

## Germanium tetrachloride

Version number: GHS 1.0

Date of compilation: 2022-06-14

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifier

|                                 |                                |
|---------------------------------|--------------------------------|
| Identification of the substance | <b>Germanium tetrachloride</b> |
| CAS number                      | 10038-98-9                     |
| Article number                  | A0048338                       |

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

|                          |                                                                                                             |
|--------------------------|-------------------------------------------------------------------------------------------------------------|
| Relevant identified uses | General use                                                                                                 |
| Uses advised against     | Do not use for squirting or spraying. Do not use for products which come into direct contact with the skin. |

#### 1.3 Details of the supplier of the safety data sheet

Chemos GmbH & Co. KG  
 Sonnenring 7  
 84032 Altdorf  
 Germany

Telephone: +49 871-966346-0  
 Telefax: +49 871-966346-13  
 e-mail: chemos@chemos.de  
 Website: <http://www.chemos.de/>

e-mail (competent person) chemos@chemos.de

#### 1.4 Emergency telephone number

Emergency information service +49 89 1 92 40

| Poison centre  |                                                               |                   |                   |         |
|----------------|---------------------------------------------------------------|-------------------|-------------------|---------|
| Country        | Name                                                          | Postal code/ city | Telephone         | Telefax |
| United Kingdom | National Poison Information Centre<br>Medical Toxicology Unit | SE14 5ER London   | +44 171 635 91 91 |         |

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

Classification acc. to GHS

| Section | Hazard class                                                                    | Category | Hazard class and category | Hazard statement |
|---------|---------------------------------------------------------------------------------|----------|---------------------------|------------------|
| 2.16    | substance or mixture corrosive to metals                                        | 1        | Met. Corr. 1              | H290             |
| 3.2     | skin corrosion/irritation                                                       | 1        | Skin Corr. 1              | H314             |
| 3.3     | serious eye damage/eye irritation                                               | 1        | Eye Dam. 1                | H318             |
| 3.8R    | specific target organ toxicity - single exposure (respiratory tract irritation) | 3        | STOT SE 3                 | H335             |
| 4.1A    | hazardous to the aquatic environment - acute hazard                             | 1        | Aquatic Acute 1           | H400             |
| 4.1C    | hazardous to the aquatic environment - chronic hazard                           | 3        | Aquatic Chronic 3         | H412             |

## Germanium tetrachloride

Version number: GHS 1.0

Date of compilation: 2022-06-14

For full text of abbreviations: see SECTION 16.

The most important adverse physicochemical, human health and environmental effects

Skin corrosion produces an irreversible damage to the skin; namely, visible necrosis through the epidermis and into the dermis. Spillage and fire water can cause pollution of watercourses.

### 2.2 Label elements

Labelling

- Signal word danger

- Pictograms

GHS05, GHS07, GHS09



- Hazard statements

H290 May be corrosive to metals.  
H314 Causes severe skin burns and eye damage.  
H335 May cause respiratory irritation.  
H410 Very toxic to aquatic life with long lasting effects.

- Precautionary statements

P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/  
....  
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.  
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/doctor.  
P403+P233 Store in a well-ventilated place. Keep container tightly closed.

### 2.3 Other hazards

Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

|                   |                         |
|-------------------|-------------------------|
| Name of substance | Germanium tetrachloride |
| Identifiers       |                         |
| CAS No            | 10038-98-9              |
| Molecular formula | Cl <sub>4</sub> Ge      |
| Molar mass        | 214.5 g/mol             |

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

General notes

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

**Germanium tetrachloride**

Version number: GHS 1.0

Date of compilation: 2022-06-14

**Following inhalation**

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. In case of respiratory tract irritation, consult a physician. Provide fresh air.

**Following skin contact**

Wash with plenty of soap and water.

**Following eye contact**

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

**Following ingestion**

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting.

**4.2 Most important symptoms and effects, both acute and delayed**

Symptoms and effects are not known to date.

**4.3 Indication of any immediate medical attention and special treatment needed**

none

**SECTION 5: Firefighting measures****5.1 Extinguishing media**

Suitable extinguishing media

Water spray, BC-powder, Carbon dioxide (CO<sub>2</sub>)

Unsuitable extinguishing media

Water jet

**5.2 Special hazards arising from the substance or mixture**

Substance or mixture corrosive to metals.

**5.3 Advice for firefighters**

In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

For non-emergency personnel

Remove persons to safety.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases.

**6.2 Environmental precautions**

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it. If substance has entered a water course or sewer, inform the responsible authority.

**6.3 Methods and material for containment and cleaning up**

Advice on how to contain a spill

Covering of drains

Advice on how to clean up a spill

Wipe up with absorbent material (e.g. cloth, fleece). Collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

## Germanium tetrachloride

Version number: GHS 1.0

Date of compilation: 2022-06-14

Appropriate containment techniques

Use of adsorbent materials.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

### 6.4 Reference to other sections

Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Recommendations

- Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Use only in well-ventilated areas.

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

### 7.2 Conditions for safe storage, including any incompatibilities

Managing of associated risks

- Corrosive conditions

Store in corrosive resistant container with a resistant inner liner.

- Packaging compatibilities

Only packagings which are approved (e.g. acc. to ADR) may be used.

### 7.3 Specific end use(s)

See section 16 for a general overview.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

This information is not available.

### 8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

Skin protection

- Hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. In the case of wanting to use the gloves again, clean them before taking off and air them well. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

**Germanium tetrachloride**

Version number: GHS 1.0

Date of compilation: 2022-06-14

**- Other protection measures**

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

**Respiratory protection**

In case of inadequate ventilation wear respiratory protection.

**Environmental exposure controls**

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

**SECTION 9: Physical and chemical properties****9.1 Information on basic physical and chemical properties**

|                                                          |                 |
|----------------------------------------------------------|-----------------|
| Physical state                                           | liquid          |
| Colour                                                   | not determined  |
| Odour                                                    | characteristic  |
| Melting point/freezing point                             | -49.5 °C        |
| Boiling point or initial boiling point and boiling range | 83 °C           |
| Flammability                                             | non-combustible |
| Lower and upper explosion limit                          | not determined  |
| Flash point                                              | not determined  |
| Auto-ignition temperature                                | not determined  |
| Decomposition temperature                                | not relevant    |
| pH (value)                                               | not determined  |
| Kinematic viscosity                                      | not determined  |
| Solubility(ies)                                          | not determined  |

**Partition coefficient**

|                                                   |                          |
|---------------------------------------------------|--------------------------|
| Partition coefficient n-octanol/water (log value) | not relevant (inorganic) |
|---------------------------------------------------|--------------------------|

|                 |                |
|-----------------|----------------|
| Vapour pressure | not determined |
|-----------------|----------------|

**Density and/or relative density**

## Germanium tetrachloride

Version number: GHS 1.0

Date of compilation: 2022-06-14

|                         |                                               |
|-------------------------|-----------------------------------------------|
| Density                 | not determined                                |
| Relative vapour density | information on this property is not available |

|                          |                       |
|--------------------------|-----------------------|
| Particle characteristics | not relevant (liquid) |
|--------------------------|-----------------------|

### 9.2 Other information

|                                                    |                                    |
|----------------------------------------------------|------------------------------------|
| Information with regard to physical hazard classes | there is no additional information |
|----------------------------------------------------|------------------------------------|

Other safety characteristics

|                 |       |
|-----------------|-------|
| Solvent content | 100 % |
|-----------------|-------|

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials". It's a reactive substance. Substance or mixture corrosive to metals.

### 10.2 Chemical stability

See below "Conditions to avoid".

### 10.3 Possibility of hazardous reactions

No known hazardous reactions.

### 10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

### 10.5 Incompatible materials

There is no additional information.

### 10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Classification acc. to GHS

Acute toxicity

Shall not be classified as acutely toxic.

Skin corrosion/irritation

Causes severe skin burns and eye damage.

Serious eye damage/eye irritation

Causes serious eye damage.

Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

## Germanium tetrachloride

Version number: GHS 1.0

Date of compilation: 2022-06-14

### Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

### Carcinogenicity

Shall not be classified as carcinogenic.

### Reproductive toxicity

Shall not be classified as a reproductive toxicant.

### Specific target organ toxicity - single exposure

May cause respiratory irritation.

### Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

### Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

## 11.2 Information on other hazards

There is no additional information.

## SECTION 12: Ecological information

### 12.1 Toxicity

Very toxic to aquatic life with long lasting effects.

### 12.2 Persistence and degradability

Data are not available.

### 12.3 Bioaccumulative potential

Data are not available.

### 12.4 Mobility in soil

Data are not available.

### 12.5 Results of PBT and vPvB assessment

Data are not available.

### 12.6 Endocrine disrupting properties

Information on this property is not available.

### 12.7 Other adverse effects

Data are not available.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Waste treatment-relevant information

Recycling/reclamation of other inorganic materials.

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

## Germanium tetrachloride

Version number: GHS 1.0

Date of compilation: 2022-06-14

### Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

## SECTION 14: Transport information

### 14.1 UN number or ID number

|           |         |
|-----------|---------|
| ADR/RID   | UN 3265 |
| IMDG-Code | UN 3265 |
| ICAO-TI   | UN 3265 |

### 14.2 UN proper shipping name

|                |                                           |
|----------------|-------------------------------------------|
| ADR/RID        | CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. |
| IMDG-Code      | CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. |
| ICAO-TI        | Corrosive liquid, acidic, organic, n.o.s. |
| Technical name | Germanium tetrachloride                   |

### 14.3 Transport hazard class(es)

|           |   |
|-----------|---|
| ADR/RID   | 8 |
| IMDG-Code | 8 |
| ICAO-TI   | 8 |

### 14.4 Packing group

|           |   |
|-----------|---|
| ADR/RID   | I |
| IMDG-Code | I |
| ICAO-TI   | I |

### 14.5 Environmental hazards

hazardous to the aquatic environment

### 14.6 Special precautions for user

Provisions for dangerous goods (ADR) should be complied within the premises.

### 14.7 Maritime transport in bulk according to IMO instruments

The cargo is not intended to be carried in bulk.

### Information for each of the UN Model Regulations

#### Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) - Additional information

|                     |                  |
|---------------------|------------------|
| Classification code | C3               |
| Danger label(s)     | 8, fish and tree |



|                          |                                            |
|--------------------------|--------------------------------------------|
| Environmental hazards    | yes (hazardous to the aquatic environment) |
| Special provisions (SP)  | 274                                        |
| Excepted quantities (EQ) | E0                                         |
| Limited quantities (LQ)  | 0                                          |
| Transport category (TC)  | 1                                          |

## Germanium tetrachloride

Version number: GHS 1.0

Date of compilation: 2022-06-14

|                               |    |
|-------------------------------|----|
| Tunnel restriction code (TRC) | E  |
| Hazard identification No      | 88 |
| Emergency Action Code         | 2X |

### Regulations concerning the International Carriage of Dangerous Goods by Rail (RID) - Additional information

|                     |                  |
|---------------------|------------------|
| Classification code | C3               |
| Danger label(s)     | 8, fish and tree |



|                          |                          |
|--------------------------|--------------------------|
| Environmental hazards    | yes (hazardous to water) |
| Special provisions (SP)  | 274                      |
| Excepted quantities (EQ) | E0                       |
| Limited quantities (LQ)  | 0                        |
| Transport category (TC)  | 1                        |
| Hazard identification No | 88                       |

### International Maritime Dangerous Goods Code (IMDG) - Additional information

|                  |                                            |
|------------------|--------------------------------------------|
| Marine pollutant | yes (hazardous to the aquatic environment) |
| Danger label(s)  | 8, fish and tree                           |



|                          |           |
|--------------------------|-----------|
| Special provisions (SP)  | 274       |
| Excepted quantities (EQ) | E0        |
| Limited quantities (LQ)  | 0         |
| EmS                      | F-A, S-B  |
| Stowage category         | B         |
| Segregation group        | 1 - Acids |

### International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

|                       |                                            |
|-----------------------|--------------------------------------------|
| Environmental hazards | yes (hazardous to the aquatic environment) |
| Danger label(s)       | 8                                          |



|                          |    |
|--------------------------|----|
| Special provisions (SP)  | A3 |
| Excepted quantities (EQ) | E0 |

## Germanium tetrachloride

Version number: GHS 1.0

Date of compilation: 2022-06-14

### SECTION 15: Regulatory information

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

##### Relevant provisions of the European Union (EU)

###### Deco-Paint Directive

|             |     |
|-------------|-----|
| VOC content | 0 % |
|-------------|-----|

###### Industrial Emissions Directive (IED)

|             |     |
|-------------|-----|
| VOC content | 0 % |
|-------------|-----|

###### National regulations (GB)

##### List of substances subject to authorisation (GB REACH, Annex 14) / SVHC - candidate list

not listed

##### Restrictions according to GB REACH, Annex 17

| Dangerous substances with restrictions (GB REACH, Annex 17) |                                                                                                  |        |    |
|-------------------------------------------------------------|--------------------------------------------------------------------------------------------------|--------|----|
| Name of substance                                           | Name acc. to inventory                                                                           | CAS No | No |
| Germanium tetrachloride                                     | this product meets the criteria for classification in accordance with Regulation No 1272/2008/EC |        | 3  |

##### National inventories

| Country | Inventory  | Status              |
|---------|------------|---------------------|
| AU      | AIIC       | substance is listed |
| CA      | DSL        | substance is listed |
| CN      | IECSC      | substance is listed |
| EU      | ECSI       | substance is listed |
| EU      | REACH Reg. | substance is listed |
| JP      | CSCL-ENCS  | substance is listed |
| KR      | KECI       | substance is listed |
| NZ      | NZIoC      | substance is listed |
| PH      | PICCS      | substance is listed |
| TW      | TCSI       | substance is listed |
| US      | TSCA       | substance is listed |

##### Legend

|            |                                                                         |
|------------|-------------------------------------------------------------------------|
| AIIC       | Australian Inventory of Industrial Chemicals                            |
| CSCL-ENCS  | List of Existing and New Chemical Substances (CSCL-ENCS)                |
| DSL        | Domestic Substances List (DSL)                                          |
| ECSI       | EC Substance Inventory (EINECS, ELINCS, NLP)                            |
| IECSC      | Inventory of Existing Chemical Substances Produced or Imported in China |
| KECI       | Korea Existing Chemicals Inventory                                      |
| NZIoC      | New Zealand Inventory of Chemicals                                      |
| PICCS      | Philippine Inventory of Chemicals and Chemical Substances (PICCS)       |
| REACH Reg. | REACH registered substances                                             |
| TCSI       | Taiwan Chemical Substance Inventory                                     |
| TSCA       | Toxic Substance Control Act                                             |

## Germanium tetrachloride

Version number: GHS 1.0

Date of compilation: 2022-06-14

### 15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance.

## SECTION 16: Other information

### Abbreviations and acronyms

| Abbr.     | Descriptions of used abbreviations                                                                                                                                      |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ADR       | Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road)           |
| CAS       | Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)                                                                  |
| DGR       | Dangerous Goods Regulations (see IATA/DGR)                                                                                                                              |
| EINECS    | European Inventory of Existing Commercial Chemical Substances                                                                                                           |
| ELINCS    | European List of Notified Chemical Substances                                                                                                                           |
| EmS       | Emergency Schedule                                                                                                                                                      |
| GB REACH  | The REACH etc. (Amendment etc.) (EU Exit) Regulations 2019, SI 2019/758 (as amended)                                                                                    |
| GHS       | "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations                                                               |
| IATA      | International Air Transport Association                                                                                                                                 |
| IATA/DGR  | Dangerous Goods Regulations (DGR) for the air transport (IATA)                                                                                                          |
| ICAO      | International Civil Aviation Organization                                                                                                                               |
| ICAO-TI   | Technical instructions for the safe transport of dangerous goods by air                                                                                                 |
| IMDG      | International Maritime Dangerous Goods Code                                                                                                                             |
| IMDG-Code | International Maritime Dangerous Goods Code                                                                                                                             |
| NLP       | No-Longer Polymer                                                                                                                                                       |
| PBT       | Persistent, Bioaccumulative and Toxic                                                                                                                                   |
| REACH     | Registration, Evaluation, Authorisation and Restriction of Chemicals                                                                                                    |
| RID       | Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail) |
| VOC       | Volatile Organic Compounds                                                                                                                                              |
| vPvB      | Very Persistent and very Bioaccumulative                                                                                                                                |

### Key literature references and sources for data

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). Regulations concerning the International Carriage of Dangerous Goods by Rail (RID). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

### List of relevant phrases (code and full text as stated in section 2 and 3)

**Germanium tetrachloride**

Version number: GHS 1.0

Date of compilation: 2022-06-14

| Code | Text                                               |
|------|----------------------------------------------------|
| H290 | May be corrosive to metals.                        |
| H314 | Causes severe skin burns and eye damage.           |
| H318 | Causes serious eye damage.                         |
| H335 | May cause respiratory irritation.                  |
| H400 | Very toxic to aquatic life.                        |
| H412 | Harmful to aquatic life with long lasting effects. |

**Disclaimer**

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.