

# SAFETY DATA SHEET

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## SECTION 1. IDENTIFICATION

**Product Identifier:** (4N) 99.99% Silicon Chloride Solution

**Product Code:** SI-CL-04-SOL

**CAS Number:** 10026-04-7

**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)

GHS05

Corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

GHS07

Eye Irrit. 2A

H319 Causes serious eye irritation.

STOT SE 3

H335 May cause respiratory irritation.

Hazards not otherwise classified

No data available.

GHS label elements

The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS)

Hazard pictograms



GHS05

GHS07

Signal word

Danger

Hazard statements

H314 Causes severe skin burns and eye damage.

H335 May cause respiratory irritation.

Precautionary statements

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.

P309 IF exposed or if you feel unwell:

P310 Immediately call a POISON CENTER/doctor/...

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

WHMIS classification

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 = 0

Physical Hazard = 2

Other hazards

Results of PBT and vPvB assessment:

PBT: N/A.

vPvB: N/A.

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## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances

CAS No. / Substance Name:

10026-04-7 Silicon(IV) chloride

Identification number(s):

EC number:

233-054-0

Index number:

014-002-00-4

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## SECTION 4. FIRST AID MEASURES

Description of first aid measures

If inhaled:

Supply 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  
No information available.  
Indication of any immediate medical attention and special treatment needed  
No information available.

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## **SECTION 5. FIREFIGHTING MEASURES**

Extinguishing media  
Suitable extinguishing media  
Product is not flammable. Use fire-fighting measures that suit the surrounding fire.  
For safety reasons unsuitable extinguishing media  
Water  
Special hazards arising from the substance or mixture  
Reacts violently with water  
If this product is involved in a fire, the following can be released:  
Hydrogen chloride (HCl)  
Silicon oxide  
Advice for firefighters  
Protective equipment:  
Wear self-contained respirator.  
Wear fully protective impervious suit.

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

Personal precautions, protective equipment and emergency procedures  
Wear protective equipment. Keep unprotected persons away.  
Ensure adequate ventilation  
Environmental precautions:  
Do not allow material to be released to the environment without official permits.  
Methods and material for containment and cleanup:  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Ensure adequate ventilation.  
Do not flush with water or aqueous cleansing agents  
Prevention of secondary hazards:  
No special measures required.  
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.

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## **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 adequate ventilation.  
Information about protection against explosions and fires:  
The product is not flammable

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:

Store away from strong bases.

Store away from metals.

Store away from water/moisture.

Further information about storage conditions:

Store under dry inert gas.

This product is moisture sensitive.

Protect from humidity and water.

Keep container tightly sealed.

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

Specific end use(s)

No information available.

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## **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:

10026-04-7 Silicon(IV) chloride (100.0%)

WEEL (USA) Ceiling limit value: 1 ppm

Additional information:

No data

Exposure controls

Personal protective equipment

Follow typical general protective and industrial hygiene measures 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.

Breathing equipment:

Use suitable respirator when high concentrations are present.

Protection of hands:

Impervious gloves

Inspect gloves prior to use.

The selection of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer

Penetration time of glove material (in minutes)

No data available.

Eye protection:

Safety glasses

Full face protection

Body protection:

Protective work clothing

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## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance:

Form:

Liquid

Color:

Colorless

Odor:

Acrid

Odor threshold:

No data available.

pH:

No data available.

Melting point/range:

-70 °C (-94 °F)

Boiling point/range:

57.6 °C (136 °F)

Sublimation temperature / start:

No data available.

Flash point:

No data available.

Flammability (solid, gas):

N/A.

Ignition temperature:

No data available.

Decomposition temperature:

No data available.

Auto igniting:

No data available.

Danger of explosion:

Product does not present  
an explosion hazard.

Explosion limits:

Lower:

No data available.

Upper:

No data available.

Vapor pressure:

No data available.

Density at 20 °C (68 °F):

1.483 g/cm<sup>3</sup> (12.376 lbs/gal)

Relative density

No data available.

Vapor density

No data available.

Evaporation rate

No data available.

Solubility in / Miscibility with

Water:

Reacts violently

Alcohols:

Reacts

Partition coefficient (n-octanol/water):

No data available.

Viscosity:  
Dynamic:  
No data available.  
Kinematic:  
No data available.  
Other information  
No further relevant information available

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## **SECTION 10. STABILITY AND REACTIVITY**

Reactivity  
Reacts violently with water.  
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 water forming hydrochloric acid (HCl)  
Reacts violently with water  
Conditions to avoid  
No information available.  
Incompatible materials:  
Bases  
Alcohols  
Alkali metals  
Water/moisture  
Hazardous decomposition products:  
Silicon oxide

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## **SECTION 11. TOXICOLOGICAL INFORMATION**

Information on toxicological effects  
Acute toxicity:  
N/A  
LD/LC50 values that are relevant for classification:  
No data  
Skin irritation or corrosion:  
Corrosive effect on skin and mucous membranes.  
Causes skin irritation.  
Eye irritation or corrosion:  
Strong corrosive effect.  
Causes serious eye irritation.  
Sensitization:  
No sensitizing effects known.  
Germ cell mutagenicity:  
N/A  
Carcinogenicity:  
No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.  
Reproductive toxicity:  
N/A

Specific target organ system toxicity - repeated exposure:

N/A

Specific target organ system toxicity - single exposure:

May cause respiratory irritation.

Aspiration hazard:

N/A

Subacute to chronic toxicity:

Inorganic silicon compounds may be acute inhalation irritants. Prolonged inhalation may cause pulmonary fibrosis known as silicosis.

Subacute to chronic toxicity:

N/A

Additional toxicological information:

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known

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## **SECTION 12. ECOLOGICAL INFORMATION**

Toxicity

Aquatic toxicity:

No information available.

Persistence and degradability:

No information available.

Bioaccumulative potential:

No information available.

Mobility in soil:

No information available.

Additional ecological information:

General notes:

Do not allow material to be released to the environment without official permits.

Do not allow undiluted product or large quantities to reach ground water, water course or sewage system.

Avoid transfer into the environment.

Results of PBT and vPvB assessment:

PBT:

N/A.

vPvB:

N/A.

Other adverse effects

No further relevant information available

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## **SECTION 13. DISPOSAL CONSIDERATIONS**

Waste treatment methods

Recommendation:

Consult state, local or national regulations to ensure proper disposal.

Uncleaned packagings:

Recommendation:

Disposal must be made according to official regulations.

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## SECTION 14. TRANSPORT INFORMATION

UN-Number

DOT, IMDG, IATA

UN1818

UN proper shipping name

DOT

Silicon tetrachloride

IMDG, IATA

SILICON TETRACHLORIDE

Transport hazard class(es)

DOT

Class

8 Corrosive substances.

Label

8

Class

8 (C1) Corrosive substances

Label

8

IMDG, IATA

Class

8 Corrosive substances.

Label

8

Packing group

DOT, IMDG, IATA

II

Environmental hazards:

N/A.

Special precautions for user

Warning: Corrosive substances

Segregation groups

Acids

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":

UN1818, Silicon tetrachloride, 8, II

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## SECTION 15. REGULATORY INFORMATION

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

GHS label elements

The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS)

Hazard pictograms

GHS05

GHS07

Signal word

Danger

#### Hazard statements

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#### Precautionary statements

P280

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

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P309

IF exposed or if you feel unwell:

P310

Immediately call a POISON CENTER/doctor/...

P402+P404

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

#### National regulations

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.

SARA Section 313 (specific toxic chemical listings)

Substance is not listed.

California Proposition 65

Prop 65 - Chemicals known to cause cancer

Substance is not listed.

Prop 65 - Developmental toxicity

Substance is not listed.

Prop 65 - Developmental toxicity, female

Substance is not listed.

Prop 65 - Developmental toxicity, male

Substance is not 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.

Substance is not 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.

Substance is not listed.

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

Substance is not listed.

Chemical safety assessment:

A Chemical Safety Assessment has not been carried out

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## 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.