



LABORATORY CHEMICALS AND CONSUMABLES

MATERIAL SAFETY DATA SHEET

MAGNESIUM OXIDE

1. Chemical Product and Company information.

Product name: Magnesium oxide

Contact Information:

Radchem cc
PO Box 166982
Brackendowns
Alberton 1454
Telephone : **011 867 3726 / 2864**

2. Hazard Identification

Slightly hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation.

3. Composition / information on ingredients

CAS #: 1309-48-4

Synonym: Magnesia; Calcined Brucite; Magnesium Oxide, Heavy Powder

Chemical Name: Magnesium Oxide

Chemical Formula: MgO

4. First Aid Measures

Eye Contact: Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. WARM water MUST be used. Get medical attention if irritation occurs.

Skin Contact: Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops.

Serious Skin Contact: Not available

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Serious Inhalation: Not available



Ingestion: Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Serious Ingestion: Not available.

5. Fire-fighting measures

Flammability of the Product: Non - Flammable

Fire Hazards in Presence of Various Substances: Not applicable

Explosion Hazards in Presence of Various Substances: Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions: Not applicable

Special Remarks on Fire Hazards: Magnesium Oxide may ignite and explode when heated with sublimed sulphur, magnesium powder, or aluminium powder. It reacts violently with interhalogens (bromine pentafluoride, chlorine trifluoride) and produces flame. When combined with phosphorus pentachloride, it incandescens.

Special Remarks on Explosion Hazards: Magnesium Oxide may ignite and explode when heated with sublimed sulphur, magnesium powder, or aluminium powder.

6. Accidental release measures

Small Spill: Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

Large Spill: Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

7. Handling and storage

Precautions: Do not breathe dust. Keep away from incompatibles such as oxidizing agents, acids.

Storage: Moisture Sensitive. Air Sensitive. Keep container tightly closed. Keep container in a cool, well-ventilated area. Do not store above 24°C

8. Exposure controls/personal protection

Engineering Controls: Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection: Safety glasses. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill: Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.



9. Physical and chemical properties

Physical state and appearance: Solid (Powdered solid)

Odour: Odourless

Taste: Not available

Colour: White

Boiling Point: 3600°C

Melting Point: 2800°C

Critical Temperature: Not available

Odour Threshold: Not available

Ionicity (in Water): Not available.

Dispersion Properties: Not available

Solubility: Very slightly soluble in cold water. Soluble in dilute acids and ammonium salt solutions. Insoluble in alcohol.

Specific Gravity: 3.58 @ 25 C (Water = 1)

Vapour Density: Not available

Volatility: Not available

10. Stability and reactivity

Stability: The product is stable

Instability Temperature: Not available.

Conditions of Instability: Incompatible materials, moisture, air.

Incompatibility with various substances: Reactive with oxidizing agents, acids.

Corrosivity: Non-corrosive in presence of glass

Special Remarks on Reactivity: Reacts violently with ClF₃ (Chlorine Trifluoride) and PCl₅ (Phosphorous Pentachloride). Hygroscopic. Air Sensitive. Readily absorbs moisture and carbon dioxide when exposed to air. Hydrates slowly in contact with moisture. Takes up carbon dioxide and water from the air. This happens more readily for the light form vs. the heavy form. Slight alkaline reaction to water.

Special Remarks on Corrosivity: Not available

Polymerization: Will not occur.

11. Toxicological information

Routes of Entry: Inhalation. Ingestion.

Toxicity to Animals: LD50: Not available. LC50: Not available

Chronic Effects on Humans: Not available

Other Toxic Effects on Humans: Slightly hazardous in case of skin contact (irritant), of ingestion, of inhalation

Special Remarks on Toxicity to Animals: Not available

Special Remarks on Chronic Effects on Humans: May cause cancer (tumorigenic) based on animal data. No human data found.

Special Remarks on other Toxic Effects on Humans: Acute Potential Health Effects: Skin: Mild Alkali. May cause skin irritation. Eyes: Mild Alkali. May cause eye irritation. Inhalation: May cause respiratory tract irritation. Ingestion: May cause gastrointestinal tract irritation with nausea, vomiting, and diarrhoea. Chronic



Potential Health Effects: Inhalation: Repeated or prolonged exposure may result in Metal Fume Fever. Metal Fume Fever is a flu-like condition consisting of fever, chills, sweating, aches, pains, cough, weakness, headache, nausea, vomiting, and breathing difficulty. There is no permanent ill-effect. Metal Fume Fever resulting from Magnesium Oxide fumes has reportedly occurred in foundry workers. Repeated or prolonged exposure may also affect the blood and brain based on animal data. No human data found

12. Ecological information

Ecotoxicity: May cause alkalinisation of water rendering it inhospitable to aquatic life.

BOD5 and COD: Not available

Products of Biodegradation: Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The product itself and its products of degradation are not toxic.

Special Remarks on the Products of Biodegradation: Not available

13. Disposal considerations

Waste Disposal: Waste must be disposed of in accordance with federal, state and local environmental control regulations.

14. Transport information

DOT Classification: Not a DOT controlled material

Identification: : Not available

Special Provisions for Transport: Not available

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