

## Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

### Product Identifier:

**Identification as on the label/Trade name:** Germanium Oxide, Enriched Germanium Oxide.

**Molecular weight:** 104.59

**Chemical formula:** GeO<sub>2</sub>

**Synonyms:** Germanium Dioxide, Germanium (IV) Oxide, Germania, Germanic Acid.

### Details of the supplier of the Safety Data Sheet:

Neonest AB  
Storgatan 70C, Solna  
SE-17152  
Sweden

### Contact details:

+46-76-219-9731

### 24-hour Emergency Contact:

Swedish Poisons Centre  
Phone: 112 - Ask for Poisons Information, 112 – begär Giftinformation.

### Other International Contacts:

CHEMTREC 24-hour: +1-703-741-5500 (US + Worldwide)

NHS: 111 (UK)

Charite: +49 30 450 531 000 (Netherlands)

INTCF: +34 917689800 (Spain)

CapTv: +33 1 40 05 48 48 (France)

## Section 2: Hazards Identification

### Classification of the substances or mixture:

**The mixture is classified according to:** Regulation EC 1272/2008 [EU-GHS/CLP]

### **Hazard classes/Hazard categories:**

Reproductive Toxicity (Category 2)

STOT RE (Category 2)

Aquatic Acute (Category 1)

Aquatic Chronic (Category 3)

### **Hazard statement:**

H361

H373

H400

H412

### Label elements:

#### **Hazard pictograms:**



**Signal Words:** Warning.

**Hazard Statements:**

H361 Suspected of damaging fertility or the unborn child.

H373 May cause damage to organs through prolonged or repeated exposure.

H400 Very toxic to aquatic life.

H412 Harmful to aquatic life with long lasting effects.

**Precautionary Statements:**

P201 Obtain special instructions before use.

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

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

P273 Avoid release to the environment.

P308 + P313 IF exposed or concerned: Get medical advice/attention.

P391 Collect spillage.

P405 Store locked up.

**Section 3: Composition/Information on Ingredients**

**Substance/Mixture:** Substance.

**Ingredients:**

Substance name (IUPAC/EC)	CAS-No.	Concentration % by weight	Classification	
	EC-No.		EC1272/2008	
Germanium dioxide	1310-53-8	>99.9%	Repr. 2	H361
	215-180-8		STOT RE 2	H373
			Aquatic Acute 1	H400
			Aquatic Chronic 3	H412

For explanation of abbreviations see Section 16.

**Section 4: First-Aid Measures**
**Description of first aid measures:**

**General information:** In case of persisting adverse effects, consult a physician. Remove contaminated clothing and shoes immediately, and launder thoroughly before reusing.

**After inhalation:** Ensure supply of fresh air.

**After skin contact:** In case of contact with skin wash off with soap and water.

**After eye contact:** Remove contact lenses. Rinse eye thoroughly under running water keeping eyelids wide open and protecting the unaffected eye (at least 10 to 15 min.). In case of irritation consult an ophthalmologist.

**After ingestion:** Rinse out mouth and give plenty of water to drink. Induce vomiting if patient is conscious, seek medical advice. Never give anything by mouth to an unconscious person. Call a doctor immediately.

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

None known.

**Indication of any immediate medical attention and special treatment needed:** Treat symptomatically.

## Section 5: Fire-Fighting Measures

### Extinguisher media:

**Suitable extinguishing media:** Product itself is non-combustible; adapt fire extinguishing measures to surrounding areas.

**Unsuitable extinguishing media:** High power water jet.

**Special hazards arising from the substance or mixture:** None known.

**Advice for firefighters:** No special measures necessary.

## Section 6: Accidental Release Measures

### Personal precautions, protective equipment and emergency procedures:

**For non-emergency personnel:** Refer to protective measures listed in sections 7 (Handling and storage) and 8 (Exposure controls/personal protection). Ensure adequate ventilation. Avoid dust formation.

**For emergency responders:** No data available. Personal protective equipment (PPE) - see Section 8 (Exposure controls/personal protection).

**Environmental precautions:** Do not discharge into the drains/surface waters/groundwater.

### Methods and materials for containment and cleaning up:

Take up mechanically. Avoid raising dust. Send in suitable containers for recovery or disposal.

## Section 7: Handling and Storage

### Precautions for safe handling:

**Advice on safe handling:** Provide good ventilation of working area (local exhaust ventilation, if necessary). Avoid the formation and deposition of dust.

**General protective and hygiene measures:** Do not eat, drink or smoke during work time. Keep away from foodstuffs and beverages. Remove soiled or soaked clothing immediately. Wash hands before breaks and after work. Do not inhale dust.

**Advice on protection against fire and explosion:** No special measures necessary.

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

**Technical measures and storage conditions:** Keep container tightly closed, well-ventilated place. Store in a dry place.

**Requirements for storage rooms and vessels:** Containers which are opened must be carefully closed and kept upright to prevent leakage.

**Advice on storage assembly:** None known.

**Specific end use(s):** No data available.

## Section 8: Exposure Controls/Personal Protection

### Control parameters:

**Occupational exposure limits:** No exposure limits established.

### Exposure controls:

**Appropriate engineering controls:** Safety shower and eye bath. Mechanical exhaust required.

**Individual protection measures, such as personal protective equipment:**

**Respiratory protection:** If workplace exposure limits are exceeded, a respiratory protection approved for this particular job must be worn. In case of dust formation, take appropriate measures for breathing protection in the event workplace threshold values are not specified. Respirator P3.

**Eye / face protection:** Safety glasses (EN 166).

**Hand protection:** Use protective gloves (DIN EN 374). Before use, the protective gloves should be tested in any case for its specific work-station suitability (i.e. mechanical resistance, product compatibility and antistatic properties). Adhere to the manufacturer's instructions and information relating to the use, storage, care and replacement of protective gloves. Protective gloves shall be replaced immediately when physically damaged or worn. Design operations thus to avoid permanent use of protective gloves.

**Other:** Chemical-resistant work clothes.

**Section 9: Physical and Chemical Properties****Information on basic physical and chemical properties**

**Appearance (form):** Solid.

**Colour:** White.

**Odour:** Odourless.

**Odour threshold:** No data available.

**pH (concentration):** No data available.

**Melting point/range (°C):** 1,115 °C

**Boiling point/range (°C):** No data available.

**Flash point (°C):** No data available.

**Evaporation rate:** No data available.

**Flammability (solid, gas):** Non-flammable.

**Ignition temperature (°C):** No data available.

**Upper/lower flammability/explosive limits:** No data available.

**Vapour pressure (20 °C):** No data available.

**Vapour density:** No data available.

**Relative density (25 °C):** 4.228

**Water solubility (g/L) at 25 °C:** 4.53 mg/L

**n-Octanol/Water partition coefficient:** No data available.

**Auto-ignition temperature:** No data available.

**Decomposition temperature:** No data available.

**Viscosity, dynamic (mPa s):** No data available.

**Explosive properties:** The substance or mixture is not classified as explosive.

**Oxidising properties:** The substance or mixture is not classified as oxidizing.

**Section 10: Stability and Reactivity**

**Reactivity:** No data available.

**Chemical stability:** Stable under recommended storage and handling conditions (See section 7 Handling and storage).

**Possibility of hazardous reactions:** Dangerous reactions are not to be expected when handling product according to its intended use.

**Conditions to avoid:** None, if handled according to order.

**Incompatible materials:** None known.

**Hazardous decomposition products:** No hazardous decomposition products known.

## Section 11: Toxicological Information

### Information on toxicological effects:

Not classified based on available information.

### Classification according to GHS (1272/2008/EG, CLP)

#### **Skin corrosion/irritation:**

Not classified based on available information.

#### **Serious eye damage/eye irritation:**

Not classified based on available information.

#### **Respiratory or skin sensitisation:**

Not classified based on available information.

#### **Germ cell mutagenicity:**

Not classified based on available information.

#### **Carcinogenicity:**

Not classified based on available information.

#### **Reproductive toxicity:**

Suspected of damaging fertility or the unborn child.

#### **Specific target organ toxicity – single exposure (STOT):**

Not classified based on available information.

#### **Specific target organ toxicity (STOT) – repeated exposure:**

May cause damage to organs through prolonged or repeated exposure.

#### **Aspiration toxicity:**

Not classified based on available information.

## Section 12: Ecological Information

**Toxicity:** No data available.

**Persistence and degradability:** No data available.

**Bioaccumulative potential:** No data available.

**Mobility in soil:** No data available.

**Results of PBT& vPvB assessment:** No data available.

**Other adverse effects:** No data available.

## Section 13: Disposal Considerations

**Product:** Allocation of a waste code number, according to the European Waste Catalogue, should be carried out in agreement with the regional waste disposal company. Dispose of according to all applicable regulations upon consultation of the local competent authorities and the disposer in a suitable and authorised disposal facility.

**Packaging:** Residuals must be removed from packaging and when emptied completely disposed of in accordance with the regulations for waste removal. Incompletely emptied packaging must be disposed of in the form of disposal specified by the regional disposer.

## Section 14: Transport Information

**UN number:** Not regulated as a dangerous good.

**UN proper shipping name:** Not regulated as a dangerous good.

**Transport hazard class(es):** Not regulated as a dangerous good.

**Packing group:** Not regulated as a dangerous good.

**Environmental hazards:** Not regulated as a dangerous good.

**Special precautions for user:** Not dangerous goods in the meaning of ADR/RID, ADN, IMDG-Code, ICAO/IATA-DGR.

**Transport in bulk according to Annex II of Marpol and the IBC Code:** Not applicable.

## Section 15: Regulatory Information

### EU regulations:

**Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended**

Not listed.

**Regulation (EC) No. 850/2004 on persistent organic pollutants, Annex I**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended**

Not listed.

**Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry**

Not listed.

**Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA**

Not listed.

### Authorisations:

**Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended**

Not listed.

### Restrictions on use:

**Regulation (EC) No. 1907/2006 Annex XVII Substances subject to restriction on marketing and use**

Not regulated.

**Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended**

Not listed.

**Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens and mutagens at work**

Not regulated.

**Directive 92/85/EEC: on the safety and health of pregnant workers and workers who have recently given birth or are breastfeeding.**

Not regulated.

**Other EU regulations:**

**Directive 2012/18/EU on major accident hazards involving dangerous substances**

Not listed.

**Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.**

Always applicable.

**Directive 94/33/EC on the protection of young people at work**

Not listed.

**Additional Information:**

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

**SARA 313 Components:** 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 dioxide / CAS No. 1310-53-8

**New Jersey Right to Know Components:** Germanium dioxide / CAS No. 1310-53-8

**California Prop. 65 Components:** This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

**Chemical safety assessment:** No Chemical Safety Assessment has been carried out.

## Section 16: Other Information

**List of abbreviations:**

ACGIH American Conference of Governmental Industrial Hygienists

ADR European Agreement Concerning the International Carriage of Dangerous Goods by Road

ALARA As Low As Is Reasonably Achievable

AMU Atomic Mass Unit

ANSI American National Standards Institute

BLS Basic Life Support

CAM Continuous Air Monitor

CAS Chemical Abstracts Service (division of the American Chemical Society)

CEN European Committee for Standardization

CERCLA Comprehensive Environmental Response Compensation and Liability Act

CLP Classification, Labelling and Packaging (European Union)

CPR Controlled Products Regulations (Canada)

CWA Clean Water Act (USA)

DAC Derived Air Concentration (USA)

DOE United States Department of Energy (USA)

DOT United States Department of Transportation (USA)

DSL Domestic Substances List (Canada)

EC50 Half Maximal Effective Concentration

EINECS European Inventory of Existing Commercial Chemical Substances  
EHS Environmentally Hazardous Substance  
ELINCS European List of Notified Chemical Substances  
EMS Emergency Response Procedures for Ships Carrying Dangerous Goods  
EPA Environmental Protection Agency (USA)  
EPCRA Emergency Planning and Community Right-To-Know Act (EPCRA) of 1986  
GHS Globally Harmonized System  
HMIS Hazardous Materials Identification System (USA)  
IARC International Agency for Research on Cancer  
IATA International Air Transport Association  
IBC Intermediate Bulk Containers  
ICAO International Civil Aviation Organization  
IDLH Immediately Dangerous to Life or Health  
IMDG International Maritime Code for Dangerous Goods  
LC50 Lethal concentration, 50 percent  
LD50 Lethal dose, 50 percent  
LDLO Lethal Dose Low  
LOEC Lowest-Observed-Effective Concentration  
MARPOL International Convention for the Prevention of Pollution from Ships  
MSHA Mine Safety and Health Administration (USA)  
NCRP National Council on Radiation Protection & Measurements (USA)  
NDSL Non-Domestic Substances List (Canada)  
NFPA National Fire Protection Association (USA)  
NIOSH National Institute for Occupational Safety and Health (USA)  
NOEC No Observed Effect Concentration  
N.O.S. Not Otherwise Specified  
NRC Nuclear Regulatory Commission (USA)  
NTP National Toxicology Program (USA)  
OSHA Occupational Safety and Health Administration (USA)  
PBT Persistent Bioaccumulative and Toxic Chemical  
PEL Permissible Exposure Limit  
PIH Poisonous by Inhalation Hazard  
RCRA Resource Conservation and Recovery Act (USA)  
RCT Radiation Control Technician  
REACH Registration, Evaluation, Authorisation and Restriction of Chemicals (Europe)  
RID Regulations Concerning the International Transport of Dangerous Goods by Rail  
RTECS Registry of Toxic Effects of Chemical Substances  
SARA Superfund Amendments and Reauthorization Act (USA)  
TDG Transportation of Dangerous Goods (Canada)  
TIH Toxic by Inhalation Hazard  
TLV Threshold Limit Value  
TPQ Threshold Planning Quantity  
TSCA Toxic Substances Control Act  
TWA Time Weighted Average  
UN United Nations (Number)  
VOC Volatile Organic Compound  
vPvB Very Persistent Very Bioaccumulative Chemical



WGK Wassergefährdungsklassen (Germany: Water Hazard Classes)

WHMIS Workplace Hazardous Materials Information System

**References:**

Not available.

**Full text of any H-statements not written out in full under Sections 2 to 15:**

H361 Suspected of damaging fertility or the unborn child.

H373 May cause damage to organs through prolonged or repeated exposure.

H400 Very toxic to aquatic life.

H412 Harmful to aquatic life with long lasting effects.

**Revision information:**

None.

**Training information:**

Follow training instructions when handling this material.

**Further Information:**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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