



1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 Product identifier

Product name ENVIRO CATALYST
Synonyms BURNT LIME • CALCIUM CARBONATE • CALCIUM OXIDE • FINE LIME • HYDRATED LIME

1.2 Uses and uses advised against

Uses ALUMINA REFINING • MINERAL PROCESSING • PH CONTROL • SEWAGE TREATMENT • SOIL STABILISATION • SUGAR REFINING • WATER TREATMENT

1.3 Details of the supplier of the product

Supplier name MICRONISED MINERAL SOLUTIONS PTY LTD
Address 10 Campion Rd, East Arm, NT, 0828, AUSTRALIA
Telephone 08 8947 1872; 1800 127 406
Email admin@micronisedminerals.com
Website <http://micronisedminerals.com.au/>

1.4 Emergency telephone numbers

Emergency 08 8947 1872

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

GHS classifications Acute Toxicity: Oral: Category 4
Acute Toxicity: Skin: Category 4
Skin Corrosion/Irritation: Category 2
Serious Eye Damage / Eye Irritation: Category 1
Acute Toxicity: Inhalation: Category 4
Specific Target Organ Systemic Toxicity (Single Exposure): Category 3
Carcinogenicity: Category 1A
Specific Target Organ Systemic Toxicity (Repeated Exposure): Category 2

2.2 GHS Label elements

Signal word DANGER

Pictograms



Hazard statements

H302 Harmful if swallowed.
H312 Harmful in contact with skin.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H350 May cause cancer.
H373 May cause damage to organs through prolonged or repeated exposure.
AUH014 Reacts violently with water

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Prevention statements

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P264	Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

Response statements

P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P304 + P340	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313	IF exposed or concerned: Get medical advice/ attention.
P310	Immediately call a POISON CENTER or doctor/physician.
P321	Specific treatment is advised - see first aid instructions.
P330	Rinse mouth.
P362	Take off contaminated clothing and wash before re-use.

Storage statements

P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.

Disposal statements

P501	Dispose of contents/container in accordance with relevant regulations.
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2.3 Other hazards

No information provided.

3. COMPOSITION/ INFORMATION ON INGREDIENTS

3.1 Substances / Mixtures

Ingredient	CAS Number	EC Number	Content
CALCIUM OXIDE	1305-78-8	215-138-9	65 to 74%
CARBON DIOXIDE	124-38-9	204-696-9	24%
QUARTZ (CRYSTALLINE SILICA)	14808-60-7	238-878-4	<2%
SILICON DIOXIDE	7631-86-9	231-545-4	1.3%
ALUMINIUM OXIDE	1344-28-1	215-691-6	0.53%
IRON OXIDE (FE2O3)	1309-37-1	215-168-2	0.39%
MAGNESIUM OXIDE	1309-48-4	215-171-9	2%

4. FIRST AID MEASURES

4.1 Description of first aid measures

Eye	If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.
Inhalation	If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.
Skin	If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.
Ingestion	For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). Rinse mouth out with water and give plenty of water to drink.
First aid facilities	Eye wash facilities and safety shower should be available.

4.2 Most important symptoms and effects, both acute and delayed

Calcium oxide is not considered acutely toxic via the oral, dermal, or inhalation route. The substance is classified as irritating to skin and the respiratory tract, with a potential risk of serious damage to the eye. Adverse systemic effects are not anticipated with local effects (due to alkaline pH) the major health hazard.

4.3 Immediate medical attention and special treatment needed

Treat symptomatically.

5. FIRE FIGHTING MEASURES

5.1 Extinguishing media

Do not use water for fire fighting as contact will increase heat generation. Use dry agent or carbon dioxide extinguishers only.

5.2 Special hazards arising from the substance or mixture

Non flammable. May generate heat in contact with water.

5.3 Advice for firefighters

Evacuate area and contact emergency services. Do NOT use water. May generate heat upon contact with water; sufficient heat may be generated to ignite surrounding combustible materials.

5.4 Hazchem code

None allocated.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. Contact emergency services where appropriate.

6.2 Environmental precautions

Prevent product from entering drains and waterways.

6.3 Methods of cleaning up

Contain spillage, then collect and place in suitable containers for reuse or disposal. Avoid generating dust.

6.4 Reference to other sections

See Sections 8 and 13 for exposure controls and disposal.

7. HANDLING AND STORAGE

7.1 Precautions for safe 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.

7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well ventilated area, removed from water or moisture, incompatible substances and foodstuffs. Ensure packages or storage tanks are adequately labelled, protected from physical damage and sealed when not in use. Caution: Swells when moist and may burst containers. Protect from moisture.

7.3 Specific end uses

No information provided.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Exposure standards

Ingredient	Reference	TWA		STEL	
		ppm	mg/m ³	ppm	mg/m ³
Aluminium oxide (a)	SWA (AUS)	--	10	--	--
Calcium oxide	SWA (AUS)	--	2	--	--
Carbon dioxide	SWA (AUS)	5000	9000	30000	54000
Carbon dioxide in coal mines	SWA (AUS)	12500	22500	30000	54000
Fumed silica (respirable dust)	SWA (AUS)	--	2	--	--
Iron oxide fume (Fe ₂ O ₃) (as Fe)	SWA (AUS)	--	5	--	--
Magnesium oxide (fume)	SWA (AUS)	--	10	--	--
Quartz (respirable dust)	SWA (AUS)	--	0.1	--	--

Biological limits

No biological limit values have been entered for this product.

8.2 Exposure controls

Engineering controls Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended. Maintain dust levels below the recommended exposure standard.

PPE

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



9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	WHITE TO OFF-WHITE POWDER
Odour	ODOURLESS
Flammability	NON FLAMMABLE
Flash point	NOT RELEVANT
Boiling point	NOT AVAILABLE
Melting point	> 2500°C
Evaporation rate	NOT AVAILABLE
pH	12 (Approximately)
Vapour density	NOT AVAILABLE
Specific gravity	2.4 to 2.8
Solubility (water)	REACTS
Vapour pressure	NOT AVAILABLE
Upper explosion limit	NOT RELEVANT
Lower explosion limit	NOT RELEVANT
Partition coefficient	NOT AVAILABLE
Autoignition temperature	NOT AVAILABLE
Decomposition temperature	580°C
Viscosity	NOT AVAILABLE
Explosive properties	NOT AVAILABLE
Oxidising properties	NOT AVAILABLE
Odour threshold	NOT AVAILABLE

9.2 Other information

Bulk density	800 kg/m ³ to 1100 kg/m ³
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10. STABILITY AND REACTIVITY

10.1 Reactivity

Calcium oxide reacts exothermically with water to form Calcium dihydroxide. May absorb carbon dioxide from the surrounding atmosphere to form calcium carbonate.

10.2 Chemical stability

Stable under recommended conditions of storage. Moisture sensitive.

10.3 Possibility of hazardous reactions

Hazardous polymerization is not expected to occur.

10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources. Avoid exposure to moisture.

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10.5 Incompatible materials

Incompatible with hydrofluoric acid (violently), maleic anhydride, nitroparaffins and phosphorus pentoxide. Reacts (potentially vigorously) with water generating heat and evolving calcium hydroxide.

10.6 Hazardous decomposition products

May evolve toxic gases if heated to decomposition.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity Harmful if swallowed, in contact with skin, and/or if inhaled.

Information available for the ingredients:

Ingredient	Oral LD50	Dermal LD50	Inhalation LC50
CARBON DIOXIDE	--	--	470000 ppm/30M (rat)
SILICON DIOXIDE	3160 mg/kg (rat)	--	--
ALUMINIUM OXIDE	> 5000 mg/kg (rat)	--	--
IRON OXIDE (FE2O3)	> 5000 mg/kg (rat)	--	> 210 mg/m ³ /2wks (rat)

Skin Causes skin irritation. Contact with powder or wetted form may result in irritation and skin dryness. May cause alkaline burns and allergic dermatitis.

Eye Causes serious eye damage. Contact may result in severe irritation, lacrimation, pain and redness. May cause alkaline burns.

Sensitisation Not classified as causing skin or respiratory sensitisation.

Mutagenicity Not classified as a mutagen.

Carcinogenicity Crystalline silica is classified as carcinogenic to humans (IARC Group 1). However, there is a body of evidence supporting the fact that increased cancer risk would be limited to people already suffering from silicosis.

Reproductive Not classified as a reproductive toxin.

STOT - single exposure Over exposure to dust may result in severe mucous membrane irritation of nose and throat, coughing and bronchitis.

STOT - repeated exposure Repeated exposure may result in bronchitis and shortness of breath. Repeated exposure to respirable silica may result in pulmonary fibrosis (silicosis). Silicosis is a fibronodular lung disease caused by deposition in the lungs of fine respirable particles of crystalline silica. Principal symptoms of silicosis are coughing and breathlessness.

Aspiration Not classified as causing aspiration.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Harmful effect due to pH shift. Forms corrosive and highly reactive mixtures with water.

12.2 Persistence and degradability

No information provided.

12.3 Bioaccumulative potential

This product is not expected to bioaccumulate through food chains in the environment.

12.4 Mobility in soil

This product has low mobility in soil.

12.5 Other adverse effects

No information provided.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Waste disposal For small amounts; VERY SLOWLY, hydrate (add water) and then neutralise with dilute hydrochloric acid (e.g. 6N HCl) to pH of 7-8. Dilute and flush to sewer or landfill. For large amounts material can be readily recycled. Contact the manufacturer/supplier for additional information (if required).

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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, IMDG OR IATA

	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
14.1 UN Number	None allocated.	None allocated.	None allocated.
14.2 Proper Shipping Name	None allocated.	None allocated.	None allocated.
14.3 Transport hazard class	None allocated.	None allocated.	None allocated.
14.4 Packing Group	None allocated.	None allocated.	None allocated.

14.5 Environmental hazards

No information provided.

14.6 Special precautions for user

Hazchem code None allocated.

15. REGULATORY INFORMATION**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

Poison schedule	A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).	
Classifications	Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals. The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].	
Hazard codes	Carc.	Carcinogen
	F+	Extremely flammable
	Xi	Irritant
	Xn	Harmful
Risk phrases	R14	Reacts violently with water.
	R20/21/22	Harmful by inhalation, in contact with skin and if swallowed.
	R37/38	Irritating to respiratory system and skin.
	R41	Risk of serious damage to eyes.
	R48/20	Harmful: danger of serious damage to health by prolonged exposure through inhalation.
	R49	May cause cancer by inhalation.
Safety phrases	S22	Do not breathe dust.
	S24/25	Avoid contact with skin and eyes.
	S29	Do not empty into drains.
	S36/37/39	Wear suitable protective clothing, gloves and eye/face protection.
	S38	In case of insufficient ventilation, wear suitable respiratory equipment.
Inventory listings	AUSTRALIA: AICS (Australian Inventory of Chemical Substances) All components are listed on AICS, or are exempt.	

16. OTHER INFORMATION

Additional information	EXPOSURE STANDARDS - TIME WEIGHTED AVERAGES: Exposure standards are established on the premise of an 8 hour work period of normal intensity, under normal climatic conditions and where a 16 hour break between shifts exists to enable the body to eliminate absorbed contaminants. In the following circumstances, exposure standards must be reduced: Strenuous work conditions; hot, humid climates; high altitude conditions; extended shifts (which increase the exposure period and shorten the period of recuperation).
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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.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:

The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, 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: form of product; 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 report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

Abbreviations

ACGIH	American Conference of Governmental Industrial Hygienists
CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
CNS	Central Nervous System
EC No.	EC No - European Community Number
EMS	Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)
GHS	Globally Harmonized System
GTEPG	Group Text Emergency Procedure Guide
IARC	International Agency for Research on Cancer
LC50	Lethal Concentration, 50% / Median Lethal Concentration
LD50	Lethal Dose, 50% / Median Lethal Dose
mg/m ³	Milligrams per Cubic Metre
OEL	Occupational Exposure Limit
pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm	Parts Per Million
STEL	Short-Term Exposure Limit
STOT-RE	Specific target organ toxicity (repeated exposure)
STOT-SE	Specific target organ toxicity (single exposure)
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
SWA	Safe Work Australia
TLV	Threshold Limit Value
TWA	Time Weighted Average

Report status

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier 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, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, 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 SDS.

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