1. IDENTIFICATION

Product Name	**Magnesium Oxide**
Other Names	Calcined Magnesia; Magnesia; MAGNESIUM OXIDE (MgO)
Uses	Agricultural, chemical and pharmaceutical chemical.
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

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	No Data Available	1309-48-4	>=60 %
Material may contain small amounts of Calcium Oxide, Silicon Dioxide, Iron Oxide, Aluminium Oxide.	No Data Available		No Data Available

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed	Rinse mouth with water. Give plenty of water to drink. If irritation develops, seek immediate medical advice.
Eye	Wash eyes with large quantities of water for 15 minutes. In all cases of eye contamination it is a sensible precaution to seek medical advice. First Aid Facilities: Eye wash station should be made available for all chemicals in the workplace.
Skin	Wash contaminated skin with plenty of soap and water. If irritation occurs seek medical advice.
Inhaled	Remove person from exposure – avoid becoming a casualty. Seek medical advice if effects persist.
Advice to Doctor	Treat symptomatically based on judgement of doctor and individual reactions of patient.
Medical Conditions Aggravated by Exposure	No information available on medical conditions which are aggravated from 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, use appropriate extinguishing media most suitable for surrounding fire conditions.
Fire and Explosion Hazard	This material is not combustible or flammable.
Hazardous Products of Combustion	Decomposes on heating emitting toxic fumes of magnesium oxide. However, the temperature required to generate toxic fumes would be above 1200 deg C.
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. Slippery when spilt. Eliminate all sources of ignition. Increase ventilation.

	Avoid generating dust. Use clean, non-sparking tools and equipment.
Clean Up Procedures	Contain and sweep/shovel up spills with dust binding material 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.
Decontamination	Wash area down with excess water.
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. Avoid handling which leads to dust formation.
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. Keep containers closed to prevent absorption of carbon dioxide and water from atmosphere. Keep dry. Avoid contact with interhalogens such as bromide pentafluoride or chlorine trifluoride. Avoid contact with acids. 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 1309-48-4: TWA = 10 mg/m3 Exposure Limits for possible contaminants (TWA): Calcium Oxide = 2 mg/m3; Silicon Dioxide = 10 mg/m3; Iron Oxide (as Fume) = 10 mg/m3; Aluminium Oxide = 10 mg/m3 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: If dust exists, wear an approved respirator (AS1715/1716). EYES: Safety glasses with side shields (AS1336/1337). SKIN: PVC or nitrile gloves recommended (AS2161). CLOTHING: Overalls and safety footwear (AS3765/2210).
Work Hygienic Practices	Always wash hands before smoking, eating, drinking or using the toilet.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid

Appearance	Fine Powder, Granules or Pellets.
Odour	Odourless
Colour	White
pH	10.3 Saturated Solution
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	0.0086 g 30°C
Specific Gravity	3.58
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	40.3044 g/mol
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	Insoluble in alcohol
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	Stable at room temperature in closed containers under normal storage and handling conditions.
Conditions to Avoid	Avoid excessive heat, generating dust, direct sunlight, moisture and high temperatures.
Materials to Avoid	Reacts violently with interhalogens, such as chlorine trifluoride (ClF3) or bromine pentafluoride (BrF5). Reacts incandescently with phospjorus pentachloride (PC15). Reacts exothermeticaly with water to form magnesium hydroxide.

Hazardous Decomposition Products	Decomposes on heating emitting toxic fumes of magnesium oxide. However, the temperature required to generate toxic fumes would be above 1200 deg C.
Hazardous Polymerisation	Hazardous polymerization will not occur. Reacts violently with interhalogens such as chlorine trifluoride (ClF3) or bromine pentafluoride (BrF5). Reacts incandescently with phosphorus pentachloride (PC15). Reacts exothermically with water to form magnesium hydroxide. Violent reaction or ignition can occur when in contact with interhalogens (eg bromine pentafluoride, chlorine trifluoride) and acids.

11. TOXICOLOGICAL INFORMATION

General Information	No Data Available
EyeIrritant	May cause physical irritation
Ingestion	Material has low oral toxicity. If large quantities are swallowed, may produce stomach irritation.
Inhalation	Inhalation of dust may result in respiratory irritation. Repeated or prolonged expose may lead to dry skin and subsequent irritation contact dermatitis.
SkinIrritant	Contact with skin may result in irritation. Not expected to cause sensitisation. Repeated or Chronic prolonged expose may lead to dry skin and subsequent irritation contact dermatitis
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	Do NOT let product reach 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. 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

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)

15. REGULATORY INFORMATION

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

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

MAGOXB1000, MAGOXB6000, MAGOXB6100, MAGOXB6200, MAGOXI0002, MAGOXI0003, MAGOXI0004, MAGOXI0005, MAGOXI0097, MAGOXI0100, MAGOXI0101, MAGOXI0102, MAGOXI0150, MAGOXI0200, MAGOXI0201, MAGOXI0202, MAGOXI0300, MAGOXI0301, MAGOXI0302, MAGOXI0303, MAGOXI0304, MAGOXI0400, MAGOXI0499, MAGOXI0500, MAGOXI0501, MAGOXI0502, MAGOXI0503, MAGOXI0600, MAGOXI0601, MAGOXI0700, MAGOXI0701, MAGOXI0702, MAGOXI0800, MAGOXI0900, MAGOXI0901, MAGOXI1000, MAGOXI1001, MAGOXI1002, MAGOXI1003, MAGOXI1004, MAGOXI1005, MAGOXI1006, MAGOXI1007, MAGOXI1008, MAGOXI1009, MAGOXI1010, MAGOXI1011, MAGOXI1012, MAGOXI1013, MAGOXI1014, MAGOXI1015, MAGOXI1016, MAGOXI1017, MAGOXI1018, MAGOXI1019, MAGOXI1020, MAGOXI1021, MAGOXI1022, MAGOXI1023, MAGOXI1024, MAGOXI1025, MAGOXI1026, MAGOXI1027, MAGOXI1028, MAGOXI1029, MAGOXI1030, MAGOXI1031, MAGOXI1032, MAGOXI1033, MAGOXI1034, MAGOXI1035, MAGOXI1050, MAGOXI1051, MAGOXI1100, MAGOXI1101, MAGOXI1133, MAGOXI1180, MAGOXI1199, MAGOXI1200, MAGOXI1201, MAGOXI1215, MAGOXI1300, MAGOXI1301, MAGOXI1302, MAGOXI1310, MAGOXI1311, MAGOXI1315, MAGOXI1316, MAGOXI1317, MAGOXI1318, MAGOXI1319, MAGOXI1320, MAGOXI1350, MAGOXI1353, MAGOXI1360, MAGOXI1391, MAGOXI1392, MAGOXI1400, MAGOXI1401, MAGOXI1402, MAGOXI1500, MAGOXI1501, MAGOXI1600, MAGOXI1601, MAGOXI1602, MAGOXI1603, MAGOXI1604, MAGOXI1700, MAGOXI1701, MAGOXI1702, MAGOXI1703, MAGOXI1800, MAGOXI1801, MAGOXI1802, MAGOXI1803, MAGOXI1804, MAGOXI1805, MAGOXI1806, MAGOXI1807, MAGOXI1808, MAGOXI1809, MAGOXI1810, MAGOXI1900, MAGOXI1901, MAGOXI2000, MAGOXI2100, MAGOXI2200, MAGOXI2300, MAGOXI2400, MAGOXI2500, MAGOXI2600, MAGOXI2601, MAGOXI2602, MAGOXI2603, MAGOXI2700, MAGOXI2701, MAGOXI2800, MAGOXI2801, MAGOXI2805, MAGOXI2900, MAGOXI2901, MAGOXI2902, MAGOXI3000, MAGOXI3001, MAGOXI3002, MAGOXI3003, MAGOXI3010, MAGOXI3020, MAGOXI3100, MAGOXI3110, MAGOXI3200, MAGOXI3300, MAGOXI3301, MAGOXI3302, MAGOXI3400, MAGOXI3401, MAGOXI3402, MAGOXI3500, MAGOXI3501, MAGOXI3502, MAGOXI3600, MAGOXI3700, MAGOXI3701, MAGOXI3800, MAGOXI3801, MAGOXI3900, MAGOXI3901, MAGOXI4000, MAGOXI4001, MAGOXI4002, MAGOXI4100, MAGOXI4101, MAGOXI4200, MAGOXI4300, MAGOXI4301, MAGOXI4302, MAGOXI4304, MAGOXI4400, MAGOXI4401, MAGOXI4402, MAGOXI4405, MAGOXI4406, MAGOXI4500, MAGOXI4501, MAGOXI4555, MAGOXI4600, MAGOXI4601, MAGOXI4666, MAGOXI4700, MAGOXI4701, MAGOXI4702, MAGOXI4703, MAGOXI4708, MAGOXI4709, MAGOXI4800, MAGOXI4801, MAGOXI4900, MAGOXI4901, MAGOXI5000, MAGOXI5001, MAGOXI5002, MAGOXI5100, MAGOXI5101, MAGOXI5200, MAGOXI5201, MAGOXI5300, MAGOXI5301, MAGOXI5400, MAGOXI5401, MAGOXI5500, MAGOXI5501, MAGOXI5510, MAGOXI5511, MAGOXI5512, MAGOXI5513, MAGOXI5515, MAGOXI5520, MAGOXI5521, MAGOXI5522, MAGOXI5523, MAGOXI5525, MAGOXI5526, MAGOXI5527, MAGOXI5528, MAGOXI5529, MAGOXI5530, MAGOXI5535, MAGOXI5600, MAGOXI5601, MAGOXI5700, MAGOXI5750, MAGOXI5800, MAGOXI5801, MAGOXI5802, MAGOXI5900, MAGOXI5901, MAGOXI6000, MAGOXI6001, MAGOXI6002, MAGOXI6003, MAGOXI6004, MAGOXI6005, MAGOXI6006, MAGOXI6100, MAGOXI6101, MAGOXI6102, MAGOXI6103, MAGOXI6105, MAGOXI6200, MAGOXI6201, MAGOXI6202, MAGOXI6203, MAGOXI6262, MAGOXI6300, MAGOXI6301, MAGOXI6303, MAGOXI6400, MAGOXI6401, MAGOXI6402, MAGOXI6403, MAGOXI6404, MAGOXI6405, MAGOXI6406, MAGOXI6408, MAGOXI6409, MAGOXI6410, MAGOXI6500, MAGOXI6501, MAGOXI6502, MAGOXI6503, MAGOXI6504, MAGOXI6505, MAGOXI6506, MAGOXI6510, MAGOXI6600, MAGOXI6601, MAGOXI6602, MAGOXI6603, MAGOXI6608, MAGOXI6609, MAGOXI6700, MAGOXI6701, MAGOXI6800, MAGOXI6801, MAGOXI6802, MAGOXI6900, MAGOXI7000, MAGOXI7001, MAGOXI7002, MAGOXI7003, MAGOXI7004, MAGOXI7100, MAGOXI7101, MAGOXI7200, MAGOXI7300, MAGOXI7400, MAGOXI7500, MAGOXI7600, MAGOXI7601, MAGOXI7700, MAGOXI7701, MAGOXI7800, MAGOXI7801, MAGOXI7900, MAGOXI7901, MAGOXI8000, MAGOXI8001, MAGOXI8002, MAGOXI8003, MAGOXI8004, MAGOXI8100, MAGOXI8200, MAGOXI8300, MAGOXI8400, MAGOXI8401, MAGOXI8500, MAGOXI8600, MAGOXI8700, MAGOXI8701, MAGOXI8800, MAGOXI8900, MAGOXI9000, MAGOXI9001, MAGOXI9002, MAGOXI9003, MAGOXI9100, MAGOXI9200, MAGOXI9201, MAGOXI9202,

MAGOXI9300, MAGOXI9310, MAGOXI9400, MAGOXI9401, MAGOXI9500, MAGOXI9501, MAGOXI9600, MAGOXI9601, MAGOXI9700, MAGOXI9701, MAGOXI9800, MAGOXI9810, MAGOXI9811, MAGOXI9900, MAGOXI9901, MAGOXL1000, MAGOXM1000, MAGOXP0600, MAGOXP1000, MAGOXP1500, MAGOXP2000, MAGOXP3000, MAGOXP5000, MAGOXP9800, MAGOXP9801

Revision 3

Revision Date 01 Jan 2015

Key/Legend

< 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 Heath 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