

1. IDENTIFICATION

Product Name	Calcium sulphate, dihydrate
Other Names	Gypsum; Magnesia White; Terra Alba 1
Uses	Used in the food industry as solidifying agent, desiccant, anti-caking agent, stabilizer, dough improver and leavening agent; Used in brewing as a filter and helps in the fermentation process; Used in Tofu manufacturing as a solidifying agent of bean product.
Chemical Family	No Data Available
Chemical Formula	CaSO ₄ .2H ₂ O
Chemical Name	Sulfuric acid, calcium salt, dihydrate
Product Description	No Data Available

Contact Details of the Supplier of this Safety Data Sheet

Organisation	Location	Telephone
Redox Pty Ltd	2 Swettenham Road Minto NSW 2566 Australia	+61-2-97333000
Redox Pty Ltd	11 Mayo Road Wiri Auckland 2104 New Zealand	+64-9-2506222
Redox Inc.	3960 Paramount Boulevard Suite 107 Lakewood CA 90712 USA	+1-424-675-3200
Redox Chemicals Sdn Bhd	Level 2, No. 8, Jalan Sapir 33/7 Seksyen 33, Shah Alam Premier Industrial Park 40400 Shah Alam Sengalor, Malaysia	+60-3-5614-2111

Emergency Contact Details

For emergencies only; DO NOT contact these companies for general product advice.

Organisation	Location	Telephone
Poisons Information Centre	Westmead NSW	1800-251525 131126
Chemcall	Australia	1800-127406 +64-4-9179888
Chemcall	Malaysia	+64-4-9179888
Chemcall	New Zealand	0800-243622 +64-4-9179888
National Poisons Centre	New Zealand	0800-764766
CHEMTREC	USA & Canada	1-800-424-9300 CN723420 +1-703-527-3887

2. HAZARD IDENTIFICATION

Poisons Schedule (Aust) Not Scheduled

Globally Harmonised System

Hazard Classification NOT hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Signal Word None

National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification NOT Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Calcium sulphate, dihydrate	CaSO ₄ .2H ₂ O	10101-41-4	>=98 %
Crystalline Silica (total Quartz)	SiO ₂	14808-60-7	<0.1 %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed	IF SWALLOWED: Rinse mouth, then drink plenty of water. Get medical advice/attention if you feel unwell.
Eye	IF IN EYES: Immediately flush eyes with running water for several minutes, holding eyelids open and occasionally lifting the upper and lower lids. Remove contact lenses if present and easy to do. Continue rinsing for at least 15 minutes. If eye irritation persists, get medical advice/attention. Do not rub eyes.
Skin	IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. If skin irritation occurs, get medical advice/attention.
Inhaled	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing until recovered. If respiratory symptoms persist, get medical advice/attention.
Advice to Doctor	Treat symptomatically.
Medical Conditions Aggravated by Exposure	Pre-existing upper respiratory and lung diseases (such as bronchitis, emphysema, asthma) and pre-existing skin disorders (such as rashes, dermatitis) may be aggravated by exposure.

5. FIRE FIGHTING MEASURES

General Measures	If safe to do so, move undamaged containers from fire area. Cool container with water spray until well after fire is out.
Flammability Conditions	Non-combustible; Material does not burn.
Extinguishing Media	If material is involved in a fire, use extinguishing media appropriate for surrounding fire.
Fire and Explosion Hazard	No information available.
Hazardous Products of Combustion	Fire or heat may produce irritating and/or toxic fumes, including Calcium oxide (CaO) and Sulphur dioxide (SO ₂) above 1,450 °C.
Special Fire Fighting Instructions	Contain runoff from fire control water - Runoff may pollute waterways.
Personal Protective Equipment	Wear self-contained breathing apparatus (SCBA) in combination with normal firefighting clothing (full fire kit).
Flash Point	No Data Available
Lower Explosion Limit	No Data Available
Upper Explosion Limit	No Data Available

Auto Ignition Temperature	No Data Available
Hazchem Code	No Data Available

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	Ensure adequate ventilation. Do not touch or walk through spilled material. Avoid dust formation. Avoid breathing dust and contact with eyes, skin and clothing.
Clean Up Procedures	Collect material (sweep up/shovel) and place it into suitable, labelled containers for recovery or disposal (see SECTION 13); if appropriate, moisten first to prevent dusting. If a vacuum is used to collect dust, use an industrial vacuum cleaner with a high efficiency air filter. Do not use compressed air for clean up.
Containment	Stop leak if safe to do so – Prevent entry into waterways, drains or confined areas.
Decontamination	May clog drains; However, trace amounts of residue can be flushed to a drain, using plenty of water.
Environmental Precautionary Measures	Avoid release to the environment.
Evacuation Criteria	Spill or leak area should be isolated immediately. Keep unauthorised personnel away.
Personal Precautionary Measures	Use personal protective equipment as required (see SECTION 8).

7. HANDLING AND STORAGE

Handling	Safety showers and eyewash facilities should be provided within the immediate work area for emergency use. Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Minimise dust generation and accumulation. Avoid breathing dust and contact with eyes, skin and clothing. Use personal protective equipment as required; In case of inadequate ventilation, wear respiratory protection (see SECTION 8).
Storage	Store at room temperature in a dry and well-ventilated place. Keep container tightly closed when not in use. Protect from moisture/humidity (product is hygroscopic). Keep away from incompatible materials (see SECTION 10).
Container	Keep in the original container.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	No specific exposure standards are available for this product. For dusts from solid substances without specific occupational exposure standards: - Safe Work Australia Exposure Standard (Nuisance dusts): 8 hr TWA = 10 mg/m ³ (measured as inhalable dust). - New Zealand WES (Particulates not otherwise classified): TWA = 10 mg/m ³ (total); TWA = 3 mg/m ³ (respirable). IMPURITY: Crystalline silica (respirable dust): - Safe Work Australia Exposure Standard: TWA = 0.1 mg/m ³ .
Exposure Limits	No Data Available
Biological Limits	No information available.
Engineering Measures	Provide ventilation sufficient to control airborne dust levels especially respirable crystalline Silica. A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.
Personal Protection Equipment	- Respiratory protection: Not normally required. In case of inadequate ventilation, wear respiratory protection. Recommended: Type P1 dust masks. Use respirators and components tested and approved under appropriate government standards. - Eye/face protection: Wear appropriate eye protection to avoid eye contact. Recommended: Safety glasses or goggles. Use equipment for eye protection tested and approved under appropriate government standards. - Hand protection: Handle with gloves. Recommended: Nitrile rubber. - Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. Recommended: For brief contact, no precautions other than clean body-covering clothing should be needed; Wear protective clothing to prevent repeated or prolonged skin contact. Choose body protection in relation to its type, to the concentration and amount of hazardous substances, and to the specific work-place.
Special Hazards Precautions	Barrier creams or skin lotion may be applied to face, neck, wrist and hands when skin is exposed to help prevent drying of skin.

Work Hygienic Practices

Do not eat, drink or smoke when using his product. ash thoroughly after handling. Take off contaminated clothing and wash before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid
Appearance	Powder
Odour	Low to no odour
Colour	White to off-white
pH	~7
Vapour Pressure	No Data Available
Relative Vapour Density	No Data Available
Boiling Point	No Data Available
Melting Point	No Data Available
Freezing Point	No Data Available
Solubility	Slightly soluble in water (~0.21 g/100 ml)
Specific Gravity	2.3 - 2.5 (H ₂ O = 1)
Flash Point	No Data Available
Auto Ignition Temp	No Data Available
Evaporation Rate	No Data Available
Bulk Density	~45 - 150 lb/ft ³
Corrosion Rate	No Data Available
Decomposition Temperature	1,450 °C
Density	No Data Available
Specific Heat	No Data Available
Molecular Weight	~172 g/mol
Net Propellant Weight	No Data Available
Octanol Water Coefficient	No Data Available
Particle Size	Varies
Partition Coefficient	No Data Available
Saturated Vapour Concentration	No Data Available
Vapour Temperature	No Data Available
Viscosity	No Data Available
Volatile Percent	Zero
VOC Volume	Zero
Additional Characteristics	No information available.
Potential for Dust Explosion	No information available.
Fast or Intensely Burning Characteristics	No information available.
Flame Propagation or Burning Rate of Solid Materials	No information available.
Non-Flammables That Could Contribute Unusual Hazards to a Fire	No information available.
Properties That May Initiate or Contribute to Fire Intensity	Non-combustible; Material does not burn.
Reactions That Release Gases or Vapours	Decomposes above 1,450 °C to Calcium oxide (CaO) and Sulphur dioxide (SO ₂).
Release of Invisible Flammable Vapours and Gases	No information available.

10. STABILITY AND REACTIVITY

General Information	No information available.
Chemical Stability	Stable under recommended storage conditions.
Conditions to Avoid	Avoid dust formation. Protect from moisture/humidity.
Materials to Avoid	Incompatible/reactive with strong oxidising agents.
Hazardous Decomposition Products	Decomposes above 1,450 °C to Calcium oxide (CaO) and Sulphur dioxide (SO ₂).
Hazardous Polymerisation	Will not occur.

11. TOXICOLOGICAL INFORMATION

General Information	<p>Information on possible routes of exposure:</p> <ul style="list-style-type: none">- Ingestion: May cause temporary irritation to the gastrointestinal tract, especially the stomach.- Eye contact: Airborne dust or direct contact can cause mechanical irritation of eyes.- Skin contact: Direct, prolonged or repeated contact with the skin may cause irritation.- Inhalation: Dust exposures generated during the handling of the product may irritate eyes, skin, nose, throat and upper respiratory tract; May cause coughing, sneezing and nasal irritation. Labored breathing may occur after excessive exposure. <p>Chronic effects: IMPURITY: Respirable crystalline Silica (CAS No. 14808-60-7), in the form of quartz or cristobalite, is classified by the IARC Monographs as carcinogenic to humans (Group 1). Exposures to respirable crystalline Silica are not expected during the normal use of this product; however, actual levels must be determined by workplace hygiene testing. Prolonged and repeated exposure to airborne free respirable crystalline Silica can result in lung disease (silicosis) and/or lung cancer.</p>
Carcinogen Category	None

12. ECOLOGICAL INFORMATION

Ecotoxicity	Not considered harmful to aquatic life.
Persistence/Degradability	No information available.
Mobility	No information available.
Environmental Fate	Avoid release to the environment.
Bioaccumulation Potential	No information available.
Environmental Impact	No Data Available

13. DISPOSAL CONSIDERATIONS

General Information	Dispose of contents/container in accordance with local/regional/national regulations.
Special Precautions for Land Fill	No information available.

14. TRANSPORT INFORMATION

Land Transport (Australia)
ADG Code

Proper Shipping Name	Calcium sulphate, dihydrate
Class	No Data Available
Subsidiary Risk(s)	No Data Available No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for LAND transport.

Land Transport (Malaysia)

ADR Code

Proper Shipping Name	Calcium sulphate, dihydrate
Class	No Data Available
Subsidiary Risk(s)	No Data Available No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for LAND transport.

Land Transport (New Zealand)

NZS5433

Proper Shipping Name	Calcium sulphate, dihydrate
Class	No Data Available
Subsidiary Risk(s)	No Data Available No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for LAND transport.

Land Transport (United States of America)

US DOT

Proper Shipping Name	Calcium sulphate, dihydrate
Class	No Data Available
Subsidiary Risk(s)	No Data Available No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for LAND transport.

Sea Transport

IMDG Code

Proper Shipping Name	Calcium sulphate, dihydrate
Class	No Data Available

Subsidiary Risk(s)	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
EMS	No Data Available
Marine Pollutant	No
Comments	NON-DANGEROUS GOODS: Not regulated for SEA transport.

Air Transport

IATA DGR

Proper Shipping Name	Calcium sulphate, dihydrate
Class	No Data Available
Subsidiary Risk(s)	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for AIR transport.

National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification	NOT Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)
---------------------------------------	---

15. REGULATORY INFORMATION

General Information	No Data Available
Poisons Schedule (Aust)	Not Scheduled

Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

Approval Code	Not Hazardous
----------------------	---------------

National/Regional Inventories

Australia (AICS)	Listed
Canada (DSL)	Not Determined
Canada (NDSL)	Not Determined
China (IECSC)	Not Determined
Europe (EINECS)	600-148-1
Europe (REACH)	Not Determined
Japan (ENCS/METI)	Not Determined

Korea (KECI)	Not Determined
Malaysia (EHS Register)	Not Determined
New Zealand (NZIoC)	Listed
Philippines (PICCS)	Not Determined
Switzerland (Giftliste 1)	Not Determined
Switzerland (Inventory of Notified Substances)	Not Determined
Taiwan (NCSR)	Not Determined
USA (TSCA)	Not Determined

16. OTHER INFORMATION

Related Product Codes	CALSUL1000, CALSUL4000, CALSUL4500, CALSUL5600, CALSUL5700, CASULP0500, CASULP1000, CASULP1001, CASULP1002, CASULP1003, CASULP1004, CASULP1005, CASULP1006, CASULP1007, CASULP1008, CASULP1500, CASULP1800, CASULP1801, CASULP1802, CASULP1803, CASULP2000, CASULP3000, CASULP4000, CASULP4100, CASULP4200, CASULP4400, CASULP4500, CASULP4600, CASULP5000, CASULP5100, CASULP5200, CASULP5300, CASULP5400, CASULP5500, CASULP5700, CASULP5800, CASULP6000, CASULP6400, CASULP6500, CASULP6600, CASULP7000, CASULP7500, CASULP8000, CASULP8100, CASULP8110, CASULP8115, CASULP8150, CASULP8170, CASULP8200, CASULP9000, CASULP9500, GYPSUM8115, GYPSUM8150, GYPSUM9500, GYPSUM9515
Revision	3
Revision Date	06 Nov 2017
Key/Legend	<p>< Less Than > Greater Than AICS Australian Inventory of Chemical Substances atm Atmosphere CAS Chemical Abstracts Service (Registry Number) cm² Square Centimetres CO₂ Carbon Dioxide COD Chemical Oxygen Demand deg C (°C) Degrees Celcius EPA (New Zealand) Environmental Protection Authority of New Zealand deg F (°F) Degrees Farenheit g Grams g/cm³ Grams per Cubic Centimetre g/l Grams per Litre HSNO Hazardous Substance and New Organism IDLH Immediately Dangerous to Life and Health immiscible Liquids are insoluable in each other. inHg Inch of Mercury inH₂O Inch of Water K Kelvin kg Kilogram kg/m³ Kilograms per Cubic Metre lb Pound LC50 LC stands for lethal concentration. LC50 is the concentration of a material in air which causes the death of 50% (one half) of a group of test animals. The material is inhaled over a set period of time, usually 1 or 4 hours. LD50 LD stands for Lethal Dose. LD50 is the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals. ltr or L Litre m³ Cubic Metre mbar Millibar mg Milligram mg/24H Milligrams per 24 Hours mg/kg Milligrams per Kilogram mg/m³ Milligrams per Cubic Metre Misc or Miscible Liquids form one homogeneous liquid phase regardless of the amount of either component present. mm Millimetre</p>

mmH₂O Millimetres of Water
mPa.s Millipascals per Second
N/A Not Applicable
NIOSH National Institute for Occupational Safety and Health
NOHSC National Occupational Health and Safety Commission
OECD Organisation for Economic Co-operation and Development
Oz Ounce
PEL Permissible Exposure Limit
Pa Pascal
ppb Parts per Billion
ppm Parts per Million
ppm/2h Parts per Million per 2 Hours
ppm/6h Parts per Million per 6 Hours
psi Pounds per Square Inch
R Rankine
RCP Reciprocal Calculation Procedure
STEL Short Term Exposure Limit
TLV Threshold Limit Value
tne Tonne
TWA Time Weighted Average
ug/24H Micrograms per 24 Hours
UN United Nations
wt Weight