
Section 1: Chemical Product and Company Identification**1.1 Product identifiers**

Product name : **Germanium**

CAS-No. : 7440-56-4

TSCA : TSCA 8(b) inventory: Germanium

Chemical Name : Ge

1.2 Relevant identified uses of the substance or mixture and uses advised against
Laboratory chemicals, Manufacture of substances**1.3 Contact Information**

Company : Platotex Technology Company Ltd.
Level 21, The Centre 99 Queen's Road Central,
Central, Hong Kong

Tell : +852 2371-7679

Fax : +852 2579-0808

Section 2: Composition and Information on Ingredients**2.1 Composition**

Name : Germanium

CAS-No. : 7440-56-4

% By Weight : 100

2.2 Toxicological Data on Ingredients

Not applicable

Section 3: Hazards Identification**3.1 Potential Chronic Health Effects**

Very hazardous in case of skin contact (corrosive, irritant, permeation), of eye contact (irritant), of ingestion, of inhalation. Non-sensitizer for skin. CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance is toxic to lungs, mucous membranes. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection. Repeated exposure to an highly toxic material may produce general deterioration of health by an accumulation in one or many human organs. Repeated or prolonged inhalation of vapors may lead to chronic respiratory irritation.

Potential Acute Health Effects

Very hazardous in case of skin contact (corrosive, irritant, permeation), of eye contact (irritant), of ingestion, of inhalation. Liquid or spray mist may produce tissue damage particularly on mucous membranes of eyes, mouth and respiratory tract. Skin contact may produce burns. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Severe over-exposure can result in death. Redness, watering, and itching characterize inflammation of the eye. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

Section 4: First Aid Measures**4.1 Eye Contact**

Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes,

keeping eyelids open. Cold water may be used. Do not use an eye ointment. Seek medical attention.

4.2

Ingestion

Do not induce vomiting. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.

4.3

Skin Contact

If the chemical got onto the clothed portion of the body, remove the contaminated clothes as quickly as possible, protecting your own hands and body. Place the victim under a deluge shower. If the chemical got on the victim's exposed skin, such as the hands: Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cold water may be used. If irritation persists, seek medical attention. Wash contaminated clothing before reusing.

Section 5: Fire and Explosion Data

Flammability of the Product: Non-flammable.

Auto-Ignition Temperature: Not applicable.

Flash Points: Not applicable.

Flammable Limits: Not applicable.

Products of Combustion: Not available.

Fire Hazards in Presence of Various Substances: Not applicable.

Explosion Hazards in Presence of Various Substances: Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available. Slightly explosive-to-explosive in presence of reducing materials, of combustible materials, of organic materials.

Fire Fighting Media and Instructions: Not applicable.

Special Remarks on Fire Hazards: Not available.

Special Remarks on Explosion Hazards: Not available.

Section 6: Accidental Release Measures

6. Small Spill:

Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. If necessary: Neutralize the residue with a dilute solution of sodium carbonate.

6.2 Large Spill:

Corrosive liquid. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not get water inside container. Do not touch spilled material. Use water spray curtain to divert vapor drift. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Neutralize the residue with a dilute solution of sodium carbonate. Be careful that the product is not present

at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7: Handling and Storage

7.1 Precautions

Keep locked up Keep container dry. Do not ingest. Do not breathe gas/fumes/ vapor/spray. Never add water to this product In case of insufficient ventilation, wear suitable respiratory equipment If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes Keep away from incompatibles such as alkalis.

7.2 Storage

Corrosive materials should be stored in a separate safety storage cabinet or room.

Section 8: Exposure Controls/Personal Protection

Engineering Controls:

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the workstation location.

Personal Protection:

Face shield. Full suit. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves. Boots.

Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits:

Nitric acid, fuming TWA: 2 CEIL: 4 (ppm) TWA: 5 CEIL: 10 (mg/m³) Hydrogen fluoride TWA: 3 (ppm) from ACGIH (TLV) TWA: 2 (mg/m³) from ACGIH. Consult local authorities for acceptable exposure limits.

Section 9: Physical and Chemical Properties

Physical state and appearance: Solid.

Odor: Not available.

Taste: Not available.

Molecular Weight: Not applicable.

Color: Not available.

PH (1% sol/water): Acidic.

Boiling Point: The lowest known value is 82.6°C (180.7°F) (Nitric acid, fuming). Weighted average: 98.78°C (209.8°F)

Melting Point: May start to solidify at -41.6°C (-42.9°F) based on data for: Nitric acid, fuming.

Critical Temperature: Not available.

Specific Gravity: Weighted average: 1.02 (Water = 1)

Vapor Pressure: The highest known value is 45 mm of Hg (@ 20°C) (Nitric acid, fuming). Weighted average: 19.46 mm of Hg (@ 20°C)

Vapor Density: The highest known value is 0.62 (Air = 1) (Water).

Volatility: Not available.

Odor Threshold: The highest known value is 0.29 ppm (Nitric acid, fuming)

Water/Oil Dist.: Not available.

Iconicity (in Water): Not available.

Dispersion Properties: See solubility in water.

Solubility: Easily soluble in cold water, hot water.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Not available.

Incompatibility with various substances:

Reactive with alkalis. Slightly reactive to reactive with reducing agents, combustible materials, organic materials, metals, acids.

Corrosivity: Slightly corrosive to corrosive in presence of zinc. Non-corrosive in presence of glass, of steel, of aluminum. Special Remarks on Reactivity: Not available. Special Remarks on Corrosivity: Not available. Polymerization: No.

Section 11: Toxicological Information

Routes of Entry: Dermal contact. Eye contact. Inhalation. Ingestion.

Toxicity to Animals:

WARNING: THE LC50 VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE. Acute toxicity of the vapor (LC50): 957 ppm 4 hour(s) (Rat) (Calculated value for the mixture).

Chronic Effects on Humans: The substance is toxic to lungs, mucous membranes. Other Toxic Effects on Humans: Very hazardous in case of skin contact (corrosive, irritant, permeation), of ingestion, of

Inhalation: Special Remarks on Toxicity to Animals: Not available. Special Remarks on Chronic Effects on Humans: Not available. Special Remarks on other Toxic Effects on Humans: Not available.

Section 12: Ecological Information

Eco toxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation: Possibly hazardous short-term degradation products are not likely. However, long-term

degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are more toxic.

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Transport Information

DOT Classification: CLASS 8: Corrosive liquid.

Identification: Nitric acid solution (Nitric acid, fuming) : UN2031 PG: II Special Provisions for Transport: Marine

Pollutant (Nitric acid, fuming)

Section 14: Regulatory Information

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

14.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
no data available

14.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

Section 15: Disposal Consideration

15.1 Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company.

15.2 Contaminated packaging

Dispose of as unused product.

Section 16: Other Information

N/A