
SECTION 1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

BASSTECH INTERNATIONAL LLC
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EMERGENCY CONTACT
CHEMTREC: 800-424-9300

SUBSTANCE: GERMANIUM

TRADE NAMES/SYNONYMS:
GERMANIUM ELEMENT; GERMANIUM METAL; GE; BTI10366; RTECS LY5200000

CHEMICAL FAMILY: metal

CREATION DATE: Nov 01 1995
REVISION DATE: Dec 11 2001

SECTION 2 COMPOSITION, INFORMATION ON INGREDIENTS

COMPONENT: GERMANIUM
CAS NUMBER: 7440-56-4
EC NUMBER (EINECS): 231-164-3
PERCENTAGE: 100.0

SECTION 3 HAZARDS IDENTIFICATION

NFPA RATINGS (SCALE 0-4): HEALTH=1 FIRE=3 REACTIVITY=0

EMERGENCY OVERVIEW:

PHYSICAL DESCRIPTION: solid

MAJOR HEALTH HAZARDS: No significant target effects reported.

PHYSICAL HAZARDS: Flammable solid. Dust/air mixtures may ignite or explode.

POTENTIAL HEALTH EFFECTS:

INHALATION:

SHORT TERM EXPOSURE: irritation

LONG TERM EXPOSURE: no information is available

SKIN CONTACT:

SHORT TERM EXPOSURE: irritation

LONG TERM EXPOSURE: no information is available

EYE CONTACT:

SHORT TERM EXPOSURE: irritation

LONG TERM EXPOSURE: no information is available

INGESTION:

SHORT TERM EXPOSURE: no information is available

LONG TERM EXPOSURE: no information is available

CARCINOGEN STATUS:

OSHA: No

NTP: No

IARC: No

SECTION 4 FIRST AID MEASURES

INHALATION: If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. Get immediate medical attention.

SKIN CONTACT: Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention, if needed. Thoroughly clean and dry contaminated clothing and shoes before reuse.

EYE CONTACT: Flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

INGESTION: If a large amount is swallowed, get medical attention.

SECTION 5 FIRE FIGHTING MEASURES

FIRE AND EXPLOSION HAZARDS: Negligible fire and explosion hazard in bulk form. Dust/air mixtures may ignite or explode.

EXTINGUISHING MEDIA: dolomite, dry powder for metal fires, dry sand, graphite, soda ash, sodium chloride

Do not get water directly on material.

FIRE FIGHTING: Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. For fires in cargo or storage area: Cool containers with water from unmanned hose holder or monitor nozzles until well after fire is out. If this is impossible then take the following precautions: Keep unnecessary people away, isolate hazard area and deny entry. Let the fire burn. Use extinguishing agents appropriate for surrounding fire. Avoid inhalation of material or combustion by-products.

SECTION 6 ACCIDENTAL RELEASE MEASURES

OCCUPATIONAL RELEASE:

Large spills: Collect spilled material in appropriate container for disposal. Avoid generating dust. Clean up residue with a high-efficiency particulate filter vacuum.

SECTION 7 HANDLING AND STORAGE

STORAGE: Store and handle in accordance with all current regulations and standards. Keep separated from incompatible substances.

SECTION 8 EXPOSURE CONTROLS, PERSONAL PROTECTION

EXPOSURE LIMITS:

GERMANIUM:

No occupational exposure limits established.

VENTILATION: Provide local exhaust ventilation system. Ventilation equipment should be explosion-resistant if explosive concentrations of material are present. Ensure compliance with applicable exposure limits.

EYE PROTECTION: Wear splash resistant safety goggles. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

CLOTHING: Wear appropriate chemical resistant clothing.

GLOVES: Wear appropriate chemical resistant gloves.

RESPIRATOR: Under conditions of frequent use or heavy exposure, respiratory protection may be needed. Respiratory protection is ranked in order from minimum to maximum. Consider warning properties before use.

Any dust, mist, and fume respirator.

Any air-purifying respirator with a high-efficiency particulate filter.

Any powered, air-purifying respirator with a dust, mist, and fume filter.

Any powered, air-purifying respirator with a high-efficiency particulate filter.

For Unknown Concentrations or Immediately Dangerous to Life or Health -

Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply.

Any self-contained breathing apparatus with a full facepiece.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: solid

ODOR: Not available

MOLECULAR WEIGHT: 72.59

MOLECULAR FORMULA: GE

BOILING POINT: 5126 F (2830 C)

MELTING POINT: 1719 F (937 C)

VAPOR PRESSURE: Not applicable

VAPOR DENSITY: Not applicable

SPECIFIC GRAVITY (water=1): 5.35

WATER SOLUBILITY: insoluble

PH: Not applicable

VOLATILITY: Not applicable

ODOR THRESHOLD: Not available

EVAPORATION RATE: Not applicable

COEFFICIENT OF WATER/OIL DISTRIBUTION: Not available

SOLVENT SOLUBILITY:

Soluble: sulfuric acid, aqua regia

Insoluble: hydrochloric acid, alkali

SECTION 10 STABILITY AND REACTIVITY

REACTIVITY: Stable at normal temperatures and pressure.

CONDITIONS TO AVOID: Avoid generating dust. Avoid heat, flames, sparks and other sources of ignition.

INCOMPATIBILITIES: bases, acids, halogens, oxidizing materials

POLYMERIZATION: Will not polymerize.

SECTION 11 TOXICOLOGICAL INFORMATION

GERMANIUM:

ACUTE TOXICITY LEVEL: Insufficient Data.

SECTION 12 ECOLOGICAL INFORMATION

Not available

SECTION 13 DISPOSAL CONSIDERATIONS

Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): D001. Dispose in accordance with all applicable regulations.

SECTION 14 TRANSPORT INFORMATION

U.S. DOT 49 CFR 172.101:

PROPER SHIPPING NAME: Metal powders, flammable, n.o.s. (germanium)

ID NUMBER: UN3089

HAZARD CLASS OR DIVISION: 4.1

PACKING GROUP: II

SECTION 15 REGULATORY INFORMATION

U.S. REGULATIONS:

CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR 302.4): Not regulated.

SARA TITLE III SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355.30):
Not regulated.

SARA TITLE III SECTION 304 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355.40):
Not regulated.

SARA TITLE III SARA SECTIONS 311/312 HAZARDOUS CATEGORIES (40 CFR 370.21):

ACUTE: No

CHRONIC: No

FIRE: Yes

REACTIVE: No

SUDDEN RELEASE: No

SARA TITLE III SECTION 313 (40 CFR 372.65): Not regulated.

OSHA PROCESS SAFETY (29CFR1910.119): Not regulated.

STATE REGULATIONS:

California Proposition 65: Not regulated.

CANADIAN REGULATIONS:

WHMIS CLASSIFICATION: Not determined.

EUROPEAN REGULATIONS:

EC CLASSIFICATION (CALCULATED): Not determined.

NATIONAL INVENTORY STATUS:

U.S. INVENTORY (TSCA): Listed on inventory.

TSCA 12(b) EXPORT NOTIFICATION: Not listed.

CANADA INVENTORY (DSL): Not determined.

CANADA INVENTORY (NDSL): Not determined.

SECTION 16 OTHER INFORMATION

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