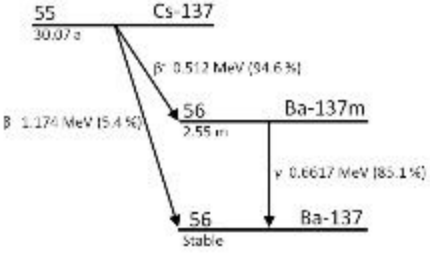
Description

The Cs-137/Ba-137m isotope generator is based on the original Union Carbide patented design. It is designed for demonstrating the properties of radioactive decay.

Based on the original Union Carbide design, the isotope generator offers exceptional performance while maintaining ease of use and safe operation. Cs-137 is a long-lived parent nuclide which has a half-life of 30.07 years and decays by the emission of beta radiation into the stable isotope Ba-137. This transition is completed either by direct conversion into stable Ba-137 (5.4 %) or via the metastable energy state of Ba-137m (94.6 %). Ba-137m has a half-life of 2.55 minutes and decays by isomeric transition, emitting a gamma ray (Eγ = 0.6617 MeV), into the stable isotope Ba-137.



The isotope generator contains up to 10 µCi (0.37 MBq) of Cs-137 bound on a special ion exchange medium. Using eluting solution (which is forced through the isotope exchange column using a syringe), the Ba-137 is selectively extracted from the ion exchange medium leaving the Cs-137 behind - this process is called "milking the generator". Tests have shown that the isotope generator may be milked many times in quick succession without totally depleting the Ba-137 isotope. Complete equilibrium can be reestablished within one hour and the recovery can be detected using a suitable measurement instrument.

The complete isotope generator kit includes:

- (1) Cs-137/Ba-137m Isotope Generator
- (1) 250 mL bottle of eluting solution
- (1) Syringe
- (5) Stainless steel planchets
- (1) Operating instructions

Additional eluting solution, syringes, and planchets may be ordered separately.