

Safety Data Sheet according to OSHA HCS

Printing date 07/20/2021

Reviewed on 07/20/2021

1 Identification

- **Product name**
- **Trade name:** Calcium granules (99.5%)
- **Item number:** 93-2075
- **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:**
Strem Chemicals, Inc.
7 Mulliken Way
NEWBURYPORT, MA 01950
USA
info@strem.com
- **Information department:** Technical Department
- **Emergency telephone number:**
EMERGENCY: CHEMTREC: + 1 (800) 424-9300
During normal opening times: +1 (978) 499-1600

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Water-react. 2 H261 In contact with water releases flammable gas.

- **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**
H261 In contact with water releases flammable gas.
- **Precautionary statements**

P223 Do not allow contact with water.
P231+P232 Handle under inert gas. Protect from moisture.
P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P422 Store contents under inert gas.

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P501 *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	0	Health = 0
FIRE	0	Fire = 0
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**

7440-70-2 calcium

· **Identification number(s)**

· **EC number:** 231-179-5

· **Index number:** 020-001-00-X

4 First-aid measures

· **Description of first aid measures**

· **General information:** Immediately remove any clothing soiled by the product.

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

· **After skin contact:** Immediately rinse with water.

· **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.

· **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:**

CO₂. Do not use water.

Sand. Do not use water.

Special powder for metal fires. Do not use water.

CO₂, sand, extinguishing powder. Do not use water.

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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:

· 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:

Substance is not listed.

· PAC-2:

Substance is not listed.

· PAC-3:

Substance is not listed.

7 Handling and storage

· Handling:

Handle under inert gas.

· 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:

Store contents under inert gas.

· 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.

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- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
- **Breathing equipment:** Not required.
- **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:** Safety glasses

9 Physical and chemical properties

· Information on basic physical and chemical properties
· General Information
· Appearance:
· Form: Powder
· Color: Silver grey
· Odor: Odorless
· Odor threshold: Not determined.
· pH-value: Not applicable.
· Change in condition
· Melting point/Melting range: 842 °C (1548 °F)
· Boiling point/Boiling range: 1.484 °C (35 °F)
· Flash point: Not applicable.
· Flammability (solid, gaseous): Flammable. Contact with water liberates extremely flammable gases.
· Ignition temperature:
· Decomposition temperature: Not determined.
· Auto igniting: Not determined.
· Danger of explosion: Not determined.
· Explosion limits:
· Lower: Not determined.
· Upper: Not determined.

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· Vapor pressure at 20 °C (68 °F):	10 hPa (8 mm Hg)
· Density at 20 °C (68 °F):	1.54 g/cm ³ (12.8513 lbs/gal)
· Bulk density at 20 °C (68 °F):	700 kg/m ³
· 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.
· Solvent content:	
Organic solvents:	0.0 %
VOC content:	0.0 g/l / 0.00 lb/gl
· Solids content:	100.0 %
· 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.

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- **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:** Not known to be hazardous to water.
- **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.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- **UN-Number**
- **DOT, IMDG, IATA** UN1401

- **UN proper shipping name**
- **DOT** Calcium
- **IMDG, IATA** CALCIUM

- **Transport hazard class(es)**

- **DOT**



- **Class**
- **Label**

4.3 Substances which, in contact with water, emit flammable gases
4.3

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· IMDG, IATA

· Class 4.3 Substances which, in contact with water, emit flammable gases
· Label 4.3

· Packing group**· DOT, IMDG, IATA** II**· Environmental hazards:****· Marine pollutant:** No**· Special precautions for user** Not applicable.**· Danger code (Kemler):** 423**· Stowage Category** E**· Handling Code** H1 Keep as dry as reasonably practicable**· Segregation Code** 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" acids.**· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.**· Transport/Additional information:****· DOT****· Quantity limitations** On passenger aircraft/rail: 15 kg
On cargo aircraft only: 50kg**· IMDG****· Limited quantities (LQ)****· Excepted quantities (EQ)**

500 g

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****· 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):

Substance is listed.

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· 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**

H261 In contact with water releases flammable gas.

· Precautionary statements

P223 Do not allow contact with water.

P231+P232 Handle under inert gas. Protect from moisture.

P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

P422 Store contents under inert gas.

P501 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: Technical Department.**· Contact:** Technical Director**· Date of preparation / last revision** 07/20/2021 / -

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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)

VOC: Volatile Organic Compounds (USA, EU)

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

Water-react. 2: Substances and mixtures which in contact with water emit flammable gases – Category 2

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