



U.S. Department  
of Transportation

Pipeline and  
Hazardous Materials  
Safety Administration

IAEA CERTIFICATE OF COMPETENT AUTHORITY  
SPECIAL FORM RADIOACTIVE MATERIALS  
CERTIFICATE USA/0283/S-96, REVISION 5

East Building, PHH-23  
1200 New Jersey Avenue SE  
Washington, D.C. 20590

This certifies that the source described has been demonstrated to meet the regulatory requirements for special form radioactive material as prescribed in the regulations of the International Atomic Energy Agency<sup>1</sup> and the United States of America<sup>2</sup> for the transport of radioactive material.

1. Source Identification - 3M Model 3F1G capsules manufactured prior to August 3, 1989.
2. Source Description - Double encapsulation made of stainless steel and tungsten inert gas welded. Approximate outer dimensions are 19.1 mm (0.75 in.) in diameter and 10.2 mm (0.4 in.) in length. Construction shall be in accordance with attached 3M Drawing No. SM-B-509057 (3 pages).
3. Radioactive Contents - No more than 18.5 GBq (0.5 Ci) of Strontium-90 in the form of 3M Brand Radiating Microspheres.
4. Quality Assurance - Records of Quality Assurance activities required by Paragraph 310 of the IAEA regulations<sup>1</sup> shall be maintained and made available to the authorized officials for at least three years after the last shipment authorized by this certificate. Consignors in the United States exporting shipments under this certificate shall satisfy the applicable requirements of Subpart H of 10 CFR 71.
5. Expiration Date - This certificate expires on June 30, 2013.

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<sup>1</sup> "Regulations for the Safe Transport of Radioactive Material, 1996 Edition (Revised), No. TS-R-1 (ST-1, Revised)," published by the International Atomic Energy Agency (IAEA), Vienna, Austria.

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

**CERTIFICATE USA/0283/S-96, REVISION 5**

This certificate is issued in accordance with paragraph 804 of the IAEA Regulations and Section 173.476 of Title 49 of the Code of Federal Regulations, in response to the June 17, 2008 petition by Department of the Army, Fort Monmouth, NJ, and in consideration of other information on file in this Office.

Certified By:



**Jun 25 2008**

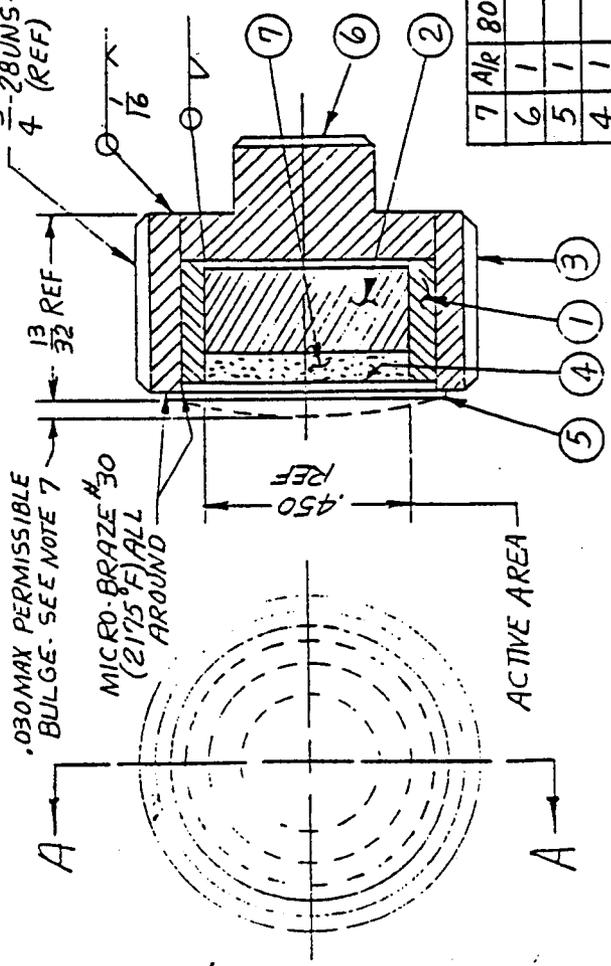
(DATE)

 Robert A. Richard  
Deputy Associate Administrator for Hazardous Materials Safety

Revision 5 - Issued to extend the expiration date.

THIS DOCUMENT HAS BEEN PURCHASED BY THE GOVERNMENT AND MAY BE REPRODUCED AND USED IN CONNECTION WITH ANY GOVERNMENT PROCUREMENT OR MAINTENANCE OPERATION.

NOTE: DATA MARKED WITH AN ASTERISK (\*) IS PECULIAR TO A PRIOR MANUFACTURER. IT DOES NOT TAKE PRECEDENCE OVER ANY OTHER DATA ON THIS DRAWING, AND IS NOT CONTRACTUALLY BINDING ON EITHER THE CONTRACTOR OR THE GOVERNMENT.



REVISIONS

LTR	DESCRIPTION	DATE	APPROVED
C	REDRAWN WITH ECP W/BFBZAE010, NDR 020	13 AUG 61	ES. HJW

SOURCE CONTROL DRAWING

FIND NO.	QTY REQD	CODE IDENT.	PART NO. OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	SPECIFICATION	NOTE
7	1	80063	SM-B-509057-1	MATERIAL, RADIOACTIVE		849
6	1		SM-B-509054	PLUG		
5	1		SM-B-509053	WINDOW, OUTER		
4	1		SM-B-509052	WINDOW, INNER		
3	1		SM-B-509051	CAPSULE, OUTER		
2	1		SM-B-509050	PLUG		
1	1		SM-B-509049	CAPSULE, INNER		

PARTS LIST

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON: FRACTIONS DECIMALS ANGLES

MATERIAL:

DA-28-043-AMC-02402E

DEPARTMENT OF DEFENSE  
U. S. ARMY ELECTRONICS COMMAND  
FORT MONMOUTH  
NEW JERSEY 07703

SOURCE ASSEMBLY

SIZE CODE IDENT NO. B 80063

SM-B-509057

DATE 24 FEB 69

SCALE SHEET 1 OF 3

APPROVED SOURCE

MFG PART NO 3M CO ST PAUL MINN. 55105

SM-D-508994

SM-D-508981 DL-508965

NEXT ASSY USED ON

APPLICATION

WHEN REFERRING TO THIS DRAWING STATE DRAWING NO., APPLICABLE ISSUE LETTER IF ANY, AND DATE

Encl 14

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REVISIONS

LTR	DESCRIPTION	DATE	APPROVED
C	SEE SHEET 1	13796 81	ES-HJW

NOTES

- THIS ASSEMBLY SHALL MEET SPECIAL FORM MATERIAL TEST REQUIREMENTS OF TITLE 49, CODE OF FEDERAL REGULATIONS.
- THE STRONTIUM -90 (SR90) SOURCES MUST MEET THE ANSI CLASSIFICATION OF 4343 (REFERENCE ANSI N542-1977).
- THE RADIOACTIVE SOURCE ASSEMBLY MUST BE EVALUATED AND APPROVED FOR USE BY THE NUCLEAR REGULATORY COMMISSION OR AGREEMENT STATE. CONTRACTOR TO SUBMIT DOCUMENTATION OF THE ABOVE TO HEADQUARTERS, CECOM, DRSEL-SF-H, FORT MONMOUTH, NJ 07703.
- WHEN THE SOURCE ASSEMBLIES ARE INSTALLED IN THE AM/UDM-2 ( ) RADICAL CALIBRATOR, EACH ASSEMBLY SHALL MEET THE FOLLOWING REQUIREMENT AND TEST PARAGRAPHS OF SPEC MIL-R-55350:

REQT PARA

3.4.1.1

3.4.1.3

TEST PARA

4.6.1.1

4.6.1.3

- IN ADDITION, EACH SOURCE ASSEMBLY SHALL MEET THE FOLLOWING REQUIREMENT AND TEST PARAGRAPHS OF SPEC MIL-R-55350:

REQT PARA

3.11

3.11.1

3.11.1.1

3.11.1.2

3.11.1.3

TEST PARA

4.10

4.10.1.1

4.10.1.3

4.10.1.2 & 4.10.1.4

4.10.1.5

- BACK SURFACE TO BE PAINTED RED (COMMERCIAL) FOR IDENTIFICATION AND EACH SOURCE ASSEMBLY SHALL CONTAIN A SERIAL NUMBER IN ACCORDANCE WITH PARAGRAPH 3.9.2 OF MIL-R-55350.
- AIR PRESSURE BUILD UP DURING ASSEMBLY PROCEDURES MAY PRODUCE BULGING OF EITHER OR BOTH ITEMS 4 OR 5. ACCEPTABLE BULGING IS AS NOTED.
- THE SR-90 RADIOISOTOPE SHALL BE CONTAINED IN A CERAMIC CARRIER MATERIAL. THIS CARRIER SHALL BE SPHERICAL, DRY, FREE FLOWING MATERIAL WITH AT LEAST 95% HAVING A DIAMETER IN THE RANGE OF 35 MICRONS MINIMUM AND 65 MICRONS MAXIMUM.
- THE SR-90 RADIOISOTOPE WHEN CONTAINED IN THE CARRIER SHALL BE IDENTIFIED AS THE ACTIVATOR.
- THE ACTIVATOR SHALL HAVE A MINIMUM SPECIFIC ACTIVITY OF 100 MILLICURIES PER GRAH OF ACTIVATOR.
- THE ACTIVATOR SHALL EXHIBIT A SOLUBILITY NOT IN EXCESS OF 0.1 PERCENT WHEN A SAMPLE IS SOAKED AT 25°C FOR 24 HOURS IN 100 MILLILITERS OF 0.1 NORMAL HYDROCHLORIC ACID.
- THE VENDOR OF THE SOURCE ASSEMBLY SHALL UTILIZE A QUALITY ASSURANCE SYSTEM THAT MEETS THE REQUIREMENTS OF MIL-Q-9859.
- PRIOR TO THE AWARD OF A CONTRACT FOR SOURCE ASSEMBLIES, THE VENDOR SHALL SUBMIT FOR APPROVAL WRITTEN PROCEDURE FOR:
  - MEASURING THE RADIATION OUTPUT OF THE SR-90 SOURCES.

FIND NO.	QTY REQD	CODE IDENT.	PART NO. OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	SPECIFICATION	NOTE
				PARTS LIST		
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON: FRACTIONS DECIMALS ANGLES						
MATERIAL:						
				ELECTRONICS COMMAND		
				REVIEWED		
				APPROVED		
				DATE		
				SCALE		
				SHEET 2 OF 3		
				DEPARTMENT OF DEFENSE U. S. ARMY ELECTRONICS COMMAND FORT MONMOUTH NEW JERSEY 07703		
				SOURCE ASSEMBLY		
				SIZE CODE IDENT NO. B 80063 SM-B-509057		

WHEN REFERRING TO THIS DRAWING STATE DRAWING NO., APPLICABLE ISSUE LETTER IF ANY, AND DATE

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REVISIONS

LTR	DESCRIPTION	DATE	APPROVED
C	SEE SHEET 1	13/2/70	ES, H/iv

B. DETERMINE THE QUANTITY OF SR-99 CONTAINED IN EACH SOURCE ASSEMBLIES.

12. ONLY THE ITEM DESCRIBED ON THIS DRAWING WHEN PROCURED FROM THE VENDORS LISTED HEREON IS APPROVED BY HDOTRS, CS&TA LABS (ERADCON), FT. MONMOUTH, NJ 07703 FOR USE IN THE APPLICATION SPECIFIED HEREON. A SUBSTITUTE ITEM SHALL NOT BE USED WITHOUT PRIOR TESTING AND APPROVAL BY HDOTRS, CS&TA LABS. PRIOR TO SUBMISSION FOR HDOTRS, CS&TA LABS APPROVAL, THE SUBSTITUTE ITEM SHALL MEET NOTES 1-11 REQUIREMENTS.

FIND NO.	QTY REQD	CODE IDENT.	PART NO. OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	SPECIFICATION	NOTE
				DEPARTMENT OF DEFENSE U. S. ARMY ELECTRONICS COMMAND FORT MONMOUTH		
				SOURCE ASSEMBLY		
				SIZE	CODE IDENT NO.	
				B	80063	SM-B-509057
				SCALE		SHEET 3 OF 3
PARTS LIST						
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON: FRACTIONS DECIMALS ANGLES						
MATERIAL:						
ELECTRONICS COMMAND						
REVIEWED						
APPROVED						
DATE						
APPLICATION						
NEXT ASSY USED ON						
5M-D-508981 5M-D-508994 DL-508965						

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of Transportation

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Hazardous Materials  
Safety Administration**

East Building, PHH-23  
1200 New Jersey Avenue SE  
Washington, D.C. 20590

**CERTIFICATE NUMBER:** USA/0283/S-96, Revision 5

**ORIGINAL REGISTRANT(S):**

Mr. Barry J. Silber  
Directorate for Safety  
Department of the Army  
HQ, U.S. Army CECOM Life Cycle Management Command  
Fort Monmouth, 07703  
USA