

Safety Data Sheet

acc. to OSHA HCS

Printing date 07/02/2024

Reviewed on 07/02/2024

1 Identification

- **Product identifier**
- **Trade name:** Calcium Metal, Reagent Grade
- **Article number:** C0500
- **CAS Number:**
7440-70-2
- **EC number:**
231-179-5
- **Index number:**
020-001-00-X
- **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 shermann@aquasolutions.org
Technical Coordinator
Sherman Nelson shermann@aquasolutions.org
- **Emergency telephone number:**
Chemtrec: 800-424-9300
Canutec: 613-996-6666



2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Substances and mixtures which, in contact with water, **H261** In contact with water releases flammable gas.
emit flammable gases 2

- **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**
In contact with water releases flammable gas.
- **Precautionary statements**
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 CO₂, sand, extinguishing powder to extinguish.

(Contd. on page 2)

Safety Data Sheet

acc. to OSHA HCS

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Reviewed on 07/02/2024

Trade name: Calcium Metal, Reagent Grade

(Contd. of page 1)

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

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

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 0

Fire = 0

Reactivity = 2

The substance demonstrates unusual reactivity with water.

· **HMIS-ratings (scale 0 - 4)**



Health = 3

Fire = 3

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**

CAS: 7440-70-2 Calcium Metal

· **Identification number(s)**

· **EC number:** 231-179-5

· **Index number:** 020-001-00-X

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:** 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.

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 07/02/2024

Reviewed on 07/02/2024

Trade name: Calcium Metal, Reagent Grade

(Contd. of page 2)

- **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:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
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:** Substance is not listed.
- **PAC-2:** Substance is not listed.
- **PAC-3:** Substance is not listed.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling** No special precautions are necessary if used correctly.
- **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 section 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.
- **Protection of hands:**
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

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 07/02/2024

Reviewed on 07/02/2024

Trade name: Calcium Metal, Reagent Grade

(Contd. of page 3)

· **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:**

Form: Solid

Color: Grey

· **Odor:** Odorless

· **Odor threshold:** Not determined.

· **pH-value:** Not applicable.

· **Change in condition**

Melting point/Melting range: 839 °C (1,542.2 °F)

Boiling point/Boiling range: 1,484 °C (34.784 °F)

· **Flash point:** Not applicable.

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

· **Decomposition temperature:** Not determined.

· **Ignition temperature:** Not determined.

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

· **Explosion limits:**

Lower: Not determined.

Upper: Not determined.

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

· **Density at 20 °C (68 °F):** 1.55 g/cm³ (12.93475 lbs/gal)

· **Bulk density:** 700 kg/m³

· **Relative density** Not determined.

· **Vapor density** Not applicable.

· **Evaporation rate** Not applicable.

· **Solubility in / Miscibility with**

Water at 20 °C (68 °F): 4 g/l

· **Partition coefficient (n-octanol/water):** Not determined.

· **Viscosity:**

Dynamic: Not applicable.

Kinematic: Not applicable.

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS

Printing date 07/02/2024

Reviewed on 07/02/2024

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(Contd. of page 4)

· **Other information** No further relevant information available.

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:**
Water hazard class 1 (Assessment by list): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

(Contd. on page 6)

Safety Data Sheet

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Reviewed on 07/02/2024

Trade name: Calcium Metal, Reagent Grade

(Contd. of page 5)

- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

<ul style="list-style-type: none"> · UN-Number · DOT, IMDG, IATA 	<p style="text-align: right;">UN1401</p>
<ul style="list-style-type: none"> · UN proper shipping name · DOT · IMDG, IATA 	<p style="text-align: right;">Calcium CALCIUM</p>
<ul style="list-style-type: none"> · Transport hazard class(es) · DOT 	<div style="text-align: center;">  </div>
<ul style="list-style-type: none"> · Class · Label 	<p style="text-align: right;">4.3 Substances which, in contact with water, emit flammable gases 4.3</p>
<ul style="list-style-type: none"> · IMDG, IATA 	<div style="text-align: center;">  </div>
<ul style="list-style-type: none"> · Class · Label 	<p style="text-align: right;">4.3 Substances which, in contact with water, emit flammable gases 4.3</p>
<ul style="list-style-type: none"> · Packing group · DOT, IMDG, IATA 	<p style="text-align: right;">II</p>
<ul style="list-style-type: none"> · Environmental hazards: · Marine pollutant: 	<p style="text-align: right;">No</p>
<ul style="list-style-type: none"> · Special precautions for user · Hazard identification number (Kemler code): · EMS Number: · Stowage Category · Handling Code · Segregation Code 	<p style="text-align: right;">Warning: Substances which, in contact with water, emit flammable gases 423 F-G,S-O E H1 Keep as dry as reasonably practicable 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. SG35 Stow "separated from" SGG1-acids</p>
<ul style="list-style-type: none"> · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code 	<p style="text-align: right;">Not applicable.</p>

(Contd. on page 7)

US

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(Contd. of page 6)

· Transport/Additional information:

· DOT

· Quantity limitations

On passenger aircraft/rail: 15 kg

On cargo aircraft only: 50kg

· IMDG

· Limited quantities (LQ)

500 g

· Excepted quantities (EQ)

Code: E2

Maximum net quantity per inner packaging: 30 g

Maximum net quantity per outer packaging: 500 g

· UN "Model Regulation":

UN 1401 CALCIUM, 4.3, II

15 Regulatory information

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

No further relevant information available.

· 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): ACTIVE

· Hazardous Air Pollutants Substance is not listed.

· 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) 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

In contact with water releases flammable gas.

· Precautionary statements

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 CO₂, sand, extinguishing powder to extinguish.

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

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

(Contd. on page 8)

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Trade name: Calcium Metal, Reagent Grade

(Contd. of page 7)

· **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:

· **Date of preparation / last revision**

*Revision 1.2 07/02/2024: Reviewed SDS for accuracy. MH/STN
07/02/2024 / 1.0*

· **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

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

Substances and mixtures which, in contact with water, emit flammable gases 2: Substances and mixtures which in contact with water emit flammable gases – Category 2

· *** Data compared to the previous version altered.**

US