

# Safety Data Sheet

acc. to OSHA HCS

Printing date 12/01/2017

Reviewed on 12/01/2017

## 1 Identification

- **Product identifier**
- **Trade name:** Magnesium, Turnings, For Grignard Reagent
- **Article number:** M0167
- **CAS Number:**  
7439-95-4
- **EC number:**  
231-104-6
- **Index number:**  
012-001-00-3
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Aqua Solutions, Inc.  
6913 Highway 225  
DEER PARK, TX 77536  
USA  
800-256-2586
- **Information department:**  
Technical Coordinator  
Sherman Nelson sherman@aquasolutions.org
- **Emergency telephone number:**  
Chemtec: 800-424-9300  
Canutec: 613-996-6666



## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Pyr. Sol. 1 H250 Catches fire spontaneously if exposed to air.

Water-react. 1 H260 In contact with water releases flammable gases, which may ignite spontaneously.

- **Label elements**
- **GHS label elements** The substance is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS02

- **Signal word** *Danger*
- **Hazard statements**  
Catches fire spontaneously if exposed to air.  
In contact with water releases flammable gases, which may ignite spontaneously.
- **Precautionary statements**  
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
Do not allow contact with air.  
Do not allow contact with water.  
Handle under inert gas. Protect from moisture.  
Wear protective gloves/protective clothing/eye protection/face protection.  
Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages.

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*In case of fire: Use for extinction: CO<sub>2</sub>, sand, extinguishing powder.*

*Store in a dry place. Store in a closed container.*

*Store contents under inert gas.*

*Dispose of contents/container in accordance with local/regional/national/international regulations.*

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



*The substance demonstrates unusual reactivity with water.*

· **HMIS-ratings (scale 0 - 4)**

HEALTH	0	Health = 0
FIRE	4	Fire = 4
REACTIVITY	2	Reactivity = 2

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

### 3 Composition/information on ingredients

· **Chemical characterization: Substances**

· **CAS No. Description**

7439-95-4 Magnesium

· **Identification number(s)**

· **EC number:** 231-104-6

· **Index number:** 012-001-00-3

### 4 First-aid measures

· **Description of first aid measures**

· **After inhalation:** Supply fresh air; consult doctor in case of complaints.

· **After skin contact:** Generally the product does not irritate the skin.

· **After eye contact:** Rinse opened eye for several minutes under running water.

· **After swallowing:** If symptoms persist consult doctor.

· **Information for doctor:**

· **Most important symptoms and effects, both acute and delayed** No further relevant information available.

· **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

### 5 Fire-fighting measures

· **Extinguishing media**

· **Suitable extinguishing agents:**

Extinguishing powder. Do not use water.

CO<sub>2</sub>. Do not use water.

Sand. Do not use water.

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- *Special powder for metal fires. Do not use water.*
- *CO<sub>2</sub>, sand, extinguishing powder. Do not use water.*
- *Use fire fighting measures that suit the environment.*
- **For safety reasons unsuitable extinguishing agents:** *Water*
- **Special hazards arising from the substance or mixture** *No further relevant information available.*
- **Advice for firefighters**
- **Protective equipment:** *No special measures required.*

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
*Wear protective equipment. Keep unprotected persons away.*
- **Environmental precautions:** *No special measures required.*
- **Methods and material for containment and cleaning up:**  
*Dispose contaminated material as waste according to item 13.*  
*Ensure adequate ventilation.*  
*Do not flush with water or aqueous cleansing agents*
- **Reference to other sections**  
*See Section 7 for information on safe handling.*  
*See Section 8 for information on personal protection equipment.*  
*See Section 13 for disposal information.*
- **Protective Action Criteria for Chemicals**
- **PAC-1:** *18 mg/m<sup>3</sup>*
- **PAC-2:** *200 mg/m<sup>3</sup>*
- **PAC-3:** *1,200 mg/m<sup>3</sup>*

### 7 Handling and storage

- **Handling:**
- **Precautions for safe handling** *Open and handle receptacle with care.*
- **Information about protection against explosions and fires:** *Keep ignition sources away - Do not smoke.*
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** *No special requirements.*
- **Information about storage in one common storage facility:** *Not required.*
- **Further information about storage conditions:**  
*Keep receptacle tightly sealed.*  
*Store in cool, dry conditions in well sealed receptacles.*
- **Specific end use(s)** *No further relevant information available.*

### 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** *No further data; see item 7.*
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:** *Not required.*
- **Additional information:** *The lists that were valid during the creation were used as basis.*
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:** *Wash hands before breaks and at the end of work.*
- **Breathing equipment:** *Not required.*

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· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:** Not required.

· **Body protection:** Protective work clothing

## 9 Physical and chemical properties

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

· **General Information**

· **Appearance:**

<b>Form:</b>	Turnings
<b>Color:</b>	White to Grey
· <b>Odor:</b>	Odorless
· <b>Odor threshold:</b>	Not determined.

· **pH-value:** Not applicable.

· **Change in condition**

<b>Melting point/Melting range:</b>	649.5 °C (1,201.1 °F)
<b>Boiling point/Boiling range:</b>	1,090 °C (33.8 °F)

· **Flash point:** 500 °C (932 °F)

· **Flammability (solid, gaseous):** Contact with water liberates extremely flammable gases.

· **Ignition temperature:**

**Decomposition temperature:** Not determined.

· **Auto igniting:** Spontaneously flammable in air.

· **Danger of explosion:** Not determined.

· **Explosion limits:**

<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.

· **Vapor pressure at 20 °C (68 °F):** 0 hPa (0 mm Hg)

· **Density at 20 °C (68 °F):** 1.738 g/cm<sup>3</sup> (14.50361 lbs/gal)

· **Relative density** Not determined.

· **Vapor density** Not applicable.

· **Evaporation rate** Not applicable.

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- |   |   |
|---|---|
| · <b>Solubility in / Miscibility with Water:</b>  | <i>Insoluble.</i>                                 |
| · <b>Partition coefficient (n-octanol/water):</b> | <i>Not determined.</i>                            |
| · <b>Viscosity:</b>                               |   |
| · <b>Dynamic:</b>                                 | <i>Not applicable.</i>                            |
| · <b>Kinematic:</b>                               | <i>Not applicable.</i>                            |
| · <b>Other information</b>                        | <i>No further relevant information available.</i> |

### 10 Stability and reactivity

- **Reactivity** *No further relevant information available.*
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** *No decomposition if used according to specifications.*
- **Possibility of hazardous reactions** *Contact with water releases flammable gases.*
- **Conditions to avoid** *No further relevant information available.*
- **Incompatible materials:** *No further relevant information available.*
- **Hazardous decomposition products:** *No dangerous decomposition products known.*

### 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** *No irritant effect.*
- **on the eye:** *No irritating effect.*
- **Sensitization:** *No sensitizing effects known.*
- **Additional toxicological information:**
- **Carcinogenic categories**
- **IARC (International Agency for Research on Cancer)** *Substance is not listed.*
- **NTP (National Toxicology Program)** *Substance is not listed.*
- **OSHA-Ca (Occupational Safety & Health Administration)** *Substance is not listed.*

### 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** *No further relevant information available.*
- **Persistence and degradability** *No further relevant information available.*
- **Behavior in environmental systems:**
- **Bioaccumulative potential** *No further relevant information available.*
- **Mobility in soil** *No further relevant information available.*
- **Additional ecological information:**
- **General notes:** *Generally not hazardous for water*
- **Results of PBT and vPvB assessment**
- **PBT:** *Not applicable.*
- **vPvB:** *Not applicable.*
- **Other adverse effects** *No further relevant information available.*

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## 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

## 14 Transport information

<ul style="list-style-type: none"> <li>· <b>UN-Number</b></li> <li>· <b>DOT, IMDG, IATA</b></li> </ul>	UN1869
<ul style="list-style-type: none"> <li>· <b>UN proper shipping name</b></li> <li>· <b>DOT</b></li> <li>· <b>IMDG, IATA</b></li> </ul>	Magnesium MAGNESIUM
<ul style="list-style-type: none"> <li>· <b>Transport hazard class(es)</b></li> <li>· <b>DOT</b></li> </ul>	<div style="text-align: center;">  </div>
<ul style="list-style-type: none"> <li>· <b>Class</b></li> <li>· <b>Label</b></li> </ul>	4.1 Flammable solids, self-reactive substances and solid desensitised explosives 4.1
<ul style="list-style-type: none"> <li>· <b>IMDG, IATA</b></li> </ul>	<div style="text-align: center;">  </div>
<ul style="list-style-type: none"> <li>· <b>Class</b></li> <li>· <b>Label</b></li> </ul>	4.1 Flammable solids, self-reactive substances and solid desensitised explosives 4.1
<ul style="list-style-type: none"> <li>· <b>Packing group</b></li> <li>· <b>DOT, IMDG, IATA</b></li> </ul>	III
<ul style="list-style-type: none"> <li>· <b>Environmental hazards:</b></li> <li>· <b>Marine pollutant:</b></li> </ul>	No
<ul style="list-style-type: none"> <li>· <b>Special precautions for user</b></li> <li>· <b>Danger code (Kemler):</b></li> <li>· <b>EMS Number:</b></li> <li>· <b>Stowage Category</b></li> <li>· <b>Handling Code</b></li> <li>· <b>Segregation Code</b></li> </ul>	Warning: Flammable solids, self-reactive substances and solid desensitised explosives 40 F-G,S-G A H1 Keep as dry as reasonably practicable SG17 Stow "separated from" class 5.1 SG25 Stow "separated from" goods of classes 2.1 and 3. SG26 In addition: from goods of classes 2.1 and 3 when stowed on deck of a containership a minimum distance of two container spaces athwartship shall be maintained, when stowed on ro-ro ships a distance of 6 m athwartship shall be maintained.

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	<p>SG32 Stow "away from" liquid halogenated hydrocarbons            SG35 Stow "separated from" acids.            SG36 Stow "separated from" alkalis.            SG52 Stow "separated from" iron oxide</p>
<p>· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b></p>	<p>Not applicable.</p>
<p>· <b>Transport/Additional information:</b></p> <p>· <b>DOT</b></p> <p>· <b>Quantity limitations</b></p>	<p>On passenger aircraft/rail: 25 kg            On cargo aircraft only: 100 kg</p>
<p>· <b>IMDG</b></p> <p>· <b>Limited quantities (LQ)</b></p> <p>· <b>Excepted quantities (EQ)</b></p>	<p>5 kg            Code: E1            Maximum net quantity per inner packaging: 30 g            Maximum net quantity per outer packaging: 1000 g</p>
<p>· <b>UN "Model Regulation":</b></p>	<p>UN 1869 MAGNESIUM, 4.1, III</p>

## 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Sara**
- **Section 355 (extremely hazardous substances):** Substance is not listed.
- **Section 313 (Specific toxic chemical listings):** Substance is not listed.

- **TSCA (Toxic Substances Control Act):**

Magnesium

- **Proposition 65**
- **Chemicals known to cause cancer:** Substance is not listed.
- **Chemicals known to cause reproductive toxicity for females:** Substance is not listed.
- **Chemicals known to cause reproductive toxicity for males:** Substance is not listed.
- **Chemicals known to cause developmental toxicity:** Substance is not listed.
- **Carcinogenic categories**
- **EPA (Environmental Protection Agency)** Substance is not listed.
- **TLV (Threshold Limit Value established by ACGIH)** Substance is not listed.
- **NIOSH-Ca (National Institute for Occupational Safety and Health)** Substance is not listed.
- **GHS label elements** The substance is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS02

- **Signal word** Danger
- **Hazard statements**
  - Catches fire spontaneously if exposed to air.
  - In contact with water releases flammable gases, which may ignite spontaneously.
- **Precautionary statements**
  - Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
  - Do not allow contact with air.

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- Do not allow contact with water.*
- Handle under inert gas. Protect from moisture.*
- Wear protective gloves/protective clothing/eye protection/face protection.*
- Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages.*
- In case of fire: Use for extinction: CO<sub>2</sub>, sand, extinguishing powder.*
- Store in a dry place. Store in a closed container.*
- Store contents under inert gas.*
- Dispose of contents/container in accordance with local/regional/national/international regulations.*
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### 16 Other information

*This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.*

- **Department issuing SDS:** Environment protection department.
- **Contact:**
- **Date of preparation / last revision**
  - 12-01-2017: review SDS for accuracy. STN*
  - Creation date for SDS 02-05-2014. STN*
  - 12/01/2017 / -*
- **Abbreviations and acronyms:**
  - ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)*
  - IMDG: International Maritime Code for Dangerous Goods*
  - DOT: US Department of Transportation*
  - IATA: International Air Transport Association*
  - ACGIH: American Conference of Governmental Industrial Hygienists*
  - EINECS: European Inventory of Existing Commercial Chemical Substances*
  - CAS: Chemical Abstracts Service (division of the American Chemical Society)*
  - NFPA: National Fire Protection Association (USA)*
  - HMIS: Hazardous Materials Identification System (USA)*
  - PBT: Persistent, Bioaccumulative and Toxic*
  - vPvB: very Persistent and very Bioaccumulative*
  - NIOSH: National Institute for Occupational Safety*
  - OSHA: Occupational Safety & Health*
  - TLV: Threshold Limit Value*
  - PEL: Permissible Exposure Limit*
  - REL: Recommended Exposure Limit*
  - Pyr. Sol. 1: Pyrophoric solids – Category 1*
  - Water-react. 1: Substances and mixtures which in contact with water emit flammable gases – Category 1*

US