



WEST BENGAL CHEMICAL INDUSTRIES LIMITED

145/1, Jessore Road, Lake Town,

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Phone: +9133 4025 1700 Fax: +9133 2574 7410

Email: [wbcil@wbcil.com](mailto:wbcil@wbcil.com) Website: [www.wbcil.com](http://www.wbcil.com)

## Section 1 - Chemical Product and Company Identification

**1.1 MSDS Name:** Magnesium Orotate Dihydrate

**1.2 Product Code:** MGODH98

**1.3 Recommended use of the chemical and restrictions on use:**

Industrial and scientific research uses

**1.4 Company Identification:**

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## Section 2 - Hazards Identification

**2.1. Classification of the substance or mixture:**

2.1.1 Classification according to Directive 1999/45/EEC:

Nonhazardous.

2.1.2 Nature of special risks attributed:

None in particular.

**2.2. Label elements:**

Labelling according to Regulation (EC) No 1272/2008

**2.3 Pictogram, Signal Word Code(s):**

None.

**2.4 Hazard statement Code(s):**

Nonhazardous.

**2.5 Precautionary statements:**

P261: Avoid breathing dust/fume/gas/mist/vapors/spray.

P262: Do not get in eyes, on skin, or on clothing.

P281: Use personal protective equipment as required.

P302+P352 - IF ON SKIN: Wash with plenty of soap and water.

P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337+313: If eye irritation persists get medical advice/attention.

**2.6 Hazards not otherwise classified (HNOC):**

May causes mild skin irritation. May causes mild eye irritation.

**2.7. Other hazards**

No information on other hazards.



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## Section 2 - Hazards Identification

### 2.8 Potential Acute Health Effects:

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

### 2.9 Potential Chronic Health Effects:

#### 2.9.1 Carcinogenic effects

Not available.

#### 2.9.2 Mutagenic effects

Not available.

#### 2.9.3 Teratogenic effects

Not available.

#### 2.9.4 Developmental toxicity

Not available.

#### 2.10 Repeated or prolonged exposure

Not known to aggravate medical condition.

## Section 3 - Composition / Information on Ingredients

**3.1 Ingredient Name:** Magnesium Orotate

**3.2 Synonym:** Bis(1,2,3,6-tetrahydro-2,6-dioxypyrimidine-4-carboxylato-N3,O4)magnesium; Magnesium bis(2,6-dioxo-1,2,3,6-tetrahydro-4-pyrimidinecarboxylate)

**3.3 CAS Number:** 1381769-22-7

**3.4 EC number:** 252-167-6

**3.5 Molecular formula:** C<sub>10</sub>H<sub>6</sub>MgN<sub>4</sub>O<sub>8</sub>.2H<sub>2</sub>O

**3.6 Molecular Weight:** 370.51 g/mol

**3.7 % wt.:** 100%

## Section 4 - First Aid Measures

### 4.1. Description of first aid measures:

#### 4.1.1 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. Get medical attention if irritation occurs.

#### 4.1.2 Skin Contact

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

#### 4.1.3 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.



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## Section 4 - First Aid Measures

### 4.1.4 Inhalation

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

### 4.2 Most important symptoms/effects, acute and delayed:

No data available

### 4.3 Indication of immediate medical attention and special treatment needed, if necessary:

No data available

## Section 5 - Fire-Fighting Measures

### 5.1. Extinguishing media:

#### 5.1.1 Advised extinguishing agents:

Water spray, CO<sub>2</sub>, foam, dry chemical, depending on the materials involved in the fire.

#### 5.1.2 Extinguishing means to avoid:

Water jets. Use water jets only to cool the surfaces of the containers exposed to fire

### 5.2 Flammability of the Product:

May be combustible at high temperature.

### 5.3 Auto-Ignition Temperature:

Not available.

### 5.4 Flash Points:

Not available.

### 5.5 Flammable Limits:

These products are carbon oxides (CO, CO<sub>2</sub>), nitrogen oxides (NO, NO<sub>2</sub>...). Some metallic oxides.

### 5.6 Products of Combustion:

Slightly flammable to flammable in presence of heat. Non-flammable in presence of shocks.

### 5.7 Fire Hazards in Presence of Various Substances:

Slightly explosive in presence of open flames and sparks. Non-explosive in presence of shocks.

### 5.8 Fire Fighting Media and Instructions:

#### 5.8.1 Small fire:

Use DRY chemical powder.

#### 5.8.2 Large fire:

Use water spray, fog or foam. Do not use water jet.

### 5.9 Special Remarks on Fire Hazards:

As with most organic solids, fire is possible at elevated temperatures

### 5.10 Special Remarks on Explosion Hazards:

Fine dust dispersed in air in sufficient concentrations, and in the presences of an ignition source is a potential dust explosion hazard.



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## Section 6 - Accidental Release Measures

### 6.1 Personal precautions, protective equipment and emergency procedures:

#### 6.1.1 For non-emergency personnel:

Leave the area surrounding the spill or release. Do not smoke. Wear gloves and protective clothing.

#### 6.1.2 For emergency responders:

Wear gloves and protective clothing. Eliminate all unguarded flames and possible sources of ignition. No smoking. Provision of sufficient ventilation. Evacuate the danger area and, in case, consult an expert.

### 6.2 Environmental Protection:

Keep spills out of sewers and bodies of water. Dike and contain the spill with inert material. Absorb on sand, vermiculite or diatomite. Transfer material to a container for disposal or recovery. Ventilate area and wash spill site after material pickup is complete.

### 6.3. Methods and material for containment and cleaning up:

#### 6.3.1 For containment:

Recover the product for reuse, if possible, or the removal.

#### 6.3.2 For cleaning up:

After wiping up, wash with water the area and materials involved.

#### 6.3.3 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 legal requirements.

#### 6.3.4 Large Spill:

Do not inhale dust, vapors, mist, or gas. Avoid dust formation. Contain spilled material. Cover with an inert, non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite). 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 as per law.

### 6.4 Other information:

None in particular.

### 6.5 Reference to other sections:

Refer to paragraphs 8 and 13 for more information.

## Section 7 - Handling and Storage

### 7.1. Precautions for safe handling:

Avoid breathing dust, vapor, mist or gas. Avoid contact with skin and eyes. Avoid prolonged or repeated exposure. Use only in a chemical fume hood. Open and handle container with care. Keep ignition sources away.

### 7.2 Storage:

Keep in original container closed tightly. Do not store in open or unlabeled containers. Keep containers upright and safe by avoiding the possibility of falls or collisions. Store in a cool place, away from sources of heat and direct exposure of sunlight

7.2.1 Storage temperature store at 10°C - 25°C



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## Section 8 - Exposure Controls / Personal Protection

### 8.1 Personal protective equipment

#### 8.1.1 Eyes:

Wear appropriate protective eyeglass or chemical safety goggles. Make sure that there is an eyewash facility in your vicinity. Wear tightly fitting safety goggles with side-shields conforming to EN 166(EU) or NIOSH (US).

#### 8.1.2 Skin:

Wear impervious gloves and protective clothing. Wear fire/flame resistant and impervious clothing. Handle with gloves. Gloves must be inspected prior to use. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

#### 8.1.3 Respiratory:

Use a NIOSH approved respirator when exposure limits are exceeded or if irritation or other symptoms are experienced.

### 8.2 Exposure Limits:

Consult local authorities for acceptable exposure limits.

## Section 9 - Physical and Chemical Properties

Appearance Form	:	Powder
Color	:	White to off-white
Odour	:	Odorless.
pH of 2 % w/v aqueous suspension	:	6.0 – 7.5
Relative density	:	No data available
Melting point/freezing point	:	345°C
Initial boiling point and boiling range	:	No data available
Flash point	:	No data available
Auto-ignition temperature	:	No data available
Vapour pressure	:	No data available
Vapour density	:	No data available
Upper/lower flammability or explosive limits	:	No data available
Evaporation rate	:	Slightly soluble in water.
Decomposition temperature	:	No data available
Viscosity	:	No data available
Flammability (solid, gas)	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Solubility	:	water solubility 1.7gm/ltr.
Viscosity	:	No data available
Molecular Weight	:	370.50
Chemical Formula	:	C <sub>10</sub> H <sub>6</sub> MgN <sub>4</sub> O <sub>8</sub> -2H <sub>2</sub> O

Other safety information: No data available



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## Section 10 - Stability and Reactivity

### 10.1. Reactivity:

No reactivity hazards.

### 10.2 Stability:

Stable under normal temperatures and pressures.

### 10.3 Incompatibility:

Strong oxidizing agents, Strong reducing agents.

### 10.4 Conditions to Avoid:

Heat, Flame, Sparks, other ignition sources

### 10.5 Hazardous Decomposition Product:

Nitrogen oxides (NO<sub>x</sub>), carbon dioxide (CO<sub>2</sub>), carbon monoxide, Magnesium oxides

### 10.6 Incompatible materials:

Oxidizing agents.

### 10.7 Hazardous decomposition products:

Does not decompose when used for intended uses.

### 10.8 Hazardous Polymerization:

Product will not undergo hazardous polymerization.

## Section 11 - Toxicological Information

### 11.1 RTECS Reference:

Not Available

### 11.2 Toxicity Data:

Oral LD50 Rat: 7400 mg/kg LD50 (IVN-RAT): 500mg/kg, LD50 (ORAL-MUS): 10g/kg, LD50 (IVN-MUS): 282mg/kg, LD50 (IPR-MUS): 85mg/kg

### 11.3 Carcinogenicity:

NTP: NO, IARC: NO, ZLIST: NO

### 11.4 Target Organs:

Not Available

### 11.5 Skin Contact:

Causes Skin Irritation

### 11.6 Skin Absorption:

May be harmful if absorbed through skin

### 11.7 Eye Contact:

Causes Eye irritation

### 11.8 Inhalation:

May be harmful in inhaled, Material is irritation to mucous membranes and upper respiratory tract.

### 11.9 Ingestion:

Harmful if swallowed in large amounts



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## Section 11 - Toxicological Information

**11.10 Germ cell mutagenicity:**

Not applicable

**11.11 Reproductive toxicity:**

Not applicable

**11.12 specific target organ toxicity (STOT) single exposure:**

Not applicable

**11.13 specific target organ toxicity (STOT) repeated exposure:**

Not applicable

**11.14 aspiration hazard:**

Not applicable

## Section 12 - Ecological Information

**12.1 Toxicity:**

Not Available

**12.2 Persistence and degradability:**

Not Available

**12.3 Bio-accumulative potential:**

Not Available

**12.4 Mobility in soil:**

Not Available

**12.5 PBT and vPvB assessment:**

Not Available

**12.6 Endocrine disrupting properties:**

This substance is not identified as having endocrine disrupting properties

**12.7 Other adverse effects:**

Not Available

## Section 13 - Disposal Considerations

Contact a licensed professional waste disposal service. Dispose in a manner consistent with federal, state and local environmental regulations.



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## Section 14 - Transport Information

**14.1 UN Number:**

ADR/RID: no data available

IMDG: no data available

IATA: no data available

**14.2 UN Proper Shipping Name:**

ADR/RID: no data available

IMDG: no data available

IATA: no data available

**14.3 Transport hazard class(es):**

ADR/RID: no data available

IMDG: no data available

IATA: no data available

**14.4 Packing group, if applicable:**

ADR/RID: no data available

IMDG: no data available

IATA: no data available

**14.5 Environmental hazards:**

ADR/RID: No

IMDG: No

IATA: No

**14.6 Special precautions for user:**

No data available

**14.7 Transport in bulk according to IMO instruments:**

No data available

**14.8 D O T Classification:**

Not a DOT controlled material

**14.9 Air transport Goods:**

Nonhazardous/non-dangerous as per IATA DGR.

**14.10 Special Provision for Transport:**

Not applicable

**14.11 IATA Specification:**

Non-dangerous, non-hazardous

AS PER IATA REGULATION SAFE FOR CARRAGE, NONHAZARDOUS AND NON-RESTRICTED.

NO SPECIAL LABELLING OR TRANSPORT MEASURE HAVE BEEN

IDENTIFIED.

THIS IS NOT REGULATED AS PER IATA REGULATION







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## Section 15 - Regulatory Information

### United States:

Toxic Substance Control Act (TSCA): Not listed

Superfund Amendments and Reauthorization Act (SARA 302): Not listed

Superfund Amendments and Reauthorization Act (SARA 311/312): Not listed

Superfund Amendments and Reauthorization Act (SARA 313): Not listed

### European Union:

European Inventory of Existing Chemical Substances (EINECS): Not Available

Hazard Codes: Not Available

Risk Statements: Not Available

Safety Statements: Not Available

### Canada:

Canadian Domestic Substances List (DSL): Not listed

Canadian Non-Domestic Substances List (NDSL): Not listed

European Inventory of Existing Commercial Chemical Substances (EINECS)	Listed.
EC Inventory	Listed.
United States Toxic Substances Control Act (TSCA) Inventory	Listed.
China Catalog of Hazardous chemicals 2015	Not Listed.
New Zealand Inventory of Chemicals (NZIoC)	Not Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	Not Listed.
Vietnam National Chemical Inventory	Not Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)	Not Listed.
Korea Existing Chemicals List (KECL)	Not Listed.

## Section 16 - Other Information

**Disclaimer:** This material safety data sheet is provided as an information resource only. **WEST BENGAL CHEMICAL INDUSTRIES LIMITED** believes the information contained herein is accurate and compiled from reliable sources. It is responsibility of the user to verify its validity. The buyer assumes all responsibility of using and handling the product in accordance with federal, state, and local regulations.

Abbreviations and acronyms

**CAS:** Chemical Abstracts Service

**ADR:** European Agreement concerning the International Carriage of Dangerous Goods by Road

**RID:** Regulation concerning the International Carriage of Dangerous Goods by Rail

**IMDG:** International Maritime Dangerous Goods

**IATA:** International Air Transportation Association

**TWA:** Time Weighted Average

**STEL:** Short term exposure limit

**LC50:** Lethal Concentration 50%



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**LD50:** Lethal Dose 50%

**EC50:** Effective Concentration 50%

**Issue Date:** April, 2023

**Revision Date:** May, 2025

**Revision No.:** 00