

# SAFETY DATA SHEET

Date Printed: 05/04/2024

Date Revised: 01/15/2022

## SECTION 1. IDENTIFICATION

**Product Identifier:** (4N) 99.99% Calcium Carbide

**Product Code:** CA-C-04

**CAS Number:** 75-20-7

**Relevant identified uses of the substance:** Scientific research and development

Supplier details:

American Elements  
10884 Weyburn Ave.  
Los Angeles, CA 90024  
Tel: +1 310-208-0551  
Fax: +1 310-208-0351  
Emergency telephone number:  
+1 800-424-9300

## SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture in accordance with 29 CFR 1910 (OSHA HCS)

GHS02 Flame

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

GHS05 Corrosion

Eye Dam. 1

H318 Causes serious eye damage.

GHS07

Skin Irrit. 2

H315 Causes skin irritation.

STOT SE 3

H335 May cause respiratory irritation.

Hazards not otherwise classified

No data available

GHS label elements

GHS label elements, including precautionary statements

Hazard pictograms



GHS02 GHS05 GHS07

Signal word

Danger

Hazard-determining components of labeling:

Calcium oxide

Hazard statements

H261 In contact with water releases flammable gas.

H315 Causes skin irritation.

H318 Causes serious eye damage.

H335 May cause respiratory irritation.

Precautionary statements

P231+P232

Handle under inert gas. Protect from moisture.

P261

Avoid breathing dust/fume/gas/mist/vapors/spray.

P280

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

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

P304+P340

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P310

Immediately call a POISON CENTER/doctor.

P362

Take off contaminated clothing and wash before reuse.

P405

Store locked up.

P403+P233

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

P501

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

WHMIS classification

B6 - Reactive flammable material

D2B - Toxic material causing other toxic effects

E - Corrosive material

Classification system

HMIS ratings (scale 0-4)

(Hazardous Materials Identification System)

Health (acute effects) = 3

Flammability = 2

Physical Hazard = 2

Other hazards

Results of PBT and vPvB assessment

PBT:

N/A

vPvB:

N/A

---

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical characterization: Mixtures

Dangerous components:

75-20-7 Calcium carbide Water-react. 1, H260 80.0%

1305-78-8 Calcium oxide Eye Dam. 1, H318; Skin Irrit. 2, H315; STOT SE 3, H335 20.0%

Additional information  
None known.

---

## **SECTION 4. FIRST AID MEASURES**

Description of first aid measures

General information

Immediately remove any clothing soiled by the product.

If inhaled:

Supply patient with fresh air. If not breathing, provide artificial respiration. Keep patient warm.

Seek immediate medical advice.

In case of skin contact:

Immediately wash with soap and water; rinse thoroughly.

Seek immediate medical advice.

In case of eye contact:

Rinse opened eye for several minutes under running water. Consult a physician.

If swallowed:

Seek medical treatment.

Information for doctor

Most important symptoms and effects, both acute and delayed

Causes skin irritation.

Causes serious eye damage.

May cause respiratory irritation.

Indication of any immediate medical attention and special treatment needed

No data available

---

## **SECTION 5. FIREFIGHTING MEASURES**

Extinguishing media

Suitable extinguishing agents

In case of fire, use sand, carbon dioxide or powdered extinguishing agent. Never use water.

Carbon dioxide, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

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:

Carbon monoxide and carbon dioxide

Calcium oxide

Advice for firefighters

Protective equipment:

Wear self-contained respirator.

Wear fully protective impervious suit.

---

## **SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emergency procedures

Use personal 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 official permits.

Methods and materials for containment and cleanup:

Keep away from ignition sources.

Use neutralizing agent.

Dispose of contaminated material as waste according to section 13.

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 disposal information.

---

## **SECTION 7. HANDLING AND STORAGE**

Handling

Precautions for safe handling

Handle under dry protective gas.

Keep container tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure good ventilation at the workplace.

Information about protection against explosions and fires:

No data available

Conditions for safe storage, including any incompatibilities

Requirements to be met by storerooms and receptacles:

No special requirements.

Information about storage in one common storage facility:

Store away from water/moisture.

Do not store together with acids.

Store away from oxidizing agents.

Further information about storage conditions:

Store under dry inert gas.

This product is moisture sensitive.

Keep container tightly sealed.

Store in cool, dry conditions in well-sealed containers.

Protect from humidity and water.

Specific end use(s)

No data available

---

## **SECTION 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 limit values that require monitoring at the workplace:

1305-78-8 Calcium oxide (20.0%)

PEL (USA)

Long-term value: 5 mg/m<sup>3</sup>

REL (USA)

Long-term value: 2 mg/m<sup>3</sup>

TLV (USA)

Long-term value: 2 mg/m<sup>3</sup>

EL (Canada) Long-term value: 2 mg/m<sup>3</sup>

EV (Canada) Long-term value: 2 mg/m<sup>3</sup>

Additional information:

No data

Exposure controls

Personal protective equipment

Follow typical protective and hygienic practices for handling chemicals.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Maintain an ergonomically appropriate working environment.

Breathing equipment:

Use suitable respirator when high concentrations are present.

Protection of hands:

Impervious gloves

Inspect gloves prior to use.

Suitability of gloves should be determined both by material and quality, the latter of which may vary by manufacturer.

Penetration time of glove material (in minutes)

No data available

Eye protection:

Tightly sealed goggles

Full face protection

Body protection:

Protective work clothing.

---

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance:

Form: Lump/Pieces

Odor: No data available

Odor threshold: No data available.

pH: N/A

Melting point/Melting range: 2300 °C (4172 °F)

Boiling point/Boiling range: No data available

Sublimation temperature / start: No data available

Flammability (solid, gas)

Contact with water liberates extremely flammable gases.

Ignition temperature: No data available

Decomposition temperature: No data available

Autoignition: Product is not selfigniting.

Danger of explosion: No data available.

Explosion limits:

Lower: No data available

Upper: No data available

Vapor pressure: N/A

Density at 20 °C (68 °F): 2.22 g/cm<sup>3</sup> (18.526 lbs/gal)

Relative density  
No data available.  
Vapor density  
N/A  
Evaporation rate  
N/A  
Solubility in Water (H<sub>2</sub>O): Contact with water releases flammable gases  
Partition coefficient (n-octanol/water): No data available.  
Viscosity:  
Dynamic: N/A  
Kinematic: N/A  
Solvent content:  
Organic solvents: 0.0 %  
Solids content: 100.0 %  
Other information  
No data available

---

## SECTION 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:  
Decomposition will not occur if used and stored according to specifications.  
Possibility of hazardous reactions  
Reacts with strong oxidizing agents  
Contact with water releases flammable gases  
Conditions to avoid  
No data available  
Incompatible materials:  
Acids  
Oxidizing agents  
Water/moisture  
Hazardous decomposition products:  
Carbon monoxide and carbon dioxide  
Calcium oxide  
Acetylene

---

## SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects  
Acute toxicity:  
Swallowing will lead to a strong corrosive effect on mouth and throat and to the danger of perforation of esophagus and stomach.  
The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for components in this product.  
LD/LC50 values that are relevant for classification:  
No data  
Skin irritation or corrosion:  
Causes severe skin burns.

Eye irritation or corrosion:  
Causes serious eye damage.  
Sensitization:  
No sensitizing effects 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.  
The product shows the following dangers according to internally approved calculation methods for preparations:  
Corrosive  
Carcinogenic categories  
OSHA-Ca (Occupational Safety & Health Administration)  
None of the ingredients is listed.

---

## **SECTION 12. ECOLOGICAL INFORMATION**

Toxicity  
Aquatic toxicity:  
No data available  
Persistence and degradability  
No data available  
Bioaccumulative potential  
No data available  
Mobility in soil  
No data available  
Additional ecological information:  
Do not allow material to be released to the environment without official permits.  
Do not allow undiluted product or large quantities to reach groundwater, water courses, or sewage systems.  
Avoid transfer into the environment.  
Results of PBT and vPvB assessment  
PBT:  
N/A  
vPvB:  
N/A  
Other adverse effects  
No data available

---

## SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Recommendation

Consult official regulations to ensure proper disposal.

Uncleaned packagings:

Recommendation:

Disposal must be made according to official regulations.

---

## SECTION 14. TRANSPORT INFORMATION

UN-Number

DOT, IMDG, IATA

UN1402

UN proper shipping name

DOT

Calcium carbide

IMDG, IATA

CALCIUM CARBIDE

Transport hazard class(es)

DOT

Class

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

Label

4.3

Class

4.3 (W2) Substances which, in contact with water, emit flammable gases

Label

4.3

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 (IMDG):

No

Special precautions for user

Warning: Substances which, in contact with water, emit flammable gases

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

N/A

Transport/Additional information:

DOT

Marine Pollutant (DOT):

No

UN "Model Regulation":

UN1402, Calcium carbide, 4.3, II

---

## SECTION 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture  
GHS GHS label elements, including precautionary statements

Hazard pictograms

GHS02

GHS05

GHS07

Signal word

Danger

Hazard-determining components of labeling:

Calcium oxide

Hazard statements

H261 In contact with water releases flammable gas.

H315 Causes skin irritation.

H318 Causes serious eye damage.

H335 May cause respiratory irritation.

Precautionary statements

P231+P232

Handle under inert gas. Protect from moisture.

P261

Avoid breathing dust/fume/gas/mist/vapors/spray.

P280

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

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

P304+P340

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P310

Immediately call a POISON CENTER/doctor.

P362

Take off contaminated clothing and wash before reuse.

P405

Store locked up.

P403+P233

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

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).

SARA Section 313 (specific toxic chemical listings)

None of the ingredients are listed.

California Proposition 65

Prop 65 - Chemicals known to cause cancer

None of the ingredients are listed.

Prop 65 - Developmental toxicity

None of the ingredients are listed.

Prop 65 - Developmental toxicity, female

None of the ingredients are listed.

Prop 65 - Developmental toxicity, male

None of the ingredients are listed.

Information about limitation of use:

For use only by technically qualified individuals.

Other regulations, limitations and prohibitive regulations

Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006.

None of the ingredients are listed.

The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed.

None of the ingredients is listed.

Annex XIV of the REACH Regulations (requiring Authorisation for use)

None of the ingredients is listed.

Chemical safety assessment:

A Chemical Safety Assessment has not been carried out.

---

## 16. OTHER INFORMATION

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. American Elements shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. COPYRIGHT 1997-2022 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.