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# Global Sealed Radioactive Source Supply, Demand and Key Producers, 2026-2032

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## Abstracts

The global Sealed Radioactive Source market size is expected to reach $ 1524 million by 2032, rising at a market growth of 4.4% CAGR during the forecast period (2026-2032).
A Sealed Radioactive Source is defined as radioactive material that is permanently sealed in a capsule or closely bonded in a solid form. The primary design objective of a sealed source is to prevent the leakage or dispersal of radioactive substances under normal conditions of use and during foreseeable accidents, while still allowing the ionizing radiation (such as gamma, X-rays, or neutrons) to pass through the capsule for its intended application.
The encapsulation is typically made of high-strength, corrosion-resistant materials like stainless steel, titanium, or platinum. According to International Atomic Energy Agency (IAEA) standards, these sources must undergo rigorous testing?including impact, vibration, puncture, and heat resistance?to ensure 'Special Form' certification. This containment is crucial because, unlike unsealed sources used in nuclear medicine (radiopharmaceuticals), a sealed source is intended to remain physically intact throughout its entire working life and subsequent disposal.
Sealed radioactive sources are radioactive materials encapsulated in secure metal housings that allow controlled emission of ionizing radiation while preventing leakage of the radioactive substance. These sources are foundational components in a wide range of industrial, medical, scientific, and safety applications. Common isotopes used include cobalt-60, iridium-192, cesium-137, and strontium-90, each selected for specific characteristics such as energy spectrum, half-life, and application suitability. Sealed sources play an indispensable role in industrial inspection, cancer treatment, materials analysis, and other fields, and their market reflects both traditional and emerging uses in the global economy.
In the industrial sector, sealed sources are key to non-destructive testing (NDT) and

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process measurement. Gamma radiography sources like iridium-192 and cobalt-60 power industrial gamma cameras capable of penetrating thick metal structures to inspect welds, pipelines, and pressure vessels. Radiation-based density, thickness, and level gauges are widely employed in manufacturing and chemical processing, enabling real-time process control and enhancing safety and product quality. As investment in infrastructure projects, energy systems, and manufacturing automation continues in regions such as Asia-Pacific and North America, demand for these industrial applications remains robust.

In healthcare, sealed sources are fundamental to radiation therapy and diagnostic procedures. Cobalt-60 has been historically used in external beam radiation therapy, particularly in regions where access to linear accelerators is limited. Isotopes such as iridium-192, ruthenium-106, and others are used in brachytherapy, delivering targeted radiation doses for cancers of the cervix, prostate, and other organs. The global rise in cancer incidence, aging populations, and the expansion of oncology services in emerging markets are key drivers of growth in the medical sealed source segment. According to industry forecasts, the medical radioactive source market is projected to grow steadily over the next decade, especially in therapeutic and imaging applications.

However, the sealed radioactive source market is heavily shaped by stringent regulatory frameworks. International standards from the International Atomic Energy Agency (IAEA) and national regulations govern the lifecycle of sealed sources, including manufacturing controls, transportation safety, security measures, usage licensing, routine leak testing, and end-of-life disposal. These regulatory requirements enhance safety and environmental protection, but also raise barriers to market entry and increase compliance costs. Some jurisdictions have introduced real-time monitoring and GPS tracking for high-risk sources, while exempting very low-activity industrial sources from licensing, significantly affecting how suppliers and users manage regulatory burdens.

The market also faces competition from alternative and radiation-free technologies. In industrial measurement, non-radioactive X-ray and laser-based gauges offer precise thickness or density measurements without the regulatory constraints associated with radioactive sources. In sterilization and disinfection applications, low-temperature vapor and advanced plasma systems are emerging as substitutes for gamma irradiation for certain medical tools. While these alternatives reduce reliance on radioactive materials, sealed sources continue to excel in applications requiring deep material penetration and stable long-term radiation output.

Looking forward, innovation in lifecycle management, safety integration, and green isotopic technologies will be important for the future of the sealed radioactive source market. The emphasis on secure handling, end-of-use recycling, and responsive regulatory compliance will shape competitive dynamics. Markets in Asia-Pacific, Africa, and Latin America are expected to grow as they invest in infrastructure and healthcare

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systems, although regulatory harmonization and supply chain resilience will be essential to sustainable market expansion. Overall, while the sealed source industry must navigate regulatory, safety, and technological challenges, its role in critical industrial and medical applications ensures continued demand globally.

This report studies the global Sealed Radioactive Source demand, key companies, and key regions.

This report is a detailed and comprehensive analysis of the world market for Sealed Radioactive Source, and provides market size (US$ million) and Year-over-Year (YoY) growth, considering 2025 as the base year. This report explores demand trends and competition, as well as details the characteristics of Sealed Radioactive Source that contribute to its increasing demand across many markets.

**Highlights and key features of the study**

Global Sealed Radioactive Source total market, 2021-2032, (USD Million)

Global Sealed Radioactive Source total market by region & country, CAGR, 2021-2032, (USD Million)

U.S. VS China: Sealed Radioactive Source total market, key domestic companies, and share, (USD Million)

Global Sealed Radioactive Source revenue by player, revenue and market share 2021-2026, (USD Million)

Global Sealed Radioactive Source total market by Type, CAGR, 2021-2032, (USD Million)

Global Sealed Radioactive Source total market by Application, CAGR, 2021-2032, (USD Million)

This report profiles major players in the global Sealed Radioactive Source market based on the following parameters - company overview, revenue, gross margin, product portfolio, geographical presence, and key developments. Key companies covered as a part of this study include NRG, Rosatom, NTP Radioisotopes, ANSTO, Nordion, IRE, Curium Pharma, Eckert & Ziegler Strahlen, China Isotope & Radiation Corporation (CIRC), Polatom, etc.

This report also provides key insights about market drivers, restraints, opportunities, new product launches or approvals.

Stakeholders would have ease in decision-making through various strategy matrices used in analyzing the world Sealed Radioactive Source market

**Detailed Segmentation:**

Each section contains quantitative market data including market by value (US$ Millions), by player, by regions, by Type, and by Application. Data is given for the years 2021-2032 by year with 2025 as the base year, 2026 as the estimate year, and 2027-2032 as the forecast year.

Global Sealed Radioactive Source Market, By Region:

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United States

China

Europe

Japan

South Korea

ASEAN

India

Rest of World

Global Sealed Radioactive Source Market, Segmentation by Type:

Cobalt-60

Iridium-192

Americium-241

Selenium-75

Global Sealed Radioactive Source Market, Segmentation By IAEA Safety Category:

Cat 1

Cat 2

Cat 3

Cat 4

Cat 5

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Global Sealed Radioactive Source Market, Segmentation By Type of Radiation:

Alpha Source

Beta Source

Global Sealed Radioactive Source Market, Segmentation by Application:

Medical

Industrial

Others

**Companies Profiled:**

NRG

Rosatom

NTP Radioisotopes

ANSTO

Nordion

IRE

Curium Pharma

Eckert & Ziegler Strahlen

China Isotope & Radiation Corporation (CIRC)

Polatom

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Key Questions Answered

1. How big is the global Sealed Radioactive Source market?
2. What is the demand of the global Sealed Radioactive Source market?
3. What is the year over year growth of the global Sealed Radioactive Source market?
4. What is the total value of the global Sealed Radioactive Source market?
5. Who are the Major Players in the global Sealed Radioactive Source market?
6. What are the growth factors driving the market demand?

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## ANALYSIS



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## 5 MARKET ANALYSIS BY TYPE



## 6 MARKET ANALYSIS BY IAEA SAFETY CATEGORY

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