

1 Identification of the substance/mixture and of the company/undertaking

Product identifier

Trade name **Calcium turnings**

Stock number: 10125

CAS Number:

7440-70-2

EC number:

231-179-5

Index number:

020-001-00-X

Relevant identified uses of the substance or mixture and uses advised against.

Identified use: SU24 Scientific research and development

Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Alfa Aesar
Thermo Fisher Scientific Chemicals, Inc.

30 Bond Street

Ward Hill, MA 01835-8099

Tel: 800-343-0660

Fax: 800-322-4757

Email: tech@alfa.com

www.alfa.com

Informing department: Product safety department.

Emergency telephone number:

During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660. After normal business hours, call Carechem 24 at (800) 579-7421.

2 Hazards identification

Classification of the substance or mixture



Flame

Substances and Mixtures Which, in Contact with Water, Emit Flammable Gases - H261 In contact with water releases flammable gas.

Category 2

Other hazards that do not result in classification No information known.

Label elements

GHS label elements The substance is classified and labelled according to the Globally Harmonised 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 and store contents under inert gas. Protect from moisture.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P370+P378 In case of fire: Use to extinguish: CO2, sand, extinguishing powder.

P402+P404 Store in a dry place. Store in a closed container.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

3 Composition/information on ingredients

Chemical characterisation: Substances

CAS# Designation:

7440-70-2 Calcium

Concentration: ≤100%

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. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

Seek immediate medical advice.

After skin contact

Instantly wash with water and soap and rinse thoroughly.

Seek immediate medical advice.

After eye contact Rinse opened eye for several minutes under running water. Then consult doctor.

After swallowing Seek medical treatment.

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 Firefighting measures

Extinguishing media

Suitable extinguishing agents Special powder for metal fires. Do not use water.

For safety reasons unsuitable extinguishing agents Water.

Special hazards arising from the substance or mixture

If this product is involved in a fire, the following can be released:

Calcium oxide

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Advice for firefighters

Protective equipment:

Wear self-contained breathing apparatus.
Wear full protective suit.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Keep away from ignition sources

Environmental precautions: Do not allow material to be released to the environment without proper governmental permits.

Methods and material for containment and cleaning up:

Keep away from ignition sources.

Ensure adequate ventilation.

Do not flush with water or aqueous cleansing agents

Prevention of secondary hazards: Keep away from ignition sources.

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 information on disposal.

7 Handling and storage

Handling

Precautions for safe handling

Handle under dry protective gas.

Keep containers tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure good ventilation/exhaustion at the workplace.

Reacts violently with water

Information about protection against explosions and fires: Protect from humidity and keep away from water.

Conditions for safe storage, including any incompatibilities

Storage

Requirements to be met by storerooms and containers: No special requirements.

Information about storage in one common storage facility:

Store away from air.

Store away from water.

Further information about storage conditions:

Store under dry inert gas.

Keep container tightly sealed.

Store in cool, dry conditions in well sealed containers.

Protect from humidity and keep away from water.

Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

Additional information about design of technical systems:

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Control parameters

Components with critical values that require monitoring at the workplace:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Additional information: No data

Exposure controls

Personal protective equipment

General protective and hygienic measures

The usual precautionary measures should be adhered to in handling the chemicals.

Keep away from foodstuffs, beverages and food.

Instantly remove any soiled and impregnated garments.

Wash hands during breaks and at the end of the work.

Maintain an ergonomically appropriate working environment.

Breathing equipment: Use breathing protection with high concentrations.

Recommended filter device for short term use:

Use a respirator with type P100 (USA) or P3 (EN 143) cartridges as a backup to engineering controls. Risk assessment should be performed to determine if air-purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards.

Protection of hands:

Check protective gloves prior to each use for their proper condition.

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.

Material of gloves Nitrile rubber, NBR

Penetration time of glove material (in minutes) 480

Glove thickness: 0.11 mm

Eye protection:

Full face protection

Safety glasses with side shields / NIOSH (US) or EN 166(EU)

Body protection: Protective work clothing.

9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:

Form: Solid in various forms:

Odour: Odourless

Odour threshold: Not determined.

pH-value: Not applicable.

Change in condition

Melting point/freezing point: 842 °C

Initial boiling point and boiling range: 1440 °C

Sublimation temperature / start: Not determined

Inflammability (solid, gaseous) Contact with water liberates extremely flammable gases.

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Ignition temperature:	Not determined
Decomposition temperature:	Not determined
Self-inflammability:	Not determined.
Explosive properties:	Not determined.
Critical values for explosion:	
Lower:	Not determined
Upper:	Not determined
Steam pressure at 20 °C:	0 hPa
Density at 20 °C	1,54 g/cm ³
Settled apparent density at 20 °C	700 kg/m ³
Relative density	Not determined.
Vapour density	Not applicable.
Evaporation rate	Not applicable.
Solubility in / Miscibility with	
Water:	Contact with water releases flammable gases
Partition coefficient: n-octanol/water:	Not determined.
Viscosity:	
dynamic:	Not applicable.
kinematic:	Not applicable.
Other information	No further relevant information available.

10 Stability and reactivity

Reactivity In contact with water releases flammable gases which may ignite spontaneously.
Chemical stability Stable under recommended storage conditions.
Thermal decomposition / conditions to be avoided: No decomposition if used and stored according to specifications.
Possibility of hazardous reactions Contact with water releases flammable gases
Conditions to avoid No further relevant information available.
Incompatible materials:
 Air
 Water/moisture
Hazardous decomposition products: Calcium oxide

11 Toxicological information

Information on toxicological effects
Acute toxicity No effects known.
LD/LC50 values that are relevant for classification: No data
Skin irritation or corrosion: May cause irritation
Eye irritation or corrosion: May cause irritation
Respiratory or skin sensitisation No sensitizing effect known.
Germ cell mutagenicity: No effects known.
Carcinogenicity: No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.
Reproductive toxicity: No effects known.
Specific target organ system toxicity - repeated exposure: No effects known.
Specific target organ system toxicity - single exposure: No effects known.
Aspiration hazard: No effects known.
Subacute to chronic toxicity: No effects known.
Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

12 Ecological information

Toxicity
Aquatic toxicity: No further relevant information available.
Persistence and degradability No further relevant information available.
Behaviour in environmental systems:
Bioaccumulative potential No further relevant information available.
Mobility in soil No further relevant information available.
Additional ecological information:
General notes:
 Do not allow material to be released to the environment without proper governmental permits.
 Avoid transfer into the environment.
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
 Hand over to disposers of hazardous waste.
 Must be specially treated under adherence to official regulations.
 Consult state, local or national regulations for proper disposal.
Uncleaned packagings:
Recommendation: Disposal must be made according to official regulations.




14 Transport information

UN-Number	UN1401
TDG, IMDG, IATA	
UN proper shipping name	Calcium
DOT	1401 CALCIUM
TDG	CALCIUM
IMDG, IATA	

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Transport hazard class(es) Class	4.2 Substances liable to spontaneous combustion.
TDG (Transport dangerous goods):	
	
Class Label IMDG	4.3 (W2) Substances which, in contact with water, emit flammable gases. 4.3
	
Class Label IATA	4.2 Substances liable to spontaneous combustion. 4.3
	
Class Label	4.3 Substances which, in contact with water, emit flammable gases. 4.3
Packing group TDG, IMDG, IATA	II
Environmental hazards:	Not applicable.
Special precautions for user EMS Number: Stowage Category Handling Code Segregation Code	Warning: Substances which, in contact with water, emit flammable gases. 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" acids.
Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
Transport/Additional information: Excepted quantities (EQ): Limited quantities (LQ) Excepted quantities (EQ)	E2 500 g Code: E2 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 500 g
Transport category Tunnel restriction code	2 D/E
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
Australian Inventory of Chemical Substances Substance is listed.
Standard for the Uniform Scheduling of Medicines and Poisons Substance is not listed.
GHS label elements The substance is classified and labelled according to the Globally Harmonised System (GHS).
Hazard pictograms



GHS02

Signal word Danger
Hazard statements
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P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
National regulations
All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.
All components of this product are listed on the Canadian Domestic Substances List (DSL).
Information about limitation of use: For use only by technically qualified individuals.
Classification according to VbF: Not applicable
Water hazard class: Generally not hazardous for water.
Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing SDS: Global Marketing Department

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Abbreviations and acronyms:

ICAO: International Civil Aviation Organisation
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)
VbF: Verordnung über brennbare Flüssigkeiten, Österreich (Ordinance on the storage of combustible liquids, Austria)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety and Health Administration (USA)
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit