1. PRODUCT AND COMPANY IDENTIFICATION

1.1. Product Identifiers

Product Form: Solid
Substance Name: Magnesium Perchlorate
CAS No.: 10034-81-8
Product Code: UIC, Inc. Catalog Number CM300-009

1.2. Intended Use of the Product

Use of the substance/mixture:
Name, Address, and Telephone of the Responsible Party
UIC Inc
1225 Channahon Rd
Joliet, IL 60436
Phone: (815) 744-4477
Fax: (815) 744-1561
Emergency Telephone Number
For Chemical Emergency, Spill, Leak, Fire, Exposure, or Accident, call emergency number: 1-815-474-8753

2. Hazards Identification of the product

2.1. Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)
Oxidizing solids (Category 2), H272
Skin irritation (Category 2), H315
Eye irritation (Category 2A), H319
Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335
For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2. GHS Label elements, including precautionary statements

Pictogram

Signal word Danger
Hazard statement(s)
H272 May intensify fire; oxidiser.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
Precautionary statement(s)
P210 Keep away from heat.
P220 Keep/Store away from clothing/ combustible materials.
P221 Take any precaution to avoid mixing with combustibles.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
2.3. Hazards not otherwise classified (HNOC) or not covered by GHS - none

3. Composition/information on ingredients

3.1. Substances

<table>
<thead>
<tr>
<th>Synonyms</th>
<th>Mg(ClO₄)₂</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formula:</td>
<td>Mg(ClO₄)₂</td>
</tr>
<tr>
<td>Molecular weight:</td>
<td>223.206 g/mol</td>
</tr>
<tr>
<td>CAS-No.:</td>
<td>10034-81-8</td>
</tr>
<tr>
<td>EC-No.:</td>
<td>233-108-3</td>
</tr>
</tbody>
</table>

Hazardous components

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magnesium Perchlorate</td>
<td>Ox. Sol. 2; Skin Irrit. 2; Eye Irrit. 2A; STOT SE 3; H272, H315, H319, H335</td>
<td>90 - 100%</td>
</tr>
</tbody>
</table>

For the full text of the H-Statements mentioned in this Section, see Section 16.

4. First Aid Measures

4.1. Description of first aid measures

General advice
Move out of dangerous area. Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Consult a physician.

In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2. Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3. Indication of any immediate medical attention and special treatment needed
No data available

5. Fire Fighting Measures

5.1. Extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2. Special hazards arising from the substance or mixture
Hydrogen chloride gas, Magnesium oxide

5.3. Advice for firefighters
Wear self-contained breathing apparatus for firefighting if necessary.
5.4. Further information
Use water spray to cool unopened containers.

6. Accidental Release Measures
6.1. Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.
For personal protection see section 8.
6.2. Environmental precautions
Do not let product enter drains.
6.3. Methods and materials for containment and cleaning up
Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.
6.4. Reference to other sections
For disposal see section 13.

7. Handling and Storage
7.1. Precautions for safe handling
Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs. Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition - No smoking. Keep away from heat and sources of ignition.
For precautions see section 2.2.
7.2 Conditions for safe storage, including any incompatibilities
Keep container tightly closed in a dry and well-ventilated place.
7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8. Exposure Controls and Personal Protection
8.1. Control Parameters
Components with workplace control parameters
Contains no substances with occupational exposure limit values.
8.2. Exposure Controls
Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
Personal protective equipment
Eye/face protection
Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
Skin protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min
Material tested: Dermatril ® (KCL 740 / Aldrich Z677272, Size M)

Splash contact
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min
Material tested: Dermatril ® (KCL 740 / Aldrich Z677272, Size M)

Data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

**Body Protection**

Impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Control of environmental exposure**

Do not let product enter drains.

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**9. Physical and Chemical Properties**

**9.1 Information on basic physical and chemical properties**

a) **Appearance**
   - Form: solid, White granular powder.
   - Hygroscopic.

b) **Odor**
   - Odorless

c) **Odor Threshold**
   - No data available

d) **pH**
   - No data available

e) **Melting point/freezing point**
   - Melting point/range: 251 °C (484 °F) - dec

f) **Initial boiling point and boiling range**
   - No data available

g) **Flash point**
   - Not applicable

h) **Evaporation rate**
   - No data available

i) **Flammability (solid, gas)**
   - No data available

j) **Upper/lower flammability or explosive limits**
   - No data available

k) **Vapor pressure**
   - No data available

l) **Vapor density**
   - 7.7 (air=1)

m) **Specific gravity**
   - 2.3

n) **Relative density**
   - 2.210 g/cm3

o) **Water solubility**
   - 99 gm/100 gm in water

p) **Partition coefficient: n-octanol/water**
   - No data available

q) **Auto-ignition temperature**
   - No data available

r) **Decomposition temperature**
   - No data available

s) **Viscosity**
   - No data available

t) **Explosive properties**
   - No data available

u) **Oxidizing properties**
   - The substance or mixture is classified as oxidizing with the category 2

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**9.2 Other safety information**

No data available

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**10. Stability and Reactivity**

**10.1 Reactivity**

No data available

**10.2 Chemical stability**

Stable under recommended storage conditions.

**10.3 Possibility of hazardous reactions**

No data available

**10.4 Conditions to avoid**

No data available
10.5 Incompatible materials
Water, strong reducing agents, organic materials, powdered metals, strong acids

10.6 Hazardous decomposition products
Other decomposition products - No data available
In the event of fire: see section 5

11. Toxicological Information
11.1 Information on toxicological effects
Acute toxicity
Dermal: no data available
LD50 Intraperitoneal - mouse - 1,500 mg/kg

Skin corrosion/irritation
No data available

Serious eye damage/eye irritation
No data available

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
No data available

Carcinogenicity
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
Inhalation - May cause respiratory irritation.

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

Additional Information
RTECS: Not available
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

12. Ecological Information
12.1 Toxicity
No data available

12.2 Persistence and degradability
No data available

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available

12.5 Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects
No data available
13. Disposal Considerations
13.1 Waste treatment methods

**Product**
Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

**Contaminated packaging**
Dispose of as unused product.

14. Transport Information

**DOT (US)**
- UN number: 1475
- Class: 5.1
- Packing group: II
- Proper shipping name: Magnesium perchlorate
- Reportable Quantity (RQ):
- Marine pollutant: No
- Poison Inhalation Hazard: No

**IMDG**
- UN number: 1475
- Class: 5.1
- Packing group: II
- EMS-No: F-H, S-Q
- Proper shipping name: MAGNESIUM PERCHLORATE
- Marine pollutant: No

**IATA**
- UN number: 1475
- Class: 5.1
- Packing group: II
- Proper shipping name: Magnesium perchlorate

15. Regulatory Information

**SARA 302 Components**
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components**
SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 311/312 Hazards**
Reactivity Hazard, Acute Health Hazard

**Massachusetts Right to Know Components**

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<th>Revision Date</th>
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**Pennsylvania Right to Know Components**

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**New Jersey Right to Know Components**

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**California Prop. 65 Components**
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.
16. Other Information
Full text of H-Statements referred to under sections 2 and 3.

Eye Irrit. Eye irritation
H272 May intensify fire; oxidiser.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
Ox. Sol. Oxidizing solids
Skin Irrit. Skin irritation
STOT SE Specific target organ toxicity - single exposure

HMIS Rating
Health hazard: 2
Chronic Health Hazard:
Flammability: 0
Physical Hazard: 2

NFPA Rating
Health hazard: 2
Fire Hazard: 0
Reactivity Hazard: 2
Special hazard I: OX

Further information
UIC, Inc. has obtained the most current chemical information available to us in updating this Safety Data Sheet. However, users should always use caution when working with chemicals, as UIC, Inc. assumes no liability resulting from its use. Additionally, we make no warranty with respect to any information published on this sheet, either stated or implied.

Version: 1.0          Revision Date: 09/24/2015