

3701:1-50-11 General license: Fissile material.

- (A) A general license is issued to any licensee of the department to transport fissile material, or to deliver fissile material to a carrier for transport, if the material is shipped in accordance with this section. The fissile material need not be contained in a package which meets the standards of subparts E and F of 10 C.F.R. 71 (as published in the January 1, 2014 Code of Federal Regulations); however, the material must be contained in a type A package. The type A package must also meet the DOT requirements of 49 C.F.R. 173.417(a) (as published in the October 1, 2014 Code of Federal Regulations).
- (B) The general license applies only to a licensee who has a quality assurance program approved by the department as satisfying the provisions of rule 3701:1-50-24 of the Administrative Code.
- (C) The general license applies only when a package's contents:
 - (1) Contain no more than a type A quantity of radioactive material; and
 - (2) Contain less than five hundred total grams of beryllium, graphite, or hydrogenous material enriched in deuterium.
- (D) The general license applies only to packages containing fissile material that are labeled with a CSI which:
 - (1) Has been determined in accordance with paragraph (E) of this rule;
 - (2) Has a value less than or equal to ten; and
 - (3) For a shipment of multiple packages containing fissile material, the sum of the CSIs must be less than or equal to fifty (for shipment on a nonexclusive use conveyance) and less than or equal to one hundred (for shipment on an exclusive use conveyance).
- (E)
 - (1) The value for the CSI must be greater than or equal to the number calculated by the following equation:
$$\text{CSI} = 10((\text{grams of U-235}/X) + (\text{grams of U-233}/Y) + (\text{grams of Pu}/Z))$$
 - (2) The calculated CSI must be rounded up to the first decimal place;
 - (3) The values of X, Y, and Z used in the CSI equation must be taken from table 11-1 or table 11-2, as appropriate;
 - (4) If table 11-2 is used to obtain the value of X, then the values for the terms in the equation for uranium-233 and plutonium must be assumed to be zero; and
 - (5) Table 11-1 values for X, Y, and Z must be used to determine the CSI if:
 - (a) Uranium-233 is present in the package;
 - (b) The mass of plutonium exceeds one per cent of the mass of uranium-235;

- (c) The uranium is of unknown uranium-235 enrichment or greater than twenty-four weight per cent enrichment; or
- (d) Substances having a moderating effectiveness (i.e., an average hydrogen density greater than H₂O) (e.g., certain hydrocarbon oils or plastics) are present in any form, except as polyethylene used for packing or wrapping.

Table 11-1 Mass limits for general license packages containing mixed quantities of fissile material or uranium-235 of unknown enrichment per paragraph (E) of this rule

Fissile material	Fissile material mass mixed with moderating substances having an average hydrogen density less than or equal to H ₂ O (grams)	Fissile material mass mixed with moderating substances having an average hydrogen density greater than H ₂ O ^a (grams)
U-235 (X)	60	38
U-233 (Y)	43	27
Pu-239 or Pu-241 (Z)	37	24

^a When mixtures of moderating substances are present, the lower mass limits shall be used if more than fifteen per cent of the moderating substance has an average hydrogen density greater than H₂O.

Table 11-2 Mass limits for general license packages containing uranium-235 on known enrichment per paragraph (E) of this rule

Uranium enrichment in weight per cent of U-235 not exceeding	Fissile material mass of U-235 (X) (grams)
24	60
20	63
15	67
11	72
10	76
9.5	78
9	81
8.5	82
8	85
7.5	88
7	90
6.5	93
6	97
5.5	102
5	108

Table 11-2 Mass limits for general license packages containing uranium-235 on known enrichment per paragraph (E) of this rule

4.5	114
4	120
3.5	132
3	150
2.5	180
2	246
1.5	408
1.35	480
1	1,020
0.92	1,800

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CERTIFIED ELECTRONICALLY

Certification

02/08/2016

Date

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