

**§ 173.420 Uranium hexafluoride (fissile, fissile excepted and non-fissile).**

(a) In addition to any other applicable requirements of this subchapter, quantities greater than 0.1 kg of fissile, fissile excepted or non-fissile uranium hexafluoride must be offered for transportation as follows:

(1) Before initial filling and during periodic inspection and test, packagings must be cleaned in accordance with American National Standard N14.1 (IBR, see §171.7 of this subchapter).

(2) Packagings must be designed, fabricated, inspected, tested and marked in accordance with—

(i) American National Standard N14.1 in effect at the time the packaging was manufactured;

(ii) Specifications for Class DOT-106A multi-unit tank car tanks (see §§179.300 and 179.301 of this subchapter); or

(iii) Section VIII of the ASME Code (IBR, see §171.7 of this subchapter), provided the packaging—

(A) Was manufactured on or before June 30, 1987;

(B) Conforms to the edition of the ASME Code in effect at the time the packaging was manufactured;

(C) Is used within its original design limitations; and

(D) Has shell and head thicknesses that have not decreased below the minimum value specified in the following table:

| <b>Packaging model</b>              | <b>Minimum thickness; millimeters (inches)</b> |
|-------------------------------------|--|
| 1S, 2S                              | 1.58 (0.062)                                   |
| 5A, 5B, 8A                          | 3.17 (0.125)                                   |
| 12A, 12B                            | 4.76 (0.187)                                   |
| 30B                                 | 7.93 (0.312)                                   |
| 48A, F, X, and Y                    | 12.70 (0.500)                                  |
| 48T, O, OM, OM Allied, HX, H, and G | 6.35 (0.250)                                   |

(3) Each package shall be designed so that it will:

(i) withstand a hydraulic test at an internal pressure of at least 1.4 MPa (200 psi) without leakage;

(ii) withstand the test specified in §173.465(c) without loss or dispersal of the uranium hexafluoride; and

(iii) withstand the test specified in 10 CFR 71.73(c)(4) without rupture of the containment system.

(4) Uranium hexafluoride must be in solid form.

(5) The volume of solid uranium hexafluoride, except solid depleted uranium hexafluoride, at 20 °C (68 °F) may not exceed 61% of the certified volumetric capacity of the packaging. The volume of solid depleted uranium hexafluoride at 20 °C (68 °F) may not exceed 62% of the certified volumetric capacity of the packaging.

(6) The pressure in the package at 20 °C (68 °F) must be less than 101.3 kPa (14.8 psig).

(b) Each packaging for uranium hexafluoride must be periodically inspected, tested, marked and otherwise conform with the American National Standard N14.1.

(c) Each repair to a packaging for uranium hexafluoride must be performed in accordance with the American National Standard N14.1.

(d) Non-fissile uranium hexafluoride, in quantities of less than 0.1 kg, may be shipped in packaging that meets §§173.24, 173.24a, and 173.410.

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