FloMag PWT (Potable Water Treatment) Magnesium Oxide

Safety Data Sheet

Date of issue: 18/04/2014 Version: 1.0

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Substance

Trade name : FloMag PWT 12 x 40
FloMag PWT 6 x 16
FloMag PWT Prilled 30

Chemical name : Magnesium oxide

EC no : 215-171-9

CAS No : 1309-48-4

Formula : MgO

Other means of identification : calcined brucite magnesia, calcined magnesia, calcined magnesite, magnesite burnt deadburned
refractory, periclase, sea-water magnesia, oxomagnesia

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

1.2.1. Relevant identified uses

Industrial/Professional use spec : Industrial. For professional use only

Use of the substance/mixture : For use in potable water treatment (NSF Standard 60 for Drinking Water Chemicals).

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Martin Marietta Magnesia Specialties
1800 Eastlake Road
Manistee, Michigan 49660, USA
Tel: +001 410 780 5500

1.4. Emergency telephone number

Emergency number : CHEMTREC, U.S.: 1-800-424-9300 INTERNATIONAL: +1-703-527-3887 Available 24/7

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to GHS

Not classified

Classification according to GHS

Not classified

Adverse physicochemical, human health and environmental effects

No adverse health or environmental effects are expected to occur as a result of normal conditions of use.

2.2. Label elements

Labelling according to GHS

No labelling applicable

2.3. Other hazards

Other hazards not contributing to the classification : No additional hazards have been identified.

SECTION 3: Composition/information on ingredients

3.1. Substance

Substance type : Mono-constituent

Name : FloMag PWT (Potable Water Treatment)

CAS No : 1309-48-4

EC no : 215-171-9

Name	Product identifier	%	Classification GHS
Magnesium oxide	(CAS No) 1309-48-4 (EC no) 215-171-9	98	Not classified
Oxides of silicon, iron, aluminum, and calcium	(CAS No) mixture	2	Not classified

3.2. Mixture

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation : If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.

First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.

First-aid measures after eye contact : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist.

First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries : Not expected to present a significant hazard under anticipated conditions of normal use. Do not breathe dust.

Symptoms/injuries after inhalation : Inhalation may cause: irritation, coughing, shortness of breath.

Symptoms/injuries after skin contact : Effects of skin contact may include: skin irritation.

Symptoms/injuries after eye contact : May cause eye irritation.

Symptoms/injuries after ingestion : Ingestion generally causes purging of the bowels. Swallowing large amounts may cause bowel obstruction.

4.3. Indication of any immediate medical attention and special treatment needed

No additional medical information found. If you feel unwell, seek medical advice.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Not combustible. If there is a fire nearby, use suitable extinguishing agents. Water fog. Carbon dioxide. Dry powder. Foam.

Unsuitable extinguishing media : None known.

5.2. Special hazards arising from the substance or mixture

Fire hazard : If heated to decomposition, magnesium oxide fumes may be generated.

Explosion hazard : Product is not explosive.

5.3. Advice for firefighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Do not allow run-off from fire fighting to enter drains or water courses.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

Other information : No additional risk management measures required.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Avoid creating or spreading dust. Dust deposited may be vacuum cleaned.

6.1.1. For non-emergency personnel

Protective equipment : Where excessive dust may result, use approved respiratory protection equipment.

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Where excessive dust may result, use approved respiratory protection equipment.

Emergency procedures : Ventilate area. If a major spill occurs, all personnel should be immediately evacuated and the area ventilated.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment : Do not allow minor leaks or spills to accumulate on walking surfaces. Contain and collect as any solid.

Methods for cleaning up : On land, sweep or shovel into suitable containers. Minimize generation of dust.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of dust.

Hygiene measures : Smoking, eating and drinking should be prohibited in areas of storage and use. Always wash your hands immediately after handling this product, and once again before leaving the workplace.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Incompatible materials. Keep container closed when not in use.

Incompatible materials : ACID (Strong) - vigorous reaction, heat generated; Chlorine Trifluoride reacts violently, producing flame; Phosphorous Pentachloride - incandesces brilliantly. NOTE: Exposure to water may cause this product to slowly hydrate, during which heat may be generated (exothermic reaction).

Prohibitions on mixed storage : Keep away from incompatible materials.

7.3. Specific end use(s)

coatings.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Magnesium oxide (1309-48-4)		
USA - ACGIH	Local name	Magnesium oxide
USA - ACGIH	ACGIH TWA (mg/m³)	10 mg/m³
USA - ACGIH	Remark (ACGIH)	(inhalable fraction)
USA - OSHA	OSHA PEL (TWA) (mg/m³)	15 mg/m³

8.2. Exposure controls

Appropriate engineering controls : Provide local exhaust or general room ventilation to minimize exposure to dust. Use engineering controls to eliminate or reduce exposures below exposure limits.

Hand protection : Wear protective gloves

Eye protection : Chemical goggles or safety glasses

Respiratory protection : In case of insufficient ventilation, wear suitable respiratory equipment. Use air-purifying respirator equipped with particulate filtering cartridges.

Other information : Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Solid

Appearance : Powder.

Molecular mass : 40.3 g/mol

Colour : white.

Odour : odourless.

Odour threshold : No data available

pH : No data available

pH solution : 10.3 saturated aqueous solution

Relative evaporation rate (butyl acetate=1) : No data available

Melting point : 2827 (2797 - 2857) °C

Freezing point : No data available

Boiling point : 3600 °C

Flash point : Product does not sustain combustion

Auto-ignition temperature : No data available

Decomposition temperature : > 1700 °C

Flammability (solid, gas) : Non flammable

Vapour pressure : No data available

Vapour pressure at 50 °C : 0 hPa

Relative vapour density at 20 °C : 0

Relative density : No data available

Density : 3.58 g/cm³

Solubility : In water, material is partially soluble.

Log Pow : No data available

Viscosity, kinematic : No data available

Viscosity, dynamic : No data available

Explosive properties : Product is not explosive.

Oxidising properties : No data available

Explosive limits : No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Reacts with : Incompatible materials.

10.2. Chemical stability

Stable at ambient temperature and under normal conditions of use.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Avoid contact with incompatible materials, excessive heat or cold. Moisture.

10.5. Incompatible materials

ACID (Strong) - vigorous reaction, heat generated; Chlorine Trifluoride reacts violently, producing flame; Phosphorous Pentachloride - incandesces brilliantly. NOTE: Exposure to water may cause this product to slowly hydrate, during which heat may be generated (exothermic reaction).

10.6. Hazardous decomposition products

If magnesium oxide is heated to the point of volatilization (i.e., >1700 C), magnesium oxide fumes may be generated.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified (Based on available data, the classification criteria are not met)

Magnesium oxide (1309-48-4)	
LD50 oral rat	3870 - 3990 mg/kg

Skin corrosion/irritation : Not classified (Based on available data, the classification criteria are not met)

Serious eye damage/irritation : Not classified (Based on available data, the classification criteria are not met)

Respiratory or skin sensitisation : Not classified (Based on available data, the classification criteria are not met)

Germ cell mutagenicity : Not classified (Based on available data, the classification criteria are not met)

Carcinogenicity : Not classified (Based on available data, the classification criteria are not met)

Reproductive toxicity : Not classified (Based on available data, the classification criteria are not met)

Specific target organ toxicity (single exposure) : Not classified (Based on available data, the classification criteria are not met)

Specific target organ toxicity (repeated exposure) : Not classified (Based on available data, the classification criteria are not met)

Aspiration hazard : Not classified (Based on available data, the classification criteria are not met)

SECTION 12: Ecological information

12.1. Toxicity

Magnesium oxide (1309-48-4)	
LC50 fishes 1	1355 mg/l
EC50 Daphnia 1	190 mg/l

12.2. Persistence and degradability

FloMag PWT (Potable Water Treatment) Magnesium Oxide (1309-48-4)	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

FloMag PWT (Potable Water Treatment) Magnesium Oxide (1309-48-4)	
Bioaccumulative potential	Not established.

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

Additional information : Avoid release to the environment

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Take all necessary measures to avoid accidental discharge of products into drains and waterways due to the rupture of containers or transfer systems. Dispose in a safe manner in accordance with local/national regulations.

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

Not considered a dangerous good for transport regulations

14.2. UN proper shipping name

Proper Shipping Name (ADR) : Not applicable

Proper Shipping Name (IMDG) : Not applicable

Proper Shipping Name (IATA) : Not applicable

Proper Shipping Name (ADN) : Not applicable

Proper Shipping Name (RID) : Not applicable

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : Not applicable

IMDG

Transport hazard class(es) (IMDG) : Not applicable

IATA

Transport hazard class(es) (IATA) : Not applicable

ADN

Transport hazard class(es) (ADN) : Not applicable

RID

Transport hazard class(es) (RID) : Not applicable

14.4. Packing group

Packing group (ADR) : Not applicable

Packing group (IMDG) : Not applicable

Packing group (IATA) : Not applicable

Packing group (ADN) : Not applicable

Packing group (RID) : Not applicable

14.5. Environmental hazards

Dangerous for the environment : No

Marine pollutant : No

Other information : No supplementary information available

14.6. Special precautions for user

14.6.1. Overland transport

14.6.2. Transport by sea

14.6.3. Air transport

14.6.4. Inland waterway transport

Not subject to ADN : No

14.6.5. Rail transport

Carriage prohibited (RID) : No

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations

No REACH Annex XVII restrictions

FloMag PWT (Potable Water Treatment) Magnesium Oxide is not on the REACH Candidate List

Contains no substance on the REACH candidate list

FloMag PWT (Potable Water Treatment) Magnesium Oxide is not on the REACH Annex XIV List

Contains no REACH Annex XIV substances

15.1.2. National regulations

Germany

Water hazard class (WGK) : 1 - low hazard to waters

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Indication of changes:
Composition update.

Abbreviations and acronyms:

	ACGIH (American Conference of Governement Industrial Hygienists)
	ATE: Acute Toxicity Estimate
	CAS (Chemical Abstracts Service) number
	EC50: Environmental Concentration associated with a response by 50% of the test population.
	GHS: Globally Harmonized System (of Classification and Labeling of Chemicals
	LD50: Lethal Dose for 50% of the test population
	OSHA: Occupational Safety & Health Administration
	TSCA: Toxic Substances Control Act
	TWA: Time Weight Average

Data sources : ACGIH 2000.

Chemical Inspection & Regulation Service; accessed at: http://www.cirs-reach.com/Inventory/Global_Chemical_Inventories.html.

Ind. Exposure & Control Techn. for OSHA Regulated Substances - MgO (fume), March, 1989, pp. 1181-1184.

Krister Forsberg and S.Z. Mansdorf, "Quick Selection Guide to Chemical Protective Clothing", Fifth Edition.

NIOSH Occupational Health Guide for chemical Substances - Vol. II, September, 1978.

REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

RTECS, June 1998.

Sax - 8th Ed. TSCA Chemical Substance Inventory. Accessed at http://www.epa.gov/oppt/existingchemicals/pubs/tscainventory/howto.html.

US National Library of Medicine National Institutes of Health Haz-Map. Accessed at http://hazmap.nlm.nih.gov

Other information : None.

SDS (REACH)

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