



## 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](mailto: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

#### Physical Hazards

Reacts violently with water

#### Health Hazards

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 Toxicity (Single Exposure): Category 3 (Respiratory Irritation)  
Carcinogenicity: Category 1A  
Specific Target Organ Toxicity (Repeated Exposure): Category 2

#### Environmental Hazards

Not classified as an Environmental Hazard

### 2.2 GHS Label elements

**Signal word** DANGER

**Pictograms**



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### Hazard statements

AUH014	Reacts violently with water
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.

### 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/hearing protection.

### Response statements

P302 + P352	IF ON SKIN: Wash with plenty of water.
P304 + P340	IF INHALED: Remove person to fresh air and keep 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 CENTRE or doctor/physician.
P321	Specific treatment is advised - see first aid instructions.
P330	Rinse mouth.
P362 + P364	Take off contaminated clothing and wash it before reuse.

### 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 (SILICA, AMORPHOUS)	7631-86-9	231-545-4	1.3%
ALUMINIUM OXIDE	1344-28-1	215-691-6	0.53%
IRON OXIDE (FE <sub>2</sub> O <sub>3</sub> )	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

<b>Eye</b>	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.
<b>Inhalation</b>	If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.
<b>Skin</b>	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.
<b>Ingestion</b>	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.

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**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.

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## **5. FIRE FIGHTING MEASURES**

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### **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.

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## **6. ACCIDENTAL RELEASE MEASURES**

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### **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.

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## **7. HANDLING AND STORAGE**

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### **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 <sup>3</sup>	ppm	mg/m <sup>3</sup>
Aluminium & compounds	SWA [Proposed]	--	1	--	--
Aluminium oxide (a)	SWA [AUS]	--	10	--	--
Calcium oxide	SWA [AUS]	--	2	--	--
Calcium oxide	SWA [Proposed]	--	1	--	--
Carbon dioxide	SWA [AUS]	5000	9000	30000	54000
Carbon dioxide in coal mines	SWA [AUS]	12500	22500	30000	54000
Carbon dioxide in coal mines	SWA [Proposed]	5000	9000	30000	54000
Fumed silica (respirable dust)	SWA [AUS]	--	2	--	--
Iron oxide fume (Fe <sub>2</sub> O <sub>3</sub> ) (as Fe)	SWA [AUS]	--	5	--	--
Magnesium oxide (fume)	SWA [AUS]	--	10	--	--
Quartz (respirable dust)	SWA [AUS]	--	0.05	--	--
Quartz (respirable dust) (Precautionary advice)	WorkSafe VIC	--	0.02	--	--

### 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.

### 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) / N95 respirator. At high dust levels, wear a Powered Air Purifying Respirator (PAPR) with Class P3 (particulate) / N100 filter or a Class P3 (particulate) / N100 respirator.



## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

<b>Appearance</b>	WHITE TO OFF-WHITE POWDER
<b>Odour</b>	ODOURLESS
<b>Flammability</b>	NON FLAMMABLE
<b>Flash point</b>	NOT RELEVANT
<b>Boiling point</b>	NOT AVAILABLE
<b>Melting point</b>	> 2500°C
<b>Evaporation rate</b>	NOT AVAILABLE
<b>pH</b>	12 (Approximately)
<b>Vapour density</b>	NOT AVAILABLE
<b>Relative density</b>	2.4 to 2.8
<b>Solubility (water)</b>	REACTS
<b>Vapour pressure</b>	NOT AVAILABLE
<b>Upper explosion limit</b>	NOT RELEVANT
<b>Lower explosion limit</b>	NOT RELEVANT
<b>Partition coefficient</b>	NOT AVAILABLE
<b>Autoignition temperature</b>	NOT AVAILABLE 580°C

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### 9.1 Information on basic physical and chemical properties

Decomposition temperature	
Viscosity	NOT AVAILABLE
Explosive properties	NOT AVAILABLE
Oxidising properties	NOT AVAILABLE
Odour threshold	NOT AVAILABLE

### 9.2 Other information

Bulk density	800 kg/m <sup>3</sup> to 1100 kg/m <sup>3</sup>
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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 polymerisation is not expected to occur.

### 10.4 Conditions to avoid

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

### 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 or if inhaled. Ingestion may result in gastrointestinal irritation, nausea, vomiting, abdominal pain and diarrhoea.

#### Information available for the ingredients:

Ingredient	Oral LD50	Dermal LD50	Inhalation LC50
ALUMINIUM OXIDE	> 5000 mg/kg (rat)	--	--
IRON OXIDE (FE2O3)	> 5000 mg/kg (rat)	--	> 210 mg/m <sup>3</sup> /2wks (rat)

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

**Eye** 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**

The methods for determining the biological degradability are not applicable to inorganic substances.

**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).

**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)
<b>14.1 UN Number</b>	None allocated.	None allocated.	None allocated.
<b>14.2 Proper Shipping Name</b>	None allocated.	None allocated.	None allocated.
<b>14.3 Transport hazard class</b>	None allocated.	None allocated.	None allocated.
<b>14.4 Packing Group</b>	None allocated.	None allocated.	None allocated.

**14.5 Environmental hazards**

Not a Marine Pollutant.

**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** Safe Work Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals (GHS Revision 7).

**Inventory listings** **AUSTRALIA: AIIC (Australian Inventory of Industrial Chemicals)**  
All components are listed on AIIC, 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 <sup>3</sup>	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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