

**EXPORT LICENSE**

NRC FORM 250P (12/10)



**United States of America**  
 Nuclear Regulatory Commission  
 Washington, D.C. 20555

**NRC LICENSE NO.: PXB3.06**

**LICENSE EXPIRES: December 31, 2020**

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Pursuant to the Atomic Energy Act of 1954, as amended, and the regulations issued by the Nuclear Regulatory Commission (NRC) pursuant thereto, and in reliance on statements and representations heretofore made by the applicant/licensee, this license is hereby issued authorizing the licensee to export the byproduct materials listed below, subject to the terms and conditions herein. This license is only valid if the licensee maintains the requisite NRC or Agreement State domestic licenses.

<p align="center"><b>LICENSEE</b></p> <p>Nordion (Canada), Inc.              ATTN: Jackie Kavanagh              447 March Road              Ottawa, Ontario K2K 1X8              Canada</p> <p>APPLICANT'S REFERENCE: Application Dated 11/09/2010</p>	<p align="center"><b>ULTIMATE FOREIGN CONSIGNEE(S)</b></p> <p>Nordion (Canada), Inc.              447 March Road              Ottawa, Ontario K2K 1X8              Canada</p>
<p align="center"><b>INTERMEDIATE CONSIGNEE(S)</b></p> <p align="center">None</p>	<p align="center"><b>OTHER PARTY(IES) TO EXPORT</b></p> <p align="center">Listed on Pages 3 and 4</p> <p align="center">(Suppliers)</p>

**COUNTRY(IES) OF ULTIMATE DESTINATION: Canada**

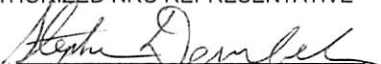
**CONDITIONS, NOTES, AND DESCRIPTIONS OF 10 CFR PART 110, APPENDIX P,  
 BYPRODUCT AND SOURCE MATERIALS TO BE EXPORTED**  
 (NOTE: SEE PAGE 2 FOR DEFINITIONS OF CATEGORY 1 AND CATEGORY 2)

Export, to Nordion (Canada) Inc., of Category 1 quantities of Co-60, contained in sealed sources used in irradiators by the gamma processing industry for disposition in Canada, is authorized.

Licensee is responsible for compliance with all applicable export, and other domestic regulatory requirements, including all terms and conditions of domestic materials license(s). Licensee is exempt from the requirement in 10 CFR §110.53(a) to maintain an office within the United States.

Licensee, if not already submitted with your application, must submit information required by 10 CFR §110.32(d) and pertinent documentation required by 10 CFR §110.32(g) at least **24 hours prior to shipment**. See Page 2 for Mandatory Pre-shipment Notifications.

License expiration date is based upon established limits. This license replaces CBP3-5 and amends its authority by: 1) changing licensee's name; 2) revising addresses of suppliers; 3) updating point of contact for licensee; 4) changing the expiration date from October 31, 2015 to December 31, 2020; 5) incorporating the new license number format; and 6) reissuing as a specific export only license.

<p>Neither this license nor any right under this license shall be assigned or otherwise transferred in violation of the provisions of the Atomic Energy Act of 1954, as amended.</p> <p>This license is subject to the right of recapture or control by Section 108 of the Atomic Energy Act of 1954, as amended, and to all of the other provisions of said Acts, now or hereafter in effect and to all valid rules and regulations of the NRC.</p>	<p align="center">THIS LICENSE IS INVALID UNLESS SIGNED BELOW              BY AUTHORIZED NRC REPRESENTATIVE</p> <p>NAME AND TITLE:               Stephen Dembek, Acting Director              Office of International Programs</p> <p>DATE OF ISSUANCE: <u>December 27, 2010</u></p>
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**MANDATORY PRE-SHIPMENT NOTIFICATIONS PER 10 CFR PART 110.50(c)**

The following Prior Shipment Notifications must be made to both the NRC and, in case of exports, the government of the importing country in advance of each shipment:

Prior Shipment Notifications to the NRC are to be emailed to [hoo.hoc@nrc.gov](mailto:hoo.hoc@nrc.gov) (preferred method) or faxed to the NRC at 301-816-5151. In the subject line of the email or on the fax cover page include: "10 CFR 110.50(c) Notification." For technical assistance, use the same e-mail address or call 301-816-5100.

Prior Shipment Notifications to the government of the importing country must be emailed or faxed to the appropriate foreign government authorities. To locate the point-of-contact for international Prior Shipment Notifications see: <http://www-ns.iaea.org/downloads/rw/imp-export/import-export-contact-points.pdf>. In the subject line of the email or on the fax cover page include: "NOTIFICATION TO THE IMPORTING STATE PRIOR TO SHIPMENT OF CATEGORY 1 OR 2 RADIOACTIVE SOURCES." For technical assistance or for countries not listed, contact the Office of International Programs' export/import staff at 301-415-2344.

**Table 1: Appendix P to Part 110–Category 1 and Category 2 Radioactive Material Threshold Limits**

Radioactive Material	Category 1		Category 2	
	Terabequerels (TBq)	Curies (Ci) <sup>1</sup>	Terabequerels (TBq)	Curies(Ci) <sup>1</sup>
Americium-241 (Am-241)	60	1,600	0.6	16
Americium-241/Beryllium (Am-241/Be)	60	1,600	0.6	16
Californium-252 (Cf-252)	20	540	0.2	5.4
Curium-244 (Cm-244)	50	1,400	0.5	14
Cobalt-60 (Co-60)	30	810	0.3	8.1
Cesium-137 (Cs-137)	100	2,700	1.0	27
Gadolinium-153 (Gd-153)	1,000	27,000	10.0	270
Iridium-192 (Ir-192)	80	2,200	0.8	22
Plutonium-238 <sup>2</sup> (Pu-238)	60	1,600	0.6	16
Plutonium-239/Beryllium <sup>2</sup> (Pu-239/Be)	60	1,600	0.6	16
Promethium-147 (Pm-147)	40,000	1,100,000	400	11,000
Radium-226 <sup>3</sup> (Ra-226)	40	1,100	0.4	11
Selenium-75 (Se-75)	200	5,400	2.0	54
Strontium-90 (Y-90)	1,000	27,000	10.0	270
Thulium-170 (Tm-170)	20,000	540,000	200	5,400
Ytterbium-169 (Yb-169)	300	8,100	3.0	81

**Calculation of Shipments Containing Multiple Sources or Radionuclides:**

The "sum of fractions" methodology for evaluating combinations of radionuclides being transported is to be used when import or export shipments contain multiple sources or multiple radionuclides. The threshold limit values used in a sum of the fractions calculation must be the metric values (i.e., TBq).

I. If multiple sources and/or multiple radionuclides are present in an import or export shipment, the sum of the fractions of the activity of each radionuclides must be determined to verify the shipment is less than the Category 1 or 2 limits of Table 1, as appropriate. If the calculated sum of the fractions ratio, using the following equation, is greater than or equal to 1.0, then the import or export shipment exceeds the threshold limits of Table 1 and the applicable security provisions of this part apply.

II. Use the equation below to calculate the sum of the fractions ratio by inserting the actual activity of the applicable radionuclides or of the individual sources (of the same radionuclides) in the numerator of the equation and the corresponding threshold activity limit from the Table 1 in the denominator of the equation. Ensure the numerator and denominator values are in the same units and all calculations must be performed using the TBq (i.e., metric) values of Table 1.

R1 = activity for radionuclides or source number 1  
R2 = activity for radionuclides or source number 2  
RN = activity for radionuclides or source number n

AR1 = activity limit for radionuclides or source number 1  
AR2 = activity limit for radionuclides or source number 2  
ARN = activity limit for radionuclides or source number n

$$\sum_1^n \left[ \frac{R_1}{AR_1} + \frac{R_2}{AR_2} + \frac{R_n}{AR_n} \right] \geq 1$$

<sup>1</sup> The values to be used to determine whether a license is required are given in TBq. Curie (Ci) values are provided for practical usefulness only and are rounded after conversion.

<sup>2</sup> The limits for exports of Pu-238 and Pu-239/Be can be found in § 110.21.

<sup>3</sup> Discrete sources of Radium-226.

**OTHER PARTIES TO EXPORT**  
(Suppliers)

1. Bausch & Lomb  
8507 Pelham Road  
Greenville, SC 29615
2. Baxter Healthcare Corporation  
State Road 721, Km 0.3  
Aibonito, Puerto Rico 00705
3. BD Vacutainer Systems  
1575 Airport Road  
Sumter, SC 29153
4. Becton, Dickinson, and Company  
One Becton Circle  
Durham, NC 27712
5. Becton, Dickinson, and Company  
1852, 10<sup>th</sup> Avenue  
Columbus, NE 68601
6. Becton, Dickinson, and Company  
dba BD Medical Systems - Diabetes Care  
1329 West Highway 6  
Holdrege, NE 68949-0860
7. Becton Dickinson Infusion Therapy Systems, Inc.  
150 South 1st Avenue  
Broken Bow, NE 68822
8. Cardinal Health 200 Inc.  
Medical Products and Services  
Convertors Division  
One Butterfield Trail  
El Paso, TX 79906
9. COVIDIEN (Tyco Healthcare Group LP)  
1222 Sherwood Road  
P.O. Box 1169  
Norfolk, NE 68702-1169
10. Department of the Army Commander  
White Sands Missile Range, NM 88002-5158
11. Ethicon Endo Surgery  
3801 University Blvd, SE  
Albuquerque, NM 87125
12. Food Technology Service, Inc.  
502 Prairie Mine Road  
Mulberry, FL 33860
13. General Electric Company  
Vallecitos Nuclear Center  
6705 Vallecitos Road  
Sunol, CA 94586
14. Hospira Inc.  
Highway 301 North  
Rocky Mount, NC 27802-2226
15. Isomedix Operations, Inc.  
STERIS Isomedix Services  
9 Apollo Drive  
Whippany, NJ 07981
16. Isomedix Operations, Inc.  
23 Elizabeth Drive  
Village of Chester, NY 10918
17. Isomedix Operations, Inc.  
4405 Marketing Place  
Hamilton/33 Industrial Park  
Groveport, OH 43125
18. Isomedix Operations, Inc.  
DBA Steris Isomedix Services  
Vista del Sol Industrial Park  
1435 Isomedix Place  
El Paso, TX 79936
19. Isomedix Operations, Inc.  
9120 South 150 East  
Sandy, UT 84070
20. Pall Corporation  
225 Marcus Blvd.  
Hauppauge, NY 11788-3799
21. Sandia National Laboratories  
Operated for the U.S. Department of Energy by  
Sandia Corporation  
Albuquerque, NM 87185
22. Sterigenics East Corporation  
1148 Porter Avenue  
Haw River, NC 27258
23. Sterigenics East Corporation  
108 Lake Denmark Road  
Rockaway, NJ 07866-4317
24. Sterigenics East Corporation  
75 Tilbury Road  
Salem, NJ 08079
25. Sterigenics International, Inc.  
1700 North Airport Road  
West Memphis, AR 72301

**OTHER PARTIES TO EXPORT**  
(Suppliers)

- 26. Sterigenics International, Inc.  
344 Bonnie Circle  
Corona, CA 92880
- 27. Sterigenics International, Inc.  
5900 Obata Way  
Gilroy, CA 95020
- 28. Sterigenics International, Inc.  
2311 Lincoln Avenue  
Hayward, CA 94545
- 29. Sterigenics U.S., Inc. (Location 1)  
711 East Cooper Court  
Schaumburg, IL 60173-4537  
  
Sterigenics U.S., Inc. (Location 2)  
1003 Lakeside Dr.  
Gurnee, IL 60031-2489
- 30. Sterigenics U.S., Inc.  
10811 Withers Cove Park Drive  
Charlotte, NC 28273
- 31. Sterigenics U.S., Inc.  
305 Enterprise Drive  
Westerville, OH 43081-8827
- 32. Sterigenics U.S., Inc. (Location 1)  
3001 Wichita Court  
Fort Worth, TX 76140  
  
Sterigenics U.S., Inc. (Location 2)  
3125 Wichita Court  
Fort Worth, TX 76140
- 33. Sterigenics U.S., LLC  
1401 Morgan Circle  
Tustin, CA 92780
- 34. STERIS, Inc.  
dba STERIS Isomedix Services  
1000 S. Sarah Place  
Ontario, CA 91764
- 35. STERIS, Inc. (Location 1)  
1880 Industrial Drive  
Libertyville, IL 60048-2403  
  
STERIS, Inc. (Location 2)  
2500 Commerce Drive  
Libertyville, IL 60048-9439
- 36. STERIS, Inc.  
7828 Nagle Avenue  
Morton Grove, IL 60053
- 37. STERIS Isomedix Services  
435 Whitney Street  
Northborough, MA 01532
- 38. STERIS Isomedix Services  
Lot 3, Macco Industrial Park  
State Road 690, Km 1.7  
Barrio Sabana Hoyos  
Vega Alta, Puerto Rico
- 39. STERIS, Isomedix Services  
2072 Southport Road  
Spartanburg, SC 29306
- 40. Terumo Medical Corporation  
950 Elkton Boulevard  
Elkton, MD 21921
- 41. 3M Company  
601 22nd Avenue South  
Brookings, SD 57006
- 42. Tyco Healthcare Group, LP  
Tyco/Healthcare/Kendall Division  
2010 East International Speedway Blvd.  
DeLand, FL 32724
- 43. Tyco Healthcare - Kendall LP  
400 Maple Street  
Commerce, TX 75428
- 44. Uniformed Services University of the  
Health Sciences  
Armed Forces Radiobiology Research Institute  
8901 Wisconsin Avenue  
Bethesda, MD 20889-5603
- 45. University of Massachusetts Lowell  
One University Ave  
Lowell, MA 01854

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