

[Zinc Hexafluorosilicate Hydrate](#)

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Linear Formula	ZnSiF ₆ · xH ₂ O
Pubchem CID	71311388
MDL Number	MFCD00150374
EC No.	N/A
IUPAC Name	difluorozinc; tetrafluorosilane; hydrate
Beilstein/Reaxys No.	N/A
SMILES	O.F[Si](F)(F)F.[Zn]F
Inchl Identifier	InChI=1S/F4Si.2FH.H2O.Zn/c1-5(2,3)4;;;/h;2*1H;1H2;/q;;;+2/p-2
Inchl Key	GUJNEJDSEHACGC-UHFFFAOYSA-L

Signal Word Danger

Hazard Statements H302-H314

Hazard Codes C

Risk Codes N/A

Safety Statements N/A

Transport Information UN 2855 6.1 / PGIII

WGK Germany 3

GHS Pictograms

**[GHS05
Corrosive](#)**



**[GHS07
Exclamation
Point](#)**



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SAFETY DATA SHEET

Date Accessed: 04/26/2024

Date Revised: 01/15/2022

SECTION 1. IDENTIFICATION

Product Identifiers: All applicable American Elements product codes for CAS #16871-71-9

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:

Domestic, North America +1 800-424-9300

International +1 703-527-3887

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Acute toxicity, Oral (Category 4), H302

Skin corrosion (Category 1B), H314

Serious eye damage (Category 1), H318

2.2 GHS Label elements, including precautionary statements



Pictogram

Signal word Danger

Hazard statement(s)

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage.

Precautionary statement(s)

P260 Do not breathe dust or mist.

P264 Wash skin thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

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

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth.

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing.

Rinse skin with water/shower.

P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for

breathing. Immediately call a POISON CENTER or doctor/ physician.

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 or doctor/ physician.

P363 Wash contaminated clothing before reuse.

P405 Store locked up.

P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Formula : $\text{F}_6\text{SiZn} \cdot \text{xH}_2\text{O}$

Molecular weight : 207.47 g/mol

EC-No. : 240-894-1

Index-No. : 009-013-00-6

Hazardous components

Component Classification Concentration

Zinc hexafluorosilicate hydrate

Acute Tox. 4; Skin Corr. 1B;

Eye Dam. 1; H302, H314,

H318

$\leq 100 \%$

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 out of dangerous area.

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. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.

If swallowed

Do NOT induce vomiting. Never give anything by

mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

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

5.2 Special hazards arising from the substance or mixture

Hydrogen fluoride, Zinc/zinc oxides, silicon oxides

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

No data available

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing Vapors, mist or gas.

Ensure adequate

ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust.

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

6.4 Reference to other sections

For disposal see section 13.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Further processing of solid materials may result

in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration

before additional processing occurs.

Provide appropriate exhaust ventilation at places where dust is formed.

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

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

Moisture sensitive.

Storage class (TRGS 510): Non-combustible, acute toxic Cat.3 / toxic hazardous materials or hazardous materials

causing chronic effects

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

Component CAS-No. Value Control

parameters

Basis

Zinc

hexafluorosilicate

hydrate

TWA 2.500000

mg/m³

USA. Occupational Exposure Limits

(OSHA) - Table Z-1 Limits for Air

Contaminants

Remarks CAS number varies with compound

TWA 2.500000

mg/m³

USA. Occupational Exposure Limits

(OSHA) - Table Z-2

Z37.28-1969

TWA 2.500000

mg/m³

USA. ACGIH Threshold Limit Values

(TLV)

Bone damage

Fluorosis

Substances for which there is a Biological Exposure Index or Indices

(see BEI® section)

Not classifiable as a human carcinogen
varies

Biological occupational exposure limits

Component CAS-No. Parameters Value Biological specimen

Basis

Zinc

hexafluorosilicate

hydrate

Fluoride 3.0000

mg/g

In urine ACGIH - Biological

Exposure Indices

(BEI)

Remarks Prior to shift (16 hours after exposure ceases)

Fluoride 10.0000

mg/g

In urine ACGIH - Biological

Exposure Indices

(BEI)

End of shift (As soon as possible after exposure ceases)

8.2 Exposure controls

Appropriate engineering controls

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

Personal protective equipment

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin 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.

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.

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).
Control of environmental exposure
Do not let product enter drains.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

- a) Appearance Form: solid
Colour: white
 - b) Odor No data available
 - c) Odor Threshold No data available
 - d) pH No data available
 - e) Melting point/freezing point
No data available
 - f) Initial boiling point and boiling range
No data available
 - g) Flash point N/A
 - h) Evaporation rate No data available
 - i) Flammability (solid, gas) No data available
 - j) Upper/lower No data available
flammability or
explosive limits
 - k) Vapor pressure No data available
 - l) Vapor density No data available
 - m) Relative density No data available
 - n) Water solubility No data available
 - o) Partition coefficient: noctanol/
water
No data available
 - p) Auto-ignition
temperature
No data available
 - q) Decomposition
temperature
No data available
 - r) Viscosity No data available
 - s) Explosive properties No data available
 - t) Oxidizing properties No data available
- ### 9.2 Other safety information
- No data available

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity

No data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

No data available

10.5 Incompatible materials

Strong acids

10.6 Hazardous decomposition products

Other decomposition products - No data available

In the event of fire: see section 5

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

No data available

Inhalation: No data available

Dermal: No data available

No data available

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

No data available

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity

No data available

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard
No data available
Additional Information
RTECS: Not available
Material is extremely destructive to tissue of the
mucous membranes and upper respiratory tract, eyes,
and skin.,
Cough, Shortness of breath, Headache, Nausea

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity
No data available
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 Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical
safety assessment not required/not conducted
12.6 Other adverse effects
No data available

SECTION 13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods
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

DOT (US)
UN number: 2855 Class: 6.1 Packing group: III
Proper shipping name: Zinc fluorosilicate
Reportable Quantity (RQ): 5000 lbs
Poison Inhalation Hazard: No
IMDG
UN number: 2855 Class: 6.1 Packing group: III EMS-

No: F-A, S-A
Proper shipping name: ZINC FLUOROSILICATE
IATA
UN number: 2855 Class: 6.1 Packing group: III
Proper shipping name: Zinc fluorosilicate

SECTION 15. REGULATORY INFORMATION

SARA 302 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

The following components are subject to reporting levels established by SARA Title III, Section 313:

Zinc hexafluorosilicate hydrate
CAS-No.

-

Revision Date

1993-04-24

SARA 311/312 Hazards

Acute Health Hazard

Massachusetts Right To Know Components

Zinc hexafluorosilicate hydrate
CAS-No.

-

Revision Date

1993-04-24

Pennsylvania Right To Know Components

Zinc hexafluorosilicate hydrate
CAS-No.

-

Revision Date

1993-04-24

New Jersey Right To Know Components

Zinc hexafluorosilicate hydrate
CAS-No.

-

Revision Date

1993-04-24

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

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.
