MATERIAL SAFETY DATA SHEET (MSDS)
Magnesium Oxide (MgO)

0.General

Version number	:3.0
Date of issue	:13.11.2024
Supersedes version	: Version 2.13 .11 .2024
Based on	: REACH Regulation EC 1097/2006 and Commission Regulation EU 453/2010

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND SUPPLIER

1.1 Product Identifier

Caustic Calcined to Magnesium Oxide powder and granular product

Product Name:	MOXHQ, MOXMQ, SyferMOX (C88SA); SYFERMOX (C88KM); SyferMOX - Magnesium Oxide
Chemical name/ synonyms:	Magnesium Oxide, MgO, Magnesia, Calcined Magnesia, Calcined Magnesium, MgO Caustic Calcined Magnesium Oxide Granular /Powder.
REACH registration number:	not applicable, product exempted from REACH registration (AnnexV)
CAS-number:	1309-48-4
EC-number:	215-171-9
Index number CLP Annex VI:	not classified

1.2 Relevant identified uses of the substance or mixture and uses advised against

Most relevant use /application for our Magnesium Oxide products are: Industrial Chemical process, Paper & Pulp Industry, water treatment, slag conditioner in iron and steel industry, water treatment, stack gas scrubbing (neutralizer), reagent in various chemical industries, sorrel cement, Hydro metallurgy, animal feed. No uses advised against are identified.

1.3 Details of the supplier in this safety data sheet

Name:	Syferfontein Carbonates (Pty) Ltd
Address:	PTN 1 Farm Syferfontein 608KR, District Waterberg, Modimolle, Limpopo, 0510, South Africa.
Telephone:	Tel: +27 12 345 4539
Email:	modimollesales@syferfontein.co.za

SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

2.1 Substances

Constituents	ECnumber	CAS-number	Concentration w/w	Classification Regulation (EC) No.1278/2008
Magnesium Oxide	215-171-9	1309-48-4	86 - 98.5%	None
Oxides of silica, iron, aluminium, and calcium			1.4 - 5.0 %	None
Molecular weight:	40.3 g/mol			

Composition reported is in the oxide form, but these do not necessarily exist within the magnesia as free uncombined oxides but complex mineralogical form /phases. The purity /composition range shall cover all Product name / grades mentioned in section 1.1

Hazard Symbols : None Listed
Risk Phrases : None Listed
Toxicology data on ingredients : Not applicable
Halal & Kosher Status : We hereby confirm our said products during any stages of manufacturing, storage or transportation does not contain or free from Alcohol, animal products, anything derived from human body, derived from animal, fish, dairy products, wine origin products even in minute traces.

SECTION 3: HAZARDS IDENTIFICATION

3.1 Classification of the substance of mixture

Not dangerous according to ASCC Criteria
According to Regulation (EC) No. 1272/2008 (CLP) : Not Classified
According to Directive 67/548/EEC : Not Classified
Reach Regulation not applicable, product exempted from REACH registration (Annex V)

Comply with BFR XXXVI and Hygiene standard GB9685-2008
Comply with Food substances affirmed as generally recognized as safe (GRAS) Title 21 Part 181 and 184.1 & 184.1431 https://www.ecfr.gov/cgi-bin/text-idx?SID=e956d645a8b4e6b3e34e4e5d1b690209&mc=true&node=pt21.3.184&rgn=div5#se21.3.184_11431

3.2 Label elements

According to CLP regulation:

GHS hazard pictogram:	No pictogram
Signal word:	No signal word
Hazard statement:	None
Precautionary Statements:	None
Other labels:	None

3.3 Other hazards

None

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation:	Remove victim to fresh air and keep at rest in position comfortable for breathing.
Skin contact:	Wash with plenty of soap and water (for at least 10 minutes). Use skin lotion. If Skin Irritation, get medical advice or attention.
Eye Contact:	Remove contact lenses. Rinse copiously with water for at least 10-15 minutes. If eye Irritation persists, get medical advice and (if needed) medical attention.
Ingestion:	Rinse mouth. Do not induce vomiting. In case large quantities have been swallowed, get medical advice.

4.2 Most important symptoms and effects, both acute and delayed

Inhalation:	: Dust may cause temporary irritation of upper respiratory tract and slight Irritation of eyes and nose.
Skin contact:	: Irritation, drying, chapping
Eye Contact:	: Redness, tearing
Ingestion:	: lf large quantities are swallowed, rarely irritation nausea and gastrointestinal upset may occur.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Appropriate extinguishing media: CO2, powder or water spray

5.2 Special hazards arising from the substance of the mixture

In principle not combustible, not explosive, not flammable.

However, may ignite in the presence of interhalogens such as chlorine trifluoride (CIF3) or bromine Pentafluoride (BrFs). It may also ignite and explode when heated with sublimed sulphur, magnesium powder or aluminium powder.

5.3 Advise for fire fighters

Protective actions and/or special protective equipment depending on surrounding fire. Use protective Clothing and self-contained breathing apparatus.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions, protective equipment and emergency procedures-small dosage

Individual precaution:	Avoid the inhalation of dust by wearing a suitable face mask
Environmental precaution:	Do not pour into sewers or rivers
Cleaning Precaution:	Sweep spilled substance, eliminate wastewater in accordance with Regulation
Operation to avoid:	Contact with halogens and strong acids

6.2 Personal precautions, protective equipment and emergency procedures - large dosage

Environmental precaution:	Do not allow to enter waterways or fall on bare soil
Cleanup procedure:	Use a shovel to put the spilled material in appropriate containers. Finish cleaning by spreading water on the contaminated surface and allow Evacuating through the sanitation system.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handing

- Avoid any operation leading to the formation of a dust cloud.
- Observe the exposure limit values in accordance with regulation.
- Avoid inhaling dust and fumes when in their presence.
- Avoid ingestion of the product.
- Wash thoroughly everybody surface that encountered dust after handling.
- Do not eat, drink or smoke when using this product.
- Avoid contact with interhalogens such as chlorine trifluoride (CIF") or bromine pentafluoride (BrFs) and sublimed sulphur, magnesium powder or aluminum powder.
- Clean area frequently to avoid buildup of dust

7.2 Conditions for safe storage, including any incompatibilities

- Store in a well-ventilated place.
- Avoid contact with incompatibles mentioned in Section 10.

7.3 Specific end use(s)

No specific end uses

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

MAC (NL):	10 mg/m3
MAK (DE):	6 mg/m3 (for fumes) 24 mg/m3 15 minutes, 4 times (short term exposure for fumes)
OSHA PEL:	15 mg/m TWA (inhalation total particulates) on 8-hour shift
ACGIH TLV:	10 mg/m TWA (inhalation total)
OES (UK):	16.5 mg/m3 (schedule: 10 minutes)
4 STEL (UK):	10 mg/m3 Inhalation Respirable, Total, consult local authorities
France:	5 mg/m3 (unknown limit type)

8.2 Exposure controls

Appropriate Engineering Use process enclosures, local exhaust ventilation or other engineering controls

Controls:	to keep air-borne levels below recommended exposure limits (see Section8.1)
Individual protection Measures:	Do not eat, drink or smoke when handling the substance. In case dust or fumes form when handling the substance, wear protective clothing such as gloves, Safety goggles or glasses, respiratory mask and /or face protection.
Professional protection	Wear dust mask P.2 Impervious protective gloves are recommended. Use Safety
Measures:	Glasses with side protection. It is recommended to wear cover clothing and Shoes.

SECTION 9: PHYSICAL AND CHEMICLA PROPERTIES

9.1 Information on basic physical and chemical property

Appearance:	Powder or Granular
Colour:	White to Half White (powder /granular)
Odour:	Odourless
pH (1% soln/water)	Not available
Melting point:	2800 °C (5072 F)
Boiling Point:	3600 °C (6512F)
Flash point:	Not applicable

Flammability:	Not flammable
Auto-flammability:	Not applicable
Explosion hazards:	Not explosive
Combustive properties:	Not combustible
Solubility(ies)	Very slightly soluble in water. Soluble in dilute acids, Insoluble in Alcohol
Viscosity:	Not applicable (solid)

9.2 Other information

Not applicable

SECTION 10: STABILITY AND REACTICITY

10.1 Chemical Stability
Magnesium Oxide is stable under recommended conditions of storage.
As the material /substance is hygroscopic in nature could be unstable under the following conditions: when in contact with atmosphere, humidity and carbon dioxide are adsorbed easily.

10.2 Reactivity
Magnesium Oxide reacts vigorously with halogens and strong acids.

10.3 Possibility of hazardous reactions
Magnesium Oxide reacts violently with interhalogens, such as Chlorine Trifluoride (CIF,), Bromine Pentafluoride (BrF) or Phosphorus Pentachloride (PCI.) and produces flame, explosion or incandescence (in the case of PCI,). It may also ignite and explode when heated with sublimed sulphur magnesium powder or aluminum powder.

10.4 Conditions to avoid
Avoid incompatible materials mentioned in section 10.5 Avoid moisture, because it reacts with the substance producing heat. Contact with air should be avoided as much as possible, because the substance absorbs water and carbon dioxide forming magnesium hydroxide and magnesium carbonate respectively.

10.5 Incompatible materials
Interhalogens, sublimed sulphur and magnesium or aluminum powder; reactive with oxidizing and acids.

10.6 Hazardous decomposition products
No known hazardous decomposition of product exists.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

LD., L(E)C .:	Not available
Classification:	Magnesium oxide was not classified according to Council Directive 67/548/EEC Or Council Regulation 1272/200B/EC

Acute toxicity:

By oral route:	None
By Inhalation:	Short-term inhalation of magnesium oxide dust or fume may cause temporary Irritation of upper respiratory tract, skin, nose and eyes. No known allergies Responses.
By Dermal Routes:	Not absorbed by intact skin. Intimate contact of naked skin to magnesium oxide Dust may cause irritation, drying and chapping.

Chronic toxicity:

- Oral Route, after repeated exposure, man, 800 mg/m3, no observed effect (magnesium oxide).
- Oral route, after repeated exposure cattle, target organ: gastro-intestinal system, 1% irritating effect.
- Inhalation, after repeated exposure, rat 3 mg/m3, no observed effect.

Eye Irritation : May cause eye irritation.
Germ cell mutagenicity : No known studies. Not considered to be mutagenic in general.
Carcinogenicity : Substance is not classified as carcinogenic under ACGIH, NIOSH, IARC, NTP or OSHA.

11.2 Other information

Alkalinity. Being a mild alkali is mainly the case for irritation of body tissues.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

The following points are theoretical conclusions:

- As natural occurring mineral, Magnesium oxides poses no threat or very little threat to the environment.
  Spillage however may be dangerous if it encounters incompatible materials see section 10.
- Due to iconic nature however, it is not a candidate for bioaccumulation.

12.2 Persistence and degradability

Magnesium Oxide reacts with water to produce Mg (OH), The reaction is self-limiting because of the formation of insoluble magnesium hydroxide. No other data concerning degradation are available.

12.3 Bioaccumulation potential
Due to its ionic nature, Magnesium oxide is not a material for bioaccumulation in aquatic species.

12.4 Mobility in soil
Not expected based on structure and physicochemical characteristics

12.5 Results of PBT and vPvB assessment
Magnesium Oxide is not classified as PBT or vPvB substance.

SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of substance in suitable containers in accordance with local, regional, national or international regulation.

SECTION 14: TRANSPORT INFORMATION

14.1	UN number	:	not applicable
14.2	UN proper shipping name	:	not applicable
14.3	Transport hazard class(es)	:	not applicable
14.4	Packing group	:	not applicable
14.5	Environmental hazards	:	not applicable
14.6	Special precautions for users	:	not applicable
14.7	Transport in bulk according to Annex II Of MARPOL 73/78 and the IBC Code	:	not applicable

SECTION 15: REGULATORY INFORMATION

. Not classified as dangerous according to Council Directive 67/548/EEC
. Not classified ad dangerous according to Council Directive 1272/2008/EC
. Substance exempted form Regulation 1907/2006 (REACH): Annex V, paragraph 10.
. Other relevant legislation:1999/45/EC,2001, /58/EC,2006/58/EC (30 TP), 2006/8/EC

SECTION 16: OTHER INFORMATION

Revision of this safety data sheet shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.
This safety is fully revised according to the CLP and REACH regulations. This safety data sheet supersedes all previous issues.
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