

Key Factors in

Choosing the Right Californium-252 Supplier



Discovered in 1950 by scientists in UC Berkeley's Radiation Laboratory, **Californium-252 (Cf-252)** has the second-highest atomic mass of all produced elements and is very radioactive. It is the only isotope to spontaneously emit neutrons, and these neutrons can be used in nuclear reactor start-ups, material scanners, and oil well logging.



The neutron-emitting qualities of Cf-252 have also proven useful in cancer treatments and the creation of new elements, adding to our understanding of what is possible in elemental science. Californium-252 is valuable in a variety of private industry, government, and academic research projects, as well as for military defense applications.

Cf-252 can be dangerous to the end user or during shipping if not handled with the appropriate precautions, so it's important to work with a supplier that can verify adherence to all safety, government, and industry regulations and standards. In this eBook, we will discuss the most important factors to consider when choosing a supplier for all your Cf-252 needs.

Customer-Tailored Sources

Cf-252 can be used in a broad range of industries and applications, but there's no one-size-fits-all source solution. Many Cf-252 suppliers create large batches of the element and sell them off in large quantities, forcing buyers to tailor their needs to the resulting source, as opposed to the source being tailored to them.

A customer-centric source production will instead focus on the needs, specifications, and requirements of each individual customer. By choosing a supplier that produces Cf-252

per request, you'll get a source that is much more fitting for your particular industry or purpose. Depending on your unique Cf-252 requirements, you may require a different capsule length, capsule material, or application. Without the option to create a custom source, you'll be pushed to adapt your specifications to someone else's design, preferences, and production schedule.



Frontier Technology Corporation (FTC) tailors our Cf-252 sources to the submitted specifications. We can custom-fabricate a range of source sizes, quantities, and transport materials to meet your application's needs. FTC's custom sources include variations such as handling rods, pigtails, cables, lanyards, and more. We are able to customize wall thicknesses, integration points, and source capsule holders as well.

We use 304L stainless steel, Zircaloy-2, and platinum in capsule fabrication, and other alloys. Our [Model 10 and Model 100 sources](#) provide examples of the high quality you can expect from FTC.

Secure Worldwide Shipping

Once the Californium-252 source is created according to your exact specifications, the necessary next step would be to ensure that a secure shipping plan is in place. This plan needs to adhere to the strict guidelines and laws that regulate the transport of radioactive elements, especially if it would be an international delivery.

Licensing

Holding the correct licensure is a non-negotiable for Cf-252 suppliers, especially for international shipments. FTC holds the RAM license for its domestic customers and ships internationally under the NRC General License, and works with each customer to make sure that there are no documentation or Customs surprises (or delays) along the way. With these licenses, we can reach customers all over the world in an efficient manner.

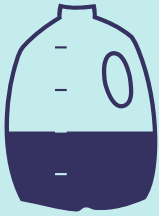
Safety

While strict adherence to shipping regulations ensures that sources cannot harm anyone or anything in transit, it is also essential to protect the sources themselves against any potential damage during the transportation process. High-quality packaging materials keep the source's condition intact as it moves from the supplier to its destination.

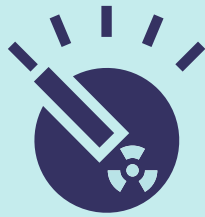


FTC fabricates our own Type-A shipping containers to shield each of our shipped sources. Designing and fabricating these containers in-house ensures that every container meets not only international shipping requirements, but also our own rigorous standards for source protection. FTC assists each customer with packaging selection, making recommendations to guarantee each shipment adheres with legal transport index requirements while also taking into account the requested external radiation levels.

Cf-252 packaging should take the following factors into consideration:



Source
Size



Minimum
Radiation Levels



Appropriate
Certifications

FTC's container sizes range from the 5 Gallon Model 50240 to a myriad of custom shipping containers available for rental. We can also add custom layers of shielding within existing shipping containers and packages.



Hassle-Free Depleted Source Returns

Responsible suppliers of radioactive materials will provide a means to carefully dispose of depleted sources. A supplier should not only create sources, but also take accountability for receiving and disposing of them as well. An option to return depleted sources would mean that new sources can be installed seamlessly.

At FTC, we accept depleted or return sources at no cost to the customer other than for shipping. Returning the materials is a simple process of either sending the depleted source back in a new source's shipping container or requesting an appropriate shipping container to be furnished by FTC.

Suppliers are not required to provide return and disposal services, so not every company will have the same policy. We offer return and disposal services as a commitment to responsible source production.

Cf-252 As You Need It

A tailored approach, utmost safety, and efficiency should all be part of your Cf-252 order experience. To ensure that is the case, select a supplier who offers sources that can be created exactly towards your needs, can be shipped safely and under the correct licenses worldwide, and that feature the option to return depleted sources. These factors will guarantee the integrity of the product as well as your own peace of mind.

FTC stands by our commitment to supply Cf-252 responsibly to a wide variety of industries, including academic research, nuclear, oil and petrochemical, military and defense, and more. To discover how FTC can deliver on your Cf-252 needs, [request a quote](#) today.



About Us

Frontier Technology Corporation (FTC) is the world leader in [Californium-252](#) neutron source manufacturing and design, and is the foremost expert in logistics and shipping of radioactive material.

FTC is licensed by the Ohio State Department of Health. Our Quality Assurance program for design processes, fabrication, construction, and testing comply with 10CFR50, Appendix B. All products and processes are held to rigorous industry standards as set by ODH, Nuclear Regulatory Commission, ISO 2919, ASTM, and ANSI. Frontier Technology Corporation's neutron sources meet the requirements for IAEA Special Form Certification issued by the U.S. Department of Transportation. Frontier Technology shipping containers are TYPE-A certified for radioactive material. FTC ships to over 200 countries in the world, excluding embargo list countries.

Our goal at Frontier Technology is to provide our customers with high-integrity, cost-effective neutron sources and TYPE-A shipping containers. We are committed to safety, reliability, and customer satisfaction.

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