

SAFETY DATA SHEET

Section 1: Identification

Product name: Calcium oxide
Product use: For laboratory research purposes.
Supplier: Trace Sciences International
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CANADA
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Section 2: Hazard(s) Identification

2.1 GHS Classification

Skin irritation (Category 2), H315

Serious eye damage (Category 1), H318

Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

Short-term (acute) aquatic hazard (Category 3), H402

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s):

H315 Causes skin irritation.
H318 Causes serious eye damage.
H335 May cause respiratory irritation.
H402 Harmful to aquatic life.

Precautionary statement(s):

P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P273 Avoid release to the environment.
P280 Wear protective gloves/ eye protection/ face protection.
P302 + P352 IF ON SKIN: Wash with plenty of water.
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
P332 + P313 If skin irritation occurs: Get medical advice/ attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P501 Dispose of contents/ container to an approved waste disposal plant.

Section 3: Composition/ Information on Ingredients

Formula : CaO
Molecular Weight : 56.08 g/mol

Material	CAS-No.	EC-No.	Index-No.	Concentration
Calcium Oxide	1305-78-8	215-138-9	-	<=100%

Section 4: First-Aid Measures

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move person out of dangerous area if safe to do so.

If inhaled

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

In case of skin contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water for at least 15 minutes. Use chemical shower if available. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Remove contacts if possible.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Section 5: Fire-Fighting Measures

5.1 Conditions of flammability

Not flammable or combustible.

5.2 Suitable extinguishing media

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

5.3 Hazardous combustion products

Hazardous decomposition products formed under fire conditions: Calcium oxide

5.4 Special protective equipment for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.5 Further information

No data available

Section 6: Accidental Release Measures

6.1 Personal precautions

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Sweep up and shovel. Keep in suitable, closed containers for disposal.

Section 7: Handling and Storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

7.2 Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place.

Section 8: Exposure Controls/Personal Protection

8.1 Components with workplace control parameters

Components	CAS-No.	Value	Control parameters	Basis
Calcium oxide	1305-78-8	TWA	2 mg/m ³	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
		TWA	2 mg/m ³	Canada. British Columbia OEL
		TWAEV	2 mg/m ³	Canada. Ontario OELs
		TWAEV	2 mg/m ³	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
		TWA	2 mg/m ³	USA. ACGIH Threshold Limit Values (TLV)

Remarks

Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required.

8.2 Personal protective equipment

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).

Hand 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.

Eye 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 and body protection

Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Specific engineering controls

Use mechanical exhaust or laboratory fume hood to avoid exposure.

Section 9: Physical and Chemical Properties

Appearance

Form	Powder
Colour	White

Safety Data

pH	12.6 at 20 °C (68 °F)
Melting point/freezing point	2,614 °C (4,737 °F)
Boiling point	2,850 °C (5,162 °F)
Flash point	Not applicable
Flammability (solid, gas)	No data available
Ignition temperature	No data available
Auto-ignition temperature	No data available
Lower explosion limit	No data available
Upper explosion limit	No data available
Vapour pressure	No data available
Density	3.3 g/mL at 25 °C (77 °F)
Water solubility	1.65 g/l at 20 °C (68 °F) - OECD Test Guideline 105 - Risk of violent reaction.
Partition coefficient: n-octanol/water	No data available
Relative vapour density	No data available
Odour	No data available
Odour Threshold	No data available
Evaporation rate	No data available

Section 10: Stability and Reactivity

10.1 Chemical stability

Stable under recommended storage conditions

10.2 Possibility of hazardous reactions

Risk of explosion with:
Hydrogen halides

Risk of ignition or formation of inflammable gases or vapours with:
Alcohols, hydrogen fluoride, hydrogen sulphide

Exothermic reaction with:
Halogen-halogen compounds, fluorine, hydrazine hydrate, glycerine, acids, sugars, water

10.3 Conditions to avoid

No data available

10.4 Materials to avoid

Acids, water

10.5 Hazardous decomposition products

See section 5

Section 11: Toxicological Information

Acute toxicity

Oral

LD50 Oral - Rat - female - > 2,000 mg/kg
(OECD Test Guideline 425)

Inhalation

LC50 Inhalation - Rat - male and female - 4 h - > 6.04 mg/l - dust/mist
(OECD Test Guideline 436)

Dermal

No data available

Other information on acute toxicity

No data available

Skin corrosion/irritation

Skin - Rabbit

Result: Severe skin irritation
(OECD Test Guideline 404)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Risk of serious damage to eyes.
(OECD Test Guideline 405)

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

Test Type: Ames test

Test system: Escherichia coli/Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure (Globally Harmonized System)

Inhalation - May cause respiratory irritation.

Specific target organ toxicity - repeated exposure (Globally Harmonized System)

No data available

Aspiration hazard

No data available

Signs and Symptoms of Exposure

Cough, shortness of breath, headache, nausea, vomiting.

Additional Information

RTECS: EW3100000

Section 12: Ecological Information

12.1 Toxicity

Toxicity to fish	Static test LC50 - Oncorhynchus mykiss (rainbow trout) - 50.6 mg/l - 96 h (OECD Test Guideline 203)
Toxicity to daphnia and other aquatic invertebrates	Static test EC50 - Daphnia magna (Water flea) - 49.1 mg/l - 48 h (OECD Test Guideline 202)
Toxicity to algae	Static test ErC50 - Pseudokirchneriella subcapitata - 184.57 mg/l - 72 h (OECD Test Guideline 201)
Toxicity to bacteria	Static test EC50 - activated sludge - 300.4 mg/l - 3 h (OECD Test Guideline 209)
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	NOEC - Crangon crangon (shrimp) - 32 mg/l - 14 d Remarks: (ECHA)

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 PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects

Harmful to aquatic life

Section 13: Disposal Considerations

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging

Dispose of as unused product.

Section 14: Transport Information

IATA

UN number: UN1910 Class: 8 Packing group: III
Proper shipping name: Calcium oxide

Section 15: Regulatory Information

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all the information required by the HPR

Section 16: Other Information

Further information

Although reasonable care has been taken in the preparation of this document, we extend no warranties and make no representations as to the accuracy or completeness of the information contained herein, and assume no responsibility regarding the suitability of this information for the user's intended purposes or for the consequences of its use. Each individual should make a determination as to the suitability of the information for his or her particular purpose(s).

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