SOURCES

peo DETECTION

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Partner Spectrum Techniques

Spectrum Techniques is a leading provider of radiation detection and measurement solutions, specializing in laboratory equipment and radioactive sources. Their offerings include a range of instruments and detectors designed to support educational, research, and industrial applications.

Product offering

RSS3 Source Set – Spectrum Techniques

RSS-5 Source Set – Spectrum Techniques

RSS-8 Source Set – Spectrum Techniques

Laminated Sources – Spectrum Techniques

Disc Sources – Spectrum Techniques

Isotope Generator – Spectrum Techniques

Tube Sources – Spectrum Techniques

Needle Sources – Spectrum Techniques

Radiation Detection › **Sources**

RSS3 Source Set – Spectrum Techniques

The RSS-3 contains 1 each Po-210, Sr-90 and Co-60 emitting a range of alpha, beta and gamma radiation’s. This set is ideal for demonstration and introductory nuclear labs covering basic characteristics of radiation. The Co-60 is 1.0 uCi and the Po-210 and Sr-90 are 0.1 uCi activity.

Contact one of our product specialists.

Radiation Detection › **Sources**

RSS-5 Source Set – Spectrum Techniques

Containing 1 each Cs-137, Co-60, Sr-90, Tl-204 and Po-210, the RSS-5 provides a wide of alpha, beta and gamma emissions making it a popular choice for nuclear science instruction. The set contains two beta emitters, two beta/gamma emitters and one alpha source for in-depth studies of radiation. The Cs-137 is 5 uCi, the Po-210 and Sr-90 are 0.1 uCi activity and the Co-60 and Tl-204 are both 1 uCi.

Contact one of our product specialists.

Radiation Detection › **Sources**

RSS-8 Source Set – Spectrum Techniques

Designed for gamma spectroscopy, the RSS-8 contains eight different gamma emitting isotopes covering the entire energy range from 32 to 1333 keV. Also included in the set is a mixed source of Cs-137 and Zn-65 which students may use to identify an “unknown” isotope. The set consists of Ba-133, Cd-109, Co-57, Co-60, Cs-137, Mn-54. Na-22 and Cs/Zn. Source activities are all 1 uCi, except the Cs/Zn source, which is 0.5 uCi Cs and 1 uCi Zn.

Contact one of our product specialists.

Laminated Sources – Spectrum Techniques

Laminate credit card sources are designed to offer a convenient alternative packaging – easy to handle and store – in various industries including, but not limited to:

- **Laboratories:** They are ideal for performing functional checks on gamma counters or spectrometers.
- **Radiation Protection:** Laminate credit card sources can be used for functional checks and periodic verifications of radiation protection probes and systems.
- **Training and Education:** Laminate credit card sources can be used to illustrate fundamental concepts in nuclear physics and radiation science. Students can observe and study radioactive decay, half-life, energy spectra, and interactions of radiation with matter.
- **Security:** Laminate credit card sources are also useful for functional checks and periodic verifications of portable devices used to identify radiological threats and for conducting emergency exercises.

AVAILABLE SIZES

Each credit card source is constructed using 7.5 mil, heavy-weight card stock and is available in one standard size:

- 3.75 x 2.25 inches (95.3 mm x 57.2 mm)

The source material deposit will be 2-3 mm in diameter located at the center of the radiation trefoil.

CALIBRATION OPTIONS

Credit card sources are not available for calibration. The maximum deviation of the delivered activity from the nominal values listed is ±20%.

REGULATORY COMPLIANCE

Activities provided will not exceed the U.S. NRC Exempt Quantity limit.

Plastic laminates provide a convenient alternative packaging being easy to handle and store. The standard laminates have a transmission window of 0.005″ and produce minimum attenuation for photons and higher energy beta particles.

Two sizes are available, 3.75″x2.25″, and a 1″ diameter circular disc. Other sizes are available; just let us know and we will send you a quote. Low energy x-ray, beta and alpha sources can be produced with a 80

µgm/cm2 aluminized Mylar window offering excellent transmission for Fe-55, C-14 and Po-210.

Contact one of our product specialists.

Disc Sources – Spectrum Techniques

Disc sources are available in 1″ and 2″ diameter plastic disc with the 1″ being standard and other sizes on special order.

The Po-210 alpha source is of open window construction with the source material bonded to the surface of a silver foil mounted in the recess of the plastic disc. This design yields excellent emission of alpha particles without window losses.

Contact one of our product specialists.

Isotope Generator – Spectrum Techniques

This Cs-137/Ba-137m Isotope Generator is used to conduct experiment in schools and universities to demonstrate the properties of radioactive decay. Based on the original Union Carbide patented design, it offers exceptional performance combined with ease of use and safe operation.

Contact one of our product specialists.

If you prefer to continue your search for additional information, try this link.

Tube Sources – Spectrum Techniques

We now offer a selection of exempt quantity gamma sources encapsulated in standard size test tubes or rods for use with well type radiation detectors.These sources are exempt sources and of nominal activity. The isotope is deposited as a point source in the bottom of the tube and is then sealed with epoxy.

Contact one of our product specialists.

Needle Sources – Spectrum Techniques

Needle sources are used to generate a point source of radiation inside cloud chambers for demonstrating alpha and beta radiation tracks. Three different types of isotopes are offered, a pure alpha emitter, a pure beta emitter and a combined alpha /beta emitter.

The sources are constructed by depositing a small, license exempt quantity of radioactive isotope onto the eye of a standard sewing needle which is mounted on a test tube stopper for insertion into the cloud chamber. The needle and stopper are placed into a test tube for protection during shipping and storage.

Contact one of our product specialists.