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Product Name :

Sealed Radioactive Source, Strontium

Product Code :

SLE/PHY/290



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Description :

Sealed Radioactive Source, Strontium (Product Code: SLE/PHY/290) is a 5 µCi (185 kBq) strontium-90 teaching source used for beta-particle experiments in school and college physics laboratories. Its strontium-90 sits in equilibrium with the daughter nuclide yttrium-90 inside a silver disc that lets most of the beta radiation escape, and the mount is colour-coded yellow. It is manufactured by **Jain Scientific Equipments Pvt Ltd (ScienceLab)**, Ambala, India, as part of a radiation experiment kit for institutions.

Specifications

Parameter	Detail
Isotope	Strontium-90 in equilibrium with its daughter nuclide yttrium-90
Activity	5 µCi (185 kBq)
Emission	Beta
Half-life	28 years (strontium-90); 64 hours (yttrium-90)
Active element	Incorporated in a silver disc that allows the major proportion of the beta radiation to escape; active material enclosed in metal foil
Mount	Cylindrical mount with a 4 mm diameter stem
Window protection	Wire gauze cap over the open window
Identification	Nature and strength engraved on the mount; colour code yellow
Storage	Small lead castle in a labelled MDF box, 100 x 75 x 65 mm high
Documentation	Data sheet enclosed with each source
Product code	SLE/PHY/290
Manufacturer	Jain Scientific Equipments Pvt Ltd (ScienceLab), Ambala, India

What Is the Strontium-90 Source Used For?

The strontium source is the standard way to show how beta particles behave. Placed in front of a GM tube, it gives a count that paper barely changes but that falls steeply as aluminium sheets of increasing thickness are added, so students can plot absorption curves and estimate the range of the particles. Holding a strong magnet beside the beam bends the particles and moves the count, which demonstrates that beta radiation is charged.

The yttrium-90 daughter has a half-life of only 64 hours, so it stays in equilibrium with the strontium and the source decays at the 28-year rate of strontium-90. In practice the count rate changes very little over a school career, which suits long-term comparison of results. Use tongs, keep the open window facing away from the body, subtract the background count before every reading, and return the source to its lead castle as soon as the measurement is complete.

What to Specify When Ordering

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