

⁶⁸Ge Germanium-68 Chloride Radiochemical Solution

Germanium-68 (Ge-68) can be used in the production of Germanium-68/Gallium-68 (Ge-68/Ga-68) generators to extract the radioisotope Ga-68. Disease-targeting molecules radiolabeled with Ga-68 provide diagnostic images using positron emission tomography (PET) and can be used in direct tumour imaging. Other applications include the production of calibration sources for PET scanners.

BWXT Medical's proprietary manufacturing technology and distillation process produces high purity Ge-68 that can be supplied with high specific activity. Our experts will work together with you to optimize use of this product with your processes and applications.

Process Data

Nuclear Reaction

$^{69}\text{Ga} (p, 2n) \rightarrow ^{68}\text{Ge}$

Chemical Processing

Wet chemistry separation and concentration of Germanium from dissolved target solutions. Note: Solvent Extraction is not employed in the chemical processing.

Assay

High resolution gamma-ray spectrometry at 1077 keV and 511 keV by daughter ^{68}Ga at secular equilibrium.

Product Specification

Half Life

270.95 days

Chemical Form

Germanium (IV) Chloride in dilute hydrochloric acid

Specific Activity*

$\geq 2500 \text{ mCi/mg}$ ($\geq 92.5 \text{ GBq/mg}$)

Activity Concentration*

$\geq 40 \text{ mCi/mL}$ (1.48 GBq/mL)

Radiopurity*

$^{68}\text{Ge} \geq 99.9\%$

Others $\leq 0.1\%$ other nuclides

Note: Excludes ^{71}Ge

Chemical Purity

Co, Cu, Fe, Ni, Pb, Zn and Nb are:

$< 1 \mu\text{g /mCi}$ each

Ga is: $< 2 \mu\text{g /mCi}$

*Specific Activity, Activity Concentration and Radiopurity specifications are at reference date.

Please note that the Germanium-68 Chloride is not tested for sterility or pyrogenicity.

Verification of its suitability for use in humans is the sole responsibility of the purchaser.

Packaging

- V-Vial (3, 5 mL)
- Quartz Lined Vial (2, 10, 20 mL)

Advantages



Our novel distillation and purification process:

- Uses no organic solvents
- Produces high radionuclidic purity Ge-68
- Allows for high activity concentration

Our state of the art facility features:

- High supply capability
- Custom dispensing

As a collaborative partner we:

- Share technical expertise
- Strive for mutual success



World-Class Delivery Service

BWXT medical has a world-class distribution system - our extensive experience and carefully managed transportation logistics mean products reach your destination on time.

Other BWXT Products:

- Indium (In-111) Oxyquinoline Solution (US Only)
- Indium-111 Chloride Radiochemical Solution
- Iodine-123 Sodium Iodide Radiochemical
- Iodine-123 Sodium Iodide Oral Solution (Canada Only)
- Strontium-82 Chloride Radiochemical Solution

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