

2. Governments may permit, as administrative exceptions, the shipment for non-nuclear civil applications of nickel powder in uncompact powder form.

**3006. Nuclear-grade graphite, i.e., graphite having a purity level of less than one part per million boron equivalent and with a density greater than 1.5 g/cm<sup>3</sup>, except individual shipments of 100 kg or less.**

**3007. Lithium, as follows:**

3007. a. Metal, hydrides or alloys containing lithium enriched in the 6 isotope to a concentration higher than the one existing in nature (7.5% on an atom percentage basis);  
b. Any other materials containing lithium enriched in the 6 isotope (including compounds, mixtures and concentrates), except lithium enriched in the 6 isotope incorporated in thermoluminescent dosimeters.  
(For the deuteride of natural lithium or of lithium enriched in the 7 isotope, see Item 3003.)

**3008. Hafnium, as follows: metal, alloys and compounds of hafnium containing more than 60% hafnium by weight, and manufactures thereof, except shipments of the above having a hafnium content of 1 kg or less.**

**3009. Beryllium, as follows: metal, alloys containing more than 50% beryllium by weight, compounds containing beryllium and manufactures thereof, except:**

3009. a. Metal windows for X-ray machines;  
b. Oxide shapes in fabricated or semi-fabricated forms specially designed for electronic component parts or as substrates for electronic circuits;  
c. Shipments of 500 g or less of beryllium having a purity of 99% or less, or 100 g or less of beryllium having a purity of greater than 99%, provided shipments exclude single crystals;  
d. Shipments of 5 kg or less of beryllium contained in compounds with a purity of less than 99%.

**3012. Tritium, compounds and mixtures containing tritium in which the ratio of tritium to hydrogen by atoms exceeds 1 part in 1,000, and products containing one or more of the foregoing, except:**

3012. a. Shipments of tritium, compounds, mixtures and individual products containing one or more of the foregoing substances not exceeding 100 curies;  
b. Tritium contained in luminous paint, self-luminous products, gas and aerosol detectors, electron tubes, lightning or static elimination devices, ion generating tubes, detector cells of gas chromatography devices, and calibration standards;  
c. Compounds and mixtures of tritium, where the separation of the constituents cannot result in the evolution of an isotopic mixture of hydrogen in which the ratio of tritium to hydrogen by atoms exceeds 1 part in 1,000.

**3013. Materials for nuclear heat sources, as follows:**

3013. a. Plutonium in any form with a plutonium isotopic assay of plutonium-238 of more than 50%, *except*:  
1. Shipments with a plutonium content of one gramme or less;  
2. Shipments of three effective grammes or less when contained in a sensing component in instruments;  
3. Plutonium-238 contained in heart pacemakers;  
b. "Previously separated" neptunium-237 in any form, *except* shipments with a neptunium-237 content of one gramme or less.

**3015. Wet-proofed platinized catalysts specially designed or prepared for promoting hydrogen isotope exchange between hydrogen and water for the recovery of tritium from heavy water or for heavy water production.**

## B. NUCLEAR FACILITIES

**3101. Plants for the separation of isotopes of natural and depleted uranium, special and other fissile materials, and specially designed or prepared equipment and components therefor, as follows:**

3101. a. Plants specially designed for separating isotopes of natural and depleted uranium, special and other fissile materials, as follows:  
1. Gaseous diffusion separation plants;  
2. Gas centrifuge separation plants;  
3. Aerodynamic separation plants;  
4. Chemical exchange separation plants;  
5. Ion-exchange separation plants;  
6. Atomic vapour "laser" isotopic separation plants;  
7. Molecular "laser" isotopic separation plants;  
8. Plasma separation plants;  
9. Electromagnetic separation plants;  
b. Equipment and components, as follows, specially designed or prepared for:  
1. Gaseous diffusion separation process:  
a. Valves wholly made of or lined with aluminium, aluminium alloys, nickel or alloy containing 60% or more nickel, 40 mm or more in diameter, with bellows seals;  
b. Blowers and compressors (turbo, centrifugal and axial flow types) wholly made of or lined with aluminium, aluminium alloys, nickel or alloy containing 60% or more nickel and having a capacity of 1,700 litres (1.7 m<sup>3</sup>) per minute or more, including compressor seals;  
c. Gaseous diffusion barriers made of porous metallic, polymer or ceramic materials resistant to corrosion by UF<sub>6</sub> with a pore size of less than 1,000 angstroms, a thickness of 5 mm or less, and, for tubular forms, a diameter of 25 mm or less;  
d. Gaseous diffuser housings;  
e. Heat exchangers made of aluminium, copper, nickel or alloys containing more than 60% nickel, or combinations of these metals as clad tubes, designed to operate at sub-atmospheric pressure with a leak rate that limits the pressure rise to less than 10 pascal (0.1 millibar) per hour under a pressure differential of 10<sup>5</sup> pascal (1 bar);  
2. Gas centrifuge separation process:  
a. Gas centrifuges;  
b. Complete rotor assemblies;  
c. Rotor tube cylinders with a thickness of 12 mm or less, a diameter of between 75 mm and 400 mm made from high strength-to-density ratio materials described in the Note below;  
d. Magnetic suspension bearings consisting of an annular magnet suspended within a housing containing a damping medium. The magnet couples with a pole piece or second magnet fitted to the top cap of the rotor;  
e. Specially prepared bearings comprising a pivot-cup assembly mounted on a damper;  
f. Rings or bellows with a wall thickness of 3 mm or less and a diameter of between 75 mm and 400 mm and designed to give local support to a rotor tube or to join a number together, made from high strength-to-density ratio materials described in the Note below;  
g. Baffles of between 75 mm and 400 mm diameter for mounting inside the rotor tube, made from high strength-to-density ratio materials described in the Note below;  
h. Top and bottom caps of between 75 mm and 400 mm diameter to fit the ends of the rotor tube, made from high strength-to-density ratio materials described in the Note below;