

WAC 246-235-103 Prototype tests for manufacture of calibration or reference sources containing americium-241 or radium-226. An applicant for a license under this chapter shall, for any type of source which is designed to contain more than 0.185 kilobecquerel (0.005 microcurie) of americium-241 or radium-226, conduct prototype tests, in the order listed, on each of no less than five prototypes of the source, which contains more than 0.185 kilobecquerel (0.005 microcurie) of americium-241 or radium-226, as follows:

(1) *Initial measurement.* The quantity of radioactive material deposited on the source must be measured by direct counting of the source.

(2) *Dry wipe test.* The entire radioactive surface of the source must be wiped with filter paper with the application of moderate finger pressure. Removal of radioactive material from the source must be determined by measuring the radioactivity on the filter paper or by direct measurement of the radioactivity on the source following the dry wipe.

(3) *Wet wipe test.* The entire radioactive surface of the source must be wiped with filter paper, moistened with water, with the application of moderate finger pressure. Removal of radioactive material from the source must be determined by measuring the radioactivity on the filter paper after it has dried or by direct measurement of the radioactivity remaining on the source following the wet wipe.

(4) *Water soak test.* The source must be immersed in water at room temperature for a period of 24 consecutive hours. The source must then be removed from the water. Removal of radioactive material from the source must be determined by direct measurement of the radioactivity on the source after it has dried or by measuring the radioactivity in the residue obtained by evaporation of the water in which the source was immersed.

(5) *Dry wipe test.* On completion of the preceding test in this section, the dry wipe test described in subsection (2) of this section must be repeated.

(6) *Observations.* Removal of more than 0.005 microcurie (185 becquerels) of radioactivity in any test prescribed by this section must be cause for rejection of the source design. Results of prototype tests submitted to the department or the NRC must be given in terms of radioactivity in microcuries (or becquerels) and percent of removal from the total amount of radioactive material deposited on the source.

[Statutory Authority: RCW 70A.388.040 and 70A.388.110. WSR 22-19-084, § 246-235-103, filed 9/20/22, effective 10/21/22. Statutory Authority: RCW 70.98.050. WSR 15-06-015, § 246-235-103, filed 2/23/15, effective 3/26/15; WSR 13-24-025, § 246-235-103, filed 11/22/13, effective 12/23/13. Statutory Authority: RCW 70.98.050 and 70.98.080. WSR 09-06-003, § 246-235-103, filed 2/18/09, effective 3/21/09.]