



Canadian Nuclear Safety Commission

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Radiation Safety Data Sheet

This data sheet presents information on radioisotopes only.

For information on chemical compounds incorporating this radionuclide, see the relevant Material Safety Data Sheet.

Part 1 - RADIOACTIVE MATERIAL IDENTIFICATION

Chemical Symbol:	Ge	Common Names:	Germanium
Atomic Weight:	68	Atomic Number:	32

Part 2 - RADIATION CHARACTERISTICS

Physical Half-Life: 288 days
CNSC Exemption Quantity (in Bq): 1×10^4 (10 kBq)

A CNSC license is not required if the amount of radioactive nuclides possessed is less than one Exemption Quantity.

Principal Emissions	Average Energy (MeV)**	Maximum Energy (MeV)***	Dose Rate at 1m Distance (mSv/h·GBq)	Recommended Shielding
Neutrons	-	n/a		
Gamma & X-rays	0.00924	n/a	0.0163	2 mm Pb
Beta*	-			
Alpha	-	n/a		

* Where beta radiation is present, bremsstrahlung radiation will be produced. Shielding may therefore be required.

** Average energy of most abundant emission.

*** Maximum of most abundant emission.

Progeny	Ga-68(68.0 m)
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Part 3 - DETECTION AND MEASUREMENT

Method of Detection:

Dosimetry

External: TLD (whole body & skin) Extremity Neutron
Internal: Whole body Thorax Urine analysis Other (specify)

Part 4 - PREVENTATIVE MEASURES

No protective clothing is necessary for work with sealed sources. When working with unsealed sources wear appropriate protective clothing, such as laboratory coats, coveralls, gloves, safety glasses/goggles and a suitable mask, if the radioactive material is in the form of a dust, powder or if it is potentially volatile. Optimize time, distance, shielding.

Consult CNSC license for requirements concerning engineering controls, protective equipment, and special storage requirements.

Part 5 - ANNUAL LIMIT ON INTAKE

	Ingestion	Inhalation	
Compound Type	All compounds	Unspecified compounds	Oxides, sulphides, halides
Annual Limit on Intake	2E+07	2E+07	3E+06

EMERGENCY PROCEDURES

The following is a guide for first responders. The following actions, including remediation, should be carried out by qualified individuals. In cases where life threatening injury has resulted, **first** treat the injury, **second** deal with personal decontamination.

Personal Decontamination Techniques

- Wash well with soap and water and monitor skin
- Do Not abrade skin, only blot dry
- Decontamination of clothing and surfaces are covered under operating and emergency procedures

Spill and Leak Control

- Alert everyone in the area
- Confine the problem or emergency (includes the use of absorbent material)
- Clear area
- Summon Aid

Emergency Protective Equipment, Minimum Requirements

- Gloves
- Footwear Covers
- Safety Glasses
- Outer layer or easily removed protective clothing
- Suitable respirator selected