

U.S. NUCLEAR REGULATORY COMMISSION  
CERTIFICATE OF COMPLIANCE  
For Radioactive Materials Packages

POOR ORIGINAL

1.(a) Certificate Number 6678	1.(b) Revision No. 0	1.(c) Package Identification No. USA/6678/B	1.(d) Pages No. 1	1.(e) Total No. Page 2
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## 2. PREAMBLE

- 2.(a) This certificate is issued to satisfy Sections 173.393a, 173.394, 173.395, and 173.396 of the Department of Transportation Hazardous Materials Regulations (49 CFR 170.189 and 14 CFR 103) and Sections 145-19-10a and 146-19-100 of the Department of Transportation Dangerous Cargo Regulations (46 CFR 145-149), as amended.
- 2.(b) The packaging and contents described in item 5 below, meets the safety standards set forth in Subpart C of Title 10, Code of Federal Regulations, Part 71, "Packaging of Radioactive Materials for Transport and Transportation of Radioactive Material Under Certain Conditions."
- 2.(c) This certificate does not relieve the consignor from compliance with any requirement of the regulations of the U.S. Department of Transportation or other applicable regulatory agencies, including the government of any country through or into which the package will be transported.

## 3. This certificate is issued on the basis of a safety analysis report of the package design or application—

3.(a) Prepared by (Name and address): E.I. du Pont de Nemours & Company Savannah River Plant Aiken, South Carolina 29801	3.(b) Title and identification of report or application: E.I. du Pont de Nemours & Company Report No. DPSPU-74-124-5, April 1975.
3.(c) Docket No. 71-6678	

## 4. CONDITIONS

This certificate is conditional upon the fulfilling of the requirements of Subpart D of 10 CFR 71, as applicable, and the conditions specified in item 5 below.

## 5. Description of Packaging and Authorized Contents, Model Number, Fissile Class, Other Conditions, and References:

## (a) Packaging

- (1) Model No: LP-50
- (2) Description

Packaging for large quantities of tritium. The containment vessel is a nominal 50 liter 304L stainless steel vessel fitted with stainless steel vacuum valve assembly. The containment vessel is 13-5/8-inch O.D. by 25 inches high with 0.078 inch wall thickness. The containment vessel is held within a closed aluminum bucket with a 14 inch O.D., 30 inches high and minimum 15/64 inch walls. The aluminum bucket is centered and supported within a 16-gage, 23-1/2 inch O.D. by 40 inch steel drum using celotex insulation. The drum is closed using a bolted locking ring. The package gross weight is 260 pounds.

## (3) Drawings

The packaging is fabricated in accordance with DuPont Drawings Nos.: S5-2-5733, Rev. 7; S5-2-5734, Rev. 9; S5-2-5735, Rev. 1; S4-2-596, Rev. 0, S5-2-186, Rev. 46; S5-2-187, Rev. 22; and S5-2-147, Rev. 13; and Figure 4 of DuPont Report No. DPSPU-74-124-5, April 1975.

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(b) Contents

(1) Type and form of material

Tritium in mixture with other gases.

(2) Maximum quantity of material per package

Not more than 75,300 cm<sup>3</sup> of tritium at STP (1 atm, 25°C), and a maximum activity of 193,500 Curies.

6. The maximum internal fill pressure in the primary containment vessel shall not exceed 24.2 psia at 25°C (77°F).

7

- Acceptance, maintenance and use of the package shall be in accordance with the procedures and requirements of Chapters 6 and 7 of DuPont Report No. DPSPU-74-124-5, April 1975.

B. The leak test described in paragraph 7.1.3 of DuPont Report No. DPSPU-124-5, April 1975 shall be repeated after the third use of each packaging. In addition, a primary containment vessel before use of a packaging for shipment, shall have been tested in accordance with the above leak test (paragraph 7.1.3, DPSPU-124-5) within the preceding 12 month period.

B. Expiration date: October 31, 1982.

Reference

E.I. duPont de Nemours and Company Report No. DPSPU-124-5, April 1975.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

*Charles E. MacDonald*  
Charles E. MacDonald, Chief  
Transportation Branch  
Division Fuel Cycle and  
Material Safety

Date: SEP 29 1977

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PDR 71-6678

DEPARTMENT OF TRANSPORTATION  
RESEARCH AND SPECIAL PROGRAMS ADMINISTRATION  
WASHINGTON, D.C. 20590

RECEIVED

IAEA CERTIFICATE OF COMPETENT AUTHORITY

Type B Radioactive Material Package Design M IC 44 REFER TO:

Certificate Number USA/6678/B( )  
(Revision 1)

U.S. POSTAL SERVICE  
COMMERCIAL  
FIRST CLASS MAIL SECTION

This establishes that the packaging design described herein, when loaded with the authorized radioactive contents, has been certified by the National Competent Authority of the United States as meeting the regulatory requirements for Type B packaging for radioactive materials as prescribed in IAEA<sup>1</sup> Regulations and in accordance with 49 CFR §§ 173.393b and 173.395(c)(2) of the USA<sup>2</sup> Regulations for the transport of radioactive materials.

I. Package Identification - Model No. LP-50.

II. Packaging Description - Packaging authorized by this certificate consists of a nominal 50 liter 304L stainless steel containment vessel measuring 13-5/8 inches outside diameter by 25 inches in height with a .078 inch wall thickness which is equipped with a stainless steel vacuum valve assembly and is fitted into an aluminum drum measuring 14 inches in outside diameter by 30 inches in height with a minimum wall thickness of 15/64 inch. The aluminum drum is centered and supported by celotex insulation within a 16-gauge, 23-1/2 inches outside diameter by 40 inches steel drum which is closed with a bolted locking ring. Package gross weight is 260 pounds.

III. Authorized Radioactive Contents - The authorized contents consist of tritium in mixture with other gases with a maximum of 75,300 cm<sup>3</sup> of tritium at STP and a maximum activity of 193,500 curies. Fill pressure in the primary containment vessel shall not exceed 24.2 psia at 25°C.

IV. General Conditions -

- a. Each user of this certificate must have in his possession a copy of this certificate.
- b. Each user of this certificate, other than Edlow International Company, Washington, D.C., shall register his identity in writing to the Office of Hazardous Materials Regulation, Materials Transportation Bureau, U.S. Department of Transportation, Washington, D.C. 20590.

**FEE EXEMPT**

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c. This certificate does not relieve any consignor or carrier from compliance with any requirement of the Government of any country through or into which the package is to be transported.

V. Marking and Labeling - The package must also bear the marking USA/6678/B( ) as well as the other marking and labels prescribed by the USA Regulations.

VI. Expiration Date - This certificate, unless renewed, expires on October 31, 1982.

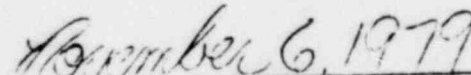
This certificate is issued in accordance with the requirements of the IAEA and USA Regulations and in response to the September 12, 1979, petition by Edlow International Company, and in consideration of the associated information provided in U.S. Nuclear Regulatory Commission Certificate of Compliance No. 6678, Revision 0 (Appendix A).

Certified by:



R. R. Rawl

Designated U.S. Competent Authority for the  
International Transportation of Radioactive Materials  
Office of Hazardous Material Regulation  
Materials Transportation Bureau  
U.S. Department of Transportation

  
(Date)

<sup>1</sup>"Safety Series No. 6, Regulations for the Safe Transport of Radioactive Materials, 1967 Edition" published by the International Atomic Energy Agency (IAEA), Vienna, Austria.

<sup>2</sup>Title 49, Code of Federal Regulations, Parts 100-199, USA.

Original issued in response to the December 8, 1977, petition by Edlow International, Washington, D.C.

Revision 1 issued to extend expiration date.

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