANDLING AND STORAGE

Handling: Avoid skin, eye and clothing contact. Avoid inhalation of spray mist. Wear appropriate personal protective equipment. Keep containers closed. Promptly clean residue from closures and exterior of packaging with a damp cloth. Promptly clean up spills and avoid slip hazards.

Storage: Store in clean plastic or steel containers. Recommended storage temperature 0 – 95°C Keep from freezing. Do not store in glass, aluminium, fibreglass, copper, brass, zinc or galvanised containers. Will gel and generate heat when in contact with acids. May react with ammonium salts and evolve ammonia gas. Flammable hydrogen gas may be produced in contact with aluminium, tin, lead and zinc. Keep away from incompatible materials.

7. EXPOSURE CONTROLS/PERSONAL PROTECTION

National occupational exposure limits:
No values assigned for this specific material by the National Occupational Health and Safety Commission (NOHSC Australia).

8. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odour:	Odourless clear to translucent colourless to straw coloured liquid
Specific gravity (20° C):	1.39 to 1.41
Viscosity:	10 – 60 CPS
% Solids by weight:	42 - 46%
pH:	11 – 11.5
Solubility:	Soluble in water
Boiling point (°C):	100° C (Water)
Flash point (°C):	Non Combustible
Flammability limits (%):	Not Applicable
Autoignition Temp (°C):	Not Applicable
Vapour pressure (20 °C):	17 mm Hg (Water)
Vapour density:	<1 (Water)
Melting point (°C):	Not Available
Decomposition point (°C):	Not Applicable
Sublimation point (°C):	Not Applicable
Evaporation rate:	Not Applicable

9. STABILITY AND REACTIVITY

This product is considered stable when stored in plastic or steel containers between 0°C and 95°C. Material is strongly alkali and will react with acids to produce heat and a gel. It may react with ammonium salts to produce ammonia gas. Hydrogen gas may be produce in contact with aluminium, tin, lead and zinc. Will etch glass if not removed immediately.

10. TOXICOLOGICAL INFORMATION

No Adverse health effects expected if the product is used in accordance with this MSDS. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are:

Eye contact: Moderate irritation expected.

Skin contact: Irritation generally occurs when the product saturates clothing especially at places of abrasion and contact such as the cuffs and collar.

MATERIAL SAFETY DATA SHEET

Inhalation: Inhalation of vapours is generally not irritating, however inhalation of mists is likely to create irritation or burning to the respiratory tract.

Acute toxicity / Chronic toxicity: No LD50 data available for this product. However for 100% sodium silicate solid: Oral LD50 (rat): 1500 mg/kg – 3200 mg/kg. The acute oral toxicity was from non specific causes. This product contains less than 40% Sodium silicate.

11. ECOLOGICAL INFORMATION

Avoid contaminating waterways. High pH of undiluted material is extremely toxic to aquatic organisms. The material is not persistent in aquatic systems. Diluted material rapidly depolymerises to yield dissolved silica that is indistinguishable from naturally occurring silica. The material does not bioaccumulate except in species that use silica as a structural element.

12. DISPOSAL CONSIDERATIONS

Refer to Local authority. Solid material can be disposed of in land fill in accordance with local, state and Federal government regulations.

13. REGULATORY INFORMATION

This material is Hazardous according to the criteria of NOHSC (Worksafe Australia). Xi – Irritant.

This material is not classified as Dangerous Goods or regulated for transport.

Risk Phrases:

R20/22 Harmful by inhalation and if swallowed.

R36/37/38 Irritating to eyes, respiratory system and skin.

R34 Causes burns.

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.

14. OTHER INFORMATION

This MSDS summarises at the date of issue our best knowledge of health and safety hazard information for this product, and in particular how to safely handle and use the product in the workplace. Each user must, prior to usage, review this MSDS in the context of how the user intends to handle and use the product in the workplace.

If clarification or further information is needed to ensure that an appropriate assessment can be made, the user should contact this company.

MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION OF PRODUCT AND COMPANY

Product: Monotect Grout – Part B
Company: Ronacrete (Far East) Ltd., 16/F, No. 3 Lockhart Rd,
Wanchai, Hong Kong SAR
Tel/Fax: +852 2865 5872 / +852 2865 5568

2. COMPOSITION

Ingredient	CAS number	Proportion
Water	7732-18-5	VHIGH
Ethyl Acetate	141-78-6	LOW
Dimethyl Glutamate	1119-40-0	VLOW
Dimethyl Succinate	106-65-0	VLOW
Dimethyl Adipate	627-93-0	VLOW

Proportion (% weight/weight): VHIGH >60, HIGH 30 – 60, MED 10 – 29, LOW 1 – 9, VLOW <1

3. FIRST AID MEASURES

Notes to physician: Treat symptomatically. May cause slight irritation

Ingestion: Rinse mouth with water.

Inhalation: Move subject to fresh air.

Skin contact: Flush contaminated skin with water.

Eye contact: Irrigate with quantities of water.

4. FIRE FIGHTING MEASURES

Specific hazards: Not flammable.

Suitable extinguishing media: Use extinguishing media appropriate for surrounding fire.

Required special equipment for fire fighters: Use equipment suitable for surrounding fire.

Fire fighting further advice: Not classified as flammable.

5. ACCIDENTAL RELEASE MEASURES

For minor spillage:

5. Wear skin and eye protection.
6. Treat spillage with solid media (eg sand, sawdust or chemical binder).
7. Remove and dispose of residues according to local authority regulations.

For major spillage:

3. Clear area of all unprotected personnel and ensure area is well ventilated
4. Prevent run off into drains and waterways.
5. Recover as much liquid as possible.
6. Treat remaining liquid with solid media
7. Wash down area with excess water.

MATERIAL SAFETY DATA SHEET

6. HANDLING AND STORAGE

Handling: Avoid skin, eye and clothing contact. Avoid inhalation of spray mist. Wear appropriate personal protective equipment. Keep containers closed. Promptly clean up spills and avoid slip hazards.

Storage: Store in clean plastic or steel containers. Recommended storage temperature 0 – 95°C Keep from freezing.

7. EXPOSURE CONTROLS/PERSONAL PROTECTION

National occupational exposure limits:
No values assigned for this specific material by the National Occupational Health and Safety Commission (NOHSC Australia).

8. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odour:	translucent to colourless liquid with sweet odour.
Specific gravity (20° C):	0.95 – 1.05
Viscosity:	<100
% Solids by weight:	-
pH:	Not Available
Solubility:	Soluble in water
Boiling point (°C):	100° C (Water)
Flash point (°C):	Non Combustible
Flammability limits (%):	Not Applicable
Autoignition Temp (°C):	Not Applicable
Vapour pressure (20 °C):	17 mm Hg (Water)
Vapour density:	<1 (Water)
Melting point (°C):	Not Available
Decomposition point (°C):	Not Applicable
Sublimation point (°C):	Not Applicable
Evaporation rate:	Not Applicable

9. STABILITY AND REACTIVITY

This product is considered stable when stored in plastic or steel containers between 0°C and 95°C.

10. TOXICOLOGICAL INFORMATION

No Adverse health effects expected if the product is used in accordance with this MSDS. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are:

Eye contact: Slight irritation expected.

Skin contact: Irritation may occur when the product saturates clothing especially at places of abrasion and contact such as the cuffs and collar.

Inhalation: Inhalation of vapours is generally not irritating, however inhalation of mists may create irritation.

Acute toxicity / Chronic toxicity: No LD50 data available for this product. For Ingredients listed above LD50 (Oral Rat) is > 5000 mg/kg

MATERIAL SAFETY DATA SHEET

11. ECOLOGICAL INFORMATION

Avoid contaminating waterways. Ingredients are not persistent in the aquatic environment and unlikely to be toxic at concentrations present in this product.

12. DISPOSAL CONSIDERATIONS

Refer to Local authority.

13. REGULATORY INFORMATION

This material is not classified as Hazardous according to the criteria of NOHSC (Worksafe Australia).

This material is not classified as Dangerous Goods or regulated for transport.

Risk Phrases:

Safety Phrases:

14. OTHER INFORMATION

This MSDS summarises at the date of issue our best knowledge of health and safety hazard information for this product, and in particular how to safely handle and use the product in the workplace. Each user must, prior to usage, review this MSDS in the context of how the user intends to handle and use the product in the workplace.

If clarification or further information is needed to ensure that an appropriate assessment can be made, the user should contact this company.

MATERIAL SAFETY DATA SHEET**1. IDENTIFICATION OF PRODUCT AND COMPANY**

Product: Monotect Grout – Part C
Company: Ronacrete (Far East) Ltd., 16/F, No. 3 Lockhart Rd,
Wanchai, Hong Kong SAR
Tel/Fax: +852 2865 5872 / +852 2865 5568

2. COMPOSITION

Ingredient	CAS number	Proportion
Lithium Carbonate	554-13-2	VHIGH

Proportion (% weight/weight): VHIGH >60, HIGH 30 – 60, MED 10 – 29, LOW 1 – 9, VLOW <1

3. FIRST AID MEASURES

Notes to physician: Treat symptomatically. Lithium produces a generalised slowing of the electroencephalogram, the anion gap may increase in severe cases. Emesis (or lavage if the patient is obtunded or convulsing) is indicated for ingestions exceeding 40mg(Li)/Kg. Overdose may delay absorption, decontamination measures may be more effective several hours after cathartics. Charcoal is not useful. No clinical data available to guide the administration of catharsis. Haemodialysis significantly increases lithium clearance, indications for haemodialysis include patients with serum levels >4mEq/L.

Ingestion: Rinse mouth with water. Give water to drink provided subject is conscious. DO NOT induce vomiting. Seek medical assistance.

Inhalation: Move subject to fresh air. If rapid recovery does not occur seek medical assistance.

Skin contact: Wash contaminated skin with plenty of soap and water. Remove contaminated clothing and wash before re-use. Seek medical advice if irritation persists.

Eye contact: Immediately irrigate with copious quantities of water for at least 15 minutes. Seek medical attention if irritation persists.

4. FIRE FIGHTING MEASURES

Specific hazards: Non-flammable solid. Incompatible with oxidising agents, acids, fluorine, aluminium, zinc and sources of ignition. Not considered a significant fire risk however container may burn.

Suitable extinguishing media: Use extinguishing media appropriate for surrounding fire.

Required special equipment for fire fighters: Self-contained breathing apparatus and full protective gear.

Fire fighting further advice: Non-flammable solid.

5. ACCIDENTAL RELEASE MEASURES**For minor spillage:**

1. Wear skin and eye protection.
2. Avoid generating dust and treat spillage with dust binding media and sweep or vacuum up.
3. Avoid run off and entry of material into drains or sewers.
4. Remove and dispose of residues according to local authority regulations.

MATERIAL SAFETY DATA SHEET

For major spillage:

1. Clear area of all unprotected personnel
2. Wear full protective equipment including splash suit, air supplied mask, gloves, boots and eye protection.
3. Prevent run off into sewers, drains and waterways.
4. Avoid generating dust and treat spillage with dust binding material and remove material. Sweep or vacuum up residue
Dispose waste in accordance with appropriate regulations.

6. HANDLING AND STORAGE

Handling: Avoid skin and eye contact and inhalation of dust. Keep area well ventilated and avoid generation of dust and static discharge. Observe good industrial and personal hygiene practices. Wash thoroughly after handling

Storage: Store indoors in a dry, well-ventilated area. Keep containers tightly sealed when not in use. Store away from incompatible materials such as oxidising agents, acids, fluorine, aluminium, zinc and sources of ignition. Keep out of direct sunlight. This material is not classified a dangerous for transport according to The Australian Code for the Transport of Dangerous Goods By Road and Rail.

7. EXPOSURE CONTROLS/PERSONAL PROTECTION

National occupational exposure limits: No values assigned for this specific material by the National Occupational Health and Safety Commission (Worksafe Australia).

Biological Limit Values: Currently, there are no Biological Exposure Indices (BEIs) for this product or components contained within this product.

Engineering Controls: A system of local and/or general exhaust is recommended to keep exposure levels as low as possible. Local exhaust ventilation is generally preferred to reduce dispersion in the workplace.

Personal Protection: RESPIRATOR: Wear an approved P1 or P2 respirator if ventilation is inadequate (EN141). EYES: Safety Glasses with side shields (EN166). HANDS: Wear rubber gloves (EN374). CLOTHING: Protective coveralls, PVC apron and safety footwear (EN465).

8. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odour:	White fluffy alkaline powder
Specific gravity (20° C):	2.11
pH:	11.4 (1% Solution)
Solubility:	Slightly soluble in water, Soluble in dilute acid, insoluble in alcohol
Boiling point (°C):	Decomposes @ 1310° C
Flash point (°C):	Non Combustible
Flammability limits (%):	Not Applicable
Autoignition Temp (°C):	Not Applicable
Vapour pressure (20 °C):	Not Applicable
Vapour density:	Not Applicable
Melting point (°C):	723° C
Decomposition point (°C):	1310° C
Sublimation point (°C):	Not Applicable
Evaporation rate:	Not Applicable

MATERIAL SAFETY DATA SHEET

9. STABILITY AND REACTIVITY

Chemical Stability: This product is considered stable under recommended storage conditions.

Conditions to Avoid: Avoid excessive heat, direct sunlight, moisture and high temperatures.

Incompatible materials: Store away from incompatible materials such as oxidising agents, acids, fluorine, aluminium, zinc.

Hazardous Decomposition Products: No hazardous decomposition products are created in normal use or extreme conditions.

Hazardous Reactions: Hazardous polymerisation will not occur with this product.

10. TOXICOLOGICAL INFORMATION

No Adverse health effects expected if the product is used in accordance with this MSDS. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are:

Eye contact: Highly discomforting to the eyes. Capable of causing a mild, temporary redness of the conjunctiva (similar to wind burn), temporary impairment of vision and/or transient eye damage or ulceration.

Skin contact: Discomforting to the skin. Capable of causing skin reactions which may lead to dermatitis. Open cuts, abraded or irritated skin should not be exposed to this material. Toxic effects may result from skin absorption.

Inhalation: Inhalation of dust may be discomforting to the upper respiratory tract and may be harmful if inhaled.

Ingestion: This material is moderately discomforting to the gastro-intestinal tract and may be harmful if swallowed. Lithium in large doses can cause dizziness and weakness. If a low salt diet is in place kidney damage can result. There may be dehydration, weight loss, skin effects and thyroid disturbances. Central nervous system effects include slurred speech, blurred vision, numbness, inco-ordination and convulsions. Repeated exposure can cause diarrhoea, vomiting, tremor, muscle jerks and very brisk reflexes.

Acute toxicity / Chronic toxicity: Lacrimation, altered sleep times, hallucinations, distorted perception, toxic psychosis, excitement, ataxia, respiratory depression, allergic dermatitis (after systemic administration), foetotoxicity and foetolethality and specific abnormalities have been recorded.

Oral TDLo Human: 4111mg/kg

Oral LD50 (rat): 525mg/kg

11. ECOLOGICAL INFORMATION

Avoid contaminating waterways.

Ecotoxicity: No data available.

Persistence and Degradation: No information available for persistence or degradability of this material

Bioaccumulative Potential: No information available on bioaccumulation of this product.

12. DISPOSAL CONSIDERATIONS

Refer to federal, state and local authorities.

MATERIAL SAFETY DATA SHEET

13. REGULATORY INFORMATION

This material is Hazardous according to the criteria of the National Occupational Health and Safety Council (Worksafe Australia) and ASCC.

Xn – Harmful

Risk Phrases:

R22	Harmful if swallowed
R33	Danger of cumulative effects

Safety Phrases:

S13	Keep away from food, drink and animal feeding stuffs
S22	Do not breathe dust
S36	Wear suitable protective clothing
S40	To clean the floor and all objects contaminated by this material, use water and detergent.
S46	If swallowed, seek medical advice immediately and show this container or label.

This material is not classified as Dangerous Goods for transport by Air, Road, Rail or Sea.

14. OTHER INFORMATION

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If clarification or further information is needed to ensure that an appropriate assessment can be made, the user should contact this company.
