

1. IDENTIFICATION

Product Name	Magnesium Oxide
Other Names	Calcined Magnesite; Magnesium oxide (MgO)
Uses	Laboratory chemicals, Manufacture of substances
Chemical Family	No Data Available
Chemical Formula	MgO
Chemical Name	Magnesium Oxide
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
Magnesium Oxide	MgO	1309-48-4	97.03 %
Calcium Oxide	CaO	1305-78-8	1.54 %
Silicon Dioxide	SiO ₂	7631-86-9	1.47 %
Iron Oxide	Fe ₂ O ₃	1309-37-1	0.65 %
Aluminium Oxide	Al ₂ O ₃	1344-28-1	0.11 %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed	Rinse mouth with water. Give plenty of water to drink provided victim is conscious. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Loosen tight clothing such as collar, tie, belt or waistband. Seek medical attention.
Eye	Immediately flush eyes with plenty of water for 15 minutes, holding eyelids open. If irritation occurs, seek medical attention.
Skin	Remove contaminated clothing. Flush affected area with plenty of soap and water. Wash clothing before reuse. If irritation occurs, seek medical advice.
Inhaled	Remove victim from exposure to fresh air. If not breathing, apply artificial respiration. If breathing is difficult, give oxygen. Seek medical advice if effects persist.
Advice to Doctor	Treat symptomatically based on individual reactions of patient and judgement of doctor.
Medical Conditions Aggravated by Exposure	No information available on medical conditions aggravated by exposure to this product.

5. FIRE FIGHTING MEASURES

General Measures	Clear fire area of all non-emergency personnel. Stay upwind. Keep out of low areas. Eliminate ignition sources. Move fire exposed containers from fire area if it can be done without risk.
Flammability Conditions	Product is a non-flammable solid.
Extinguishing Media	In case of fire, appropriate extinguishing media include water spray, chemical foam, dry chemical and carbon dioxide.
Fire and Explosion Hazard	Non-combustible solid.
Hazardous Products of Combustion	Under fire conditions toxic fumes may be released.
Special Fire Fighting Instructions	Do NOT allow fire fighting water to reach waterways, drains or sewers. Store fire fighting water for treatment.
Personal Protective Equipment	Fire fighters should wear a positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting

	clothing (includes fire fighting helmet, coat, trousers, boots and gloves).
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	Avoid accidents, clean up immediately. May be slippery when spilt. Eliminate all sources of ignition. Increase ventilation. Avoid generating dust. Stop leak if safe to do so. Isolate the danger area. Use clean, non-sparking tools and equipment.
Clean Up Procedures	Contain and sweep/shovel up spills with dust binding material, wet sweeping or use an industrial vacuum cleaner. Transfer to a suitable, labelled container and dispose of promptly.
Containment	Stop leak if safe to do so. Isolate the danger area.
Environmental Precautionary Measures	Do NOT let product reach drains or waterways. If product does enter a waterway, advise the Environmental Protection Authority or your local Waste Management.
Evacuation Criteria	Evacuate all unnecessary personnel.
Personal Precautionary Measures	Personnel involved in the clean up should wear full protective clothing as listed in section 8.

7. HANDLING AND STORAGE

Handling	Ensure an eye bath and safety shower are available and ready for use. Observe good personal hygiene practices and recommended procedures. Wash thoroughly after handling. Take precautionary measures against static discharges by bonding and grounding equipment. Avoid contact with eyes, skin and clothing. Do not inhale product dust. Dust generated in handling this product can be explosive if sufficient quantities are mixed in air. Minimize dust generation and accumulation.
Storage	Store in a cool, dry, well-ventilated area. Keep containers tightly closed when not in use. Inspect regularly for deficiencies such as damage or leaks. Protect against physical damage. Store away from incompatible materials as listed in section 10. Do not store near open flames, heat or other sources of ignition. Avoid freezing or excessive heat. This product is not classified dangerous for transport according to The Australian Code for the Transport of Dangerous Goods By Road and Rail.
Container	Store in original packaging as approved by manufacturer.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	The following exposure standard has been established by The Australian Safety and Compensation Council (ASCC); Magnesium oxide (fume). CAS number: 1309-48-4 TWA = 10mg/m ³ NOTE: The exposure value at the TWA is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. These exposure standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.
Exposure Limits	No Data Available
Biological Limits	No information available on biological limit values for this product.
Engineering Measures	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. Adequate ventilation should be provided so that exposure limits are not exceeded.
Personal Protection Equipment	RESPIRATOR: Use a NIOSH/MSHA approved respirator if exposure limits are exceeded (AS1715/1716). EYES: Use appropriate goggles (AS1336/1337). HANDS: Wear protective gloves (AS2161).

CLOTHING: Long-sleeved protective clothing and safety footwear (AS3765/2210).

Work Hygienic Practices

Do not eat drink or smoke while handling this product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid
Appearance	Powder and granule
Odour	Odourless
Colour	Grey white
pH	No Data Available
Vapour Pressure	No Data Available
Relative Vapour Density	No Data Available
Boiling Point	3600 °C
Melting Point	2800 °C
Freezing Point	No Data Available
Solubility	Insoluble
Specific Gravity	No Data Available
Flash Point	No Data Available
Auto Ignition Temp	No Data Available
Evaporation Rate	No Data Available
Bulk Density	No Data Available
Corrosion Rate	No Data Available
Decomposition Temperature	No Data Available
Density	No Data Available
Specific Heat	No Data Available
Molecular Weight	No Data Available
Net Propellant Weight	No Data Available
Octanol Water Coefficient	No Data Available
Particle Size	No Data Available
Partition Coefficient	No Data Available
Saturated Vapour Concentration	No Data Available
Vapour Temperature	No Data Available
Viscosity	No Data Available
Volatile Percent	No Data Available
VOC Volume	No Data Available
Additional Characteristics	No Data Available
Potential for Dust Explosion	No Data Available
Fast or Intensely Burning Characteristics	No Data Available
Flame Propagation or Burning Rate of Solid Materials	No Data Available
Non-Flammables That Could Contribute Unusual Hazards to a Fire	No Data Available
Properties That May Initiate or Contribute to Fire Intensity	No Data Available
Reactions That Release Gases or Vapours	No Data Available
Release of Invisible Flammable Vapours and Gases	No Data Available

10. STABILITY AND REACTIVITY

Chemical Stability	Product is stable under normal conditions of use, storage and temperature.
Conditions to Avoid	Avoid dust formation, open flames, heat, Exposure to moist air or water and other sources of ignition.
Materials to Avoid	Strong oxidizing agents, strong acids and strong alkalis.
Hazardous Decomposition Products	Under fire conditions toxic fumes may be released.
Hazardous Polymerisation	Will not occur

11. TOXICOLOGICAL INFORMATION

General Information	Acute Toxicity: 1309-48-4 TCl _o 400 mg/m ³ 7631-86-9 >3160 mg/kg 1305-78-8 Oral LD ₅₀ Rat > 500 mg/kg 1344-28-1 Oral LD ₅₀ > 5000 mg/kg Intraleural Rat LD ₅₀ >3600 mg/kg1309-37-1 subcutaneous dog LDLo = 30 mg/kg
SkinIrritant	Dust may cause skin irritation.
Inhalation	Inhalation of airborne dust may cause irritation to the mucous membrane and upper airways. symptoms of exposure can include coughing, sneezing and breathing difficulties. If it is contaminated with crystalline silica it may produce severe lung effects, including emphysema and pulmonary fibrosis due to the contaminating silica. Prolonged exposure to respirable crystalline quartz may cause delayed lung injury/fibrosis (silicosis).
Eyelrritant	Dust may cause mechanical irritation. Vapours and fumes from burning material may cause irritation
Ingestion	If ingested in sufficient quantity may cause injury such as gastrointestinal disturbances. Symptoms may include irritation, nausea, vomiting, abdominal pain and diarrhea.
Carcinogen Category	No Data Available

12. ECOLOGICAL INFORMATION

Ecotoxicity	No ecological information available for this product.
Persistence/Degradability	No information available on persistence/degradability for this product.
Mobility	No information available on mobility for this product.
Environmental Fate	Avoid contaminating waterways, drains and sewers.
Bioaccumulation Potential	No information available on bioaccumulation for this product.
Environmental Impact	No Data Available

13. DISPOSAL CONSIDERATIONS

General Information	Dispose of in accordance with all local, state and federal regulations. All empty packaging should be disposed of in accordance with Local, State, and Federal Regulations or recycled/reconditioned at an approved facility.
Special Precautions for Land Fill	Contact a specialist disposal company or the local waste regulator for advice. Incinerate at an approved site following all local regulations. This material may be suitable for approved landfill.

14. TRANSPORT INFORMATION

Land Transport (Australia)

ADG Code

Proper Shipping Name	Magnesium Oxide
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

Land Transport (Malaysia)

ADR

Proper Shipping Name	Magnesium Oxide
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

Land Transport (New Zealand)

NZS5433

Proper Shipping Name	Magnesium Oxide
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

Land Transport (United States of America)

US DOT

Proper Shipping Name	Magnesium Oxide
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

Sea Transport

IMDG Code

Proper Shipping Name	Magnesium Oxide
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

Air Transport

IATA DGR

Proper Shipping Name	Magnesium Oxide
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

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)
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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 Assessed
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National/Regional Inventories

Australia (AICS)	Listed
Canada (DSL)	Not Determined
Canada (NDSL)	Not Determined
China (IECSC)	Not Determined
Europe (EINECS)	Not Determined
Europe (REACH)	Not Determined
Japan (ENCS/METI)	Not Determined
Korea (KECI)	Not Determined
Malaysia (EHS Register)	Not Determined

New Zealand (NZIoC)	Not Determined
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	MAGOXD1000, MAGOXD1001, MAGOXD1002, MAGOXD1003, MAGOXD1004, MAGOXD1005, MAGOXD1006, MAGOXD1100, MAGOXD1500, MAGOXD2000, MAGOXD2100, MAGOXD3000, MAGOXD4000, MAGOXD5000, MAGOXD6000, MAGOXD8200, MAGOXD8300, MAGOXD8301, MAGOXD9000, MAGOXD9500, MAGOXD9501
Revision	4
Revision Date	25 Jun 2014
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 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</p>

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