

[Germanium\(II\) Chloride Dioxane Complex](#)

[Pricing >](#)

|                             |  |
|-----------------------------|--|
| <b>Linear Formula</b>       | GeCl <sub>2</sub> • C <sub>4</sub> H <sub>8</sub> O <sub>2</sub> |
| <b>Pubchem CID</b>          | 10857305   |
| <b>MDL Number</b>           | N/A  |
| <b>EC No.</b>               | N/A  |
| <b>IUPAC Name</b>           | dichlorogermanium; 1,4-dioxane                                   |
| <b>Beilstein/Reaxys No.</b> | N/A  |
| <b>SMILES</b>               | Cl[Ge]Cl.O1CCOCC1  |
| <b>Inchl Identifier</b>     | InChI=1S/C4H8O2.Cl2Ge/c1-2-6-4-3-5-1;1-3-2/h1-4H2;               |
| <b>Inchl Key</b>            | NYMJLNHIEKAQSD-UHFFFAOYSA-N                                      |

|                                 |                              |
|---------------------------------|------------------------------|
| <b>Signal Word</b>              | Danger                       |
| <b>Hazard Statements</b>        | H314-H332-H351               |
| <b>Hazard Codes</b>             | C                            |
| <b>Precautionary Statements</b> | P280-P305 + P351 + P338-P310 |
| <b>Flash Point</b>              | Not applicable               |
| <b>Risk Codes</b>               | 20-34-40                     |
| <b>Safety Statements</b>        | 22-26-36/37/39-45            |
| <b>RTECS Number</b>             | N/A                          |
| <b>Transport Information</b>    | UN 3261 8 / PGII             |
| <b>WGK Germany</b>              | 3                            |

GHS Pictograms

[GHS05](#)  
[Corrosive](#)



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



[GHS08 Health](#)  
[Hazard](#)



[Create Printable PDF](#)

## SAFETY DATA SHEET

Date Accessed: 05/02/2024

Date Revised: 01/15/2022

### SECTION 1. IDENTIFICATION

**Product Identifiers:** All applicable American Elements product codes for CAS #28595-67-7

**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:  
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, Inhalation (Category 4), H332  
Skin corrosion (Category 1B), H314  
Serious eye damage (Category 1), H318

Carcinogenicity (Category 2), H351

## 2.2 GHS Label elements, including precautionary statements



Pictogram

Signal word Danger

Hazard statement(s)

H314 Causes severe skin burns and eye damage.

H332 Harmful if inhaled.

H351 Suspected of causing cancer.

Precautionary statement(s)

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P260 Do not breathe dust or mist.

P264 Wash skin thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

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

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

P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.

P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

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

P310 Immediately call a POISON CENTER or doctor/ physician.

P321 Specific treatment (see supplemental first aid instructions on this label).

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 : C<sub>4</sub>H<sub>8</sub>Cl<sub>2</sub>GeO<sub>2</sub>

Molecular Weight : 231.65 g/mol  
CAS-No. : 28595-67-7  
Hazardous components  
Component Classification Concentration  
Germanium(II) chloride dioxane complex (1:1)  
Acute Tox. 4; Skin Corr. 1B;  
Eye Dam. 1; Carc. 2; H314,  
H332, H351  
-

---

## **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

Carbon oxides, Hydrogen chloride gas, Germanium oxides

#### 5.3 Advice for firefighters

Wear self contained breathing apparatus for fire fighting 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

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

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.

Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

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. Handle and store under inert gas.

#### 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  
Contains no substances with occupational exposure limit values.

### **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

Prevent further leakage or spillage if safe to do so. 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

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 no data available  
h) EVaporation rate no data available  
i) Flammability (solid, gas) no data available  
j) Upper/lower flammability or explosive limits  
no data available  
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  
Avoid moisture.  
10.5 Incompatible materials  
Strong oxidizing agents  
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

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

This product is or contains a component that has been reported to be possibly carcinogenic based on its IARC, ACGIH, NTP, or EPA classification.

Limited evidence of carcinogenicity in animal studies

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.

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

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

Cough, Shortness of breath, Headache, Nausea, Vomiting

Stomach - Irregularities - Based on Human Evidence

Stomach - Irregularities - Based on Human Evidence

---



## **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: 3261 Class: 8 Packing group: II

Proper shipping name: Corrosive solid, acidic,  
organic, n.o.s. (Germanium(II) chloride dioxane  
complex (1:1))

Marine pollutant: No

Poison Inhalation Hazard: No

IMDG

UN number: 3261 Class: 8 Packing group: II EMS-No:  
F-A, S-B

Proper shipping name: CORROSIVE SOLID, ACIDIC,  
ORGANIC, N.O.S. (Germanium(II) chloride dioxane  
complex

(1:1))

Marine pollutant: No

IATA

UN number: 3261 Class: 8 Packing group: II

Proper shipping name: Corrosive solid, acidic,

organic, n.o.s. (Germanium(II) chloride dioxane complex (1:1))

---

## **SECTION 15. REGULATORY INFORMATION**

SARA 302 Components

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

SARA 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components

Germanium(II) chloride dioxane complex (1:1)

CAS-No.

28595-67-7

Revision Date

New Jersey Right To Know Components

Germanium(II) chloride dioxane complex (1:1)

CAS-No.

28595-67-7

Revision Date

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.

---