

Product Information

Bulk radioisotopes - nominal specifications

	Application	Specification
Tritium/H-3	For the manufacture of illuminated signs, for research in molecular biology, biochemistry and biotechnology	Half life: 12.33 years Type of decay: β^- (β emission) Chemical and physical formulation: Tritium compressed gas absorbed on to pyrophoric uranium Chemical purity: >99% Radionuclidic purity: >99% Delivery: Tritium gas is supplied absorbed on to pyrophoric uranium in type GB/0666AY/B(U) transport containers.
Iron-55/Fe-55	Used in nuclear medicine, scientific research and other specialist applications	Half life: 2.7 years Type of decay: electron capture (X-ray emission) Chemical and physical formulation: Slightly coloured solution Fe(III) in 0.5 M HCL Concentration of activity, not less than: 5.0 mCi/ml Specific activity, not less than: 100.0 mCi/mg Radionuclidic purity, not less than: 99.8% (Co57<3%) Content of non-active impurities microgram/mCi, not more than: Ni-0.2, Cu-0.2 Delivery: in a glass ampoule in a Type A non-returnable container weighing up to 6 kg.
Cobalt-57/Co-57	Used in nuclear medicine, scientific research and other specialist applications	Half life: 271.8 day Type of decay: electron capture (Gamma, X-ray emission) Chemical and physical formulation: Transparent, colourless solution Co(II) in 0.1-0.5 M HCl Concentration of activity, not less than: 1.0 mCi/ml Specific activity, not less than: 200.0 mCi/mg Radionuclidic purity, not less than: 97.0% (Co57<3%) Content of non-active impurities microgram/mCi, not more than: Fe-5.0, Cu-5.0 Delivery: in a glass ampoule in a Type A non-returnable container weighing up to 6 kg.
Krypton-85/Kr-85	For non-destructive testing of products and as a radioactive tracer in gases	Half life: 10.73 years Type of decay: β^- (β emission) Chemical and physical formulation: Krypton gas Chemical purity: Krypton - not less than 98.5% by volume Oxygen - not greater than 0.03% by volume Radionuclidic purity: Xe-133 - not greater than 0.5% of Kr-85 activity Other gamma emitters - not greater than 0.1% Enrichment Type A: 4 - 5.5 % (by volume) Type B: 22 - 24 % (by volume) Delivery: in returnable Type A containers.



	Application	Specification
Cadmium-109/Cd-109	Used in nuclear medicine, scientific research and other specialist applications	Half life: 453 days Type of decay: electron capture (Gamma, X-ray emission) Chemical and physical formulation: Transparent, colourless solution Cd(II) in 0.5 M HCl Concentration of activity, not less than: 5.0 mCi/ml Specific activity, not less than: 500.0 mCi/mg Radionuclidic purity, not less than: 99.9% Content of non-active impurities microgram/mCi, not more than: Zn-0.1, Fe-0.1, Cu-0.1, Ag-0.1 Delivery: in a glass ampoule in a Type A non-returnable container weighing up to 6 kg.
Gadolinium-153/Gd-153	For proton and low radiation gamma sources	Half life: 242 days Type of decay: electron capture (Gamma, X-ray emission) Chemical form: Gd-153 solution as nitrate in 0.1 - 1 M HNO ₃ Specific activity: not less than 50 Ci/g Eu-152 activity less than: 0.01% of Gd-153 Delivery: in glass vials in a Type A non-returnable container.
Americium-241/Am-241	For scientific investigation, standard gamma and neutron source	Half life: 435 years Type of decay: alpha (alpha, gamma, neutron, X-ray emission) Chemical form: Am-241 dioxide powder Specific activity: 2.7 Ci/g Chemical purity: >99% Radionuclidic purity: >99% Delivery: in metal capsules in a Type B returnable container.

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