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munich · princeton
morphochem, inc.
11 deer park dr., suite 116
monmouth junction
NJ 08852, U.S.A.
tel. (732) 274-2882
fax (732) 274-0086
www.morphochem.com

United States Nuclear Regulatory Commission Region I
Division of Nuclear Material Safety
475 Allendale Road
King of Prussia, PA 19406-1415

August 8, 2005

03034681

Re: Termination of NRC License Number 29-30442-01

Dear Sirs:

We wish to prematurely terminate our NRC License Number 29-30442-01, expiration date April 30, 2008. On behalf of our company, I previously discussed this possibility when we had an NRC inspection done by Ms. Donna Janda on January 6, 2004. Since that time we have had a further downsizing of our operations, and more recently, on August 3, 2005 when NRC inspector Bryan Parker did a follow up safety and compliance inspection, I informed him that we would be requesting a license termination.

Enclosed please find NRC Form 314, Certificate of Disposition of Materials.

I also include results from swipe tests performed on June 28, 2002, July 18, 2002 both surveys were done after all remaining radioactive materials were consolidated and maintained on site in a secured waste storage area for offsite disposition, and from May 9, 2003 the date the radioactive materials were physically removed from our facility by RSI Inc., a waste contractor who transported the waste to Duratek for processing and disposal..

I appreciate your processing the termination request before September 30, 2005 as we have paid our annual NRC license fee that keep us current up to that date. Thank you for your assistance in terminating our license.

Sincerely yours,

Steven R. Per, Ph.D.
RSO & Vice President, US Operations

enclosures

137497
NRC/REGIONAL MATERIALS

CERTIFICATE OF DISPOSITION OF MATERIALS

Estimated burden per response to comply with this mandatory collection request: 30 minutes. This submittal is used by NRC as part of the basis for its determination that the facility is released for unrestricted use. Send comments regarding burden estimate to the Records and FOIA/Privacy Services Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0028), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

LICENSEE NAME AND ADDRESS

MORPHOCHEM, INC.
11 DEER PARK DRIVE, STE 116
MONMOUTH JUNCTION, NJ 08852

LICENSE NUMBER

29-30442-01

DOCKET NUMBER

03034681

LICENSE EXPIRATION DATE

APRIL 30, 2008

- ☐ This license has expired. ☒ **A. LICENSE STATUS (Check the appropriate box)** This license has not yet expired; please terminate it.

B. DISPOSAL OF RADIOACTIVE MATERIAL

(Check the appropriate boxes and complete as necessary. If additional space is needed, provide attachments)

The licensee, or any individual executing this certificate on behalf of the licensee, certifies that:

- ☐ 1. No radioactive materials have ever been procured or possessed by the licensee under this license.
- ☒ 2. All activities authorized by this license have ceased, and all radioactive materials procured and/or possessed by the licensee under this license number cited above have been disposed of in the following manner:
- ☐ a. Transfer of radioactive materials to the licensee listed below:
- ☒ b. Disposal of radioactive materials:
- ☐ 1. Directly by the licensee:
- ☐ 2. By licensed disposal site:
- ☒ 3. By waste contractor: Radiation Science Inc., 10 South River Road Cranbury, NJ 08812. Hector Morais 609-395-1996. All documentation is attached. License 29-30310-N.
- ☒ c. All radioactive materials have been removed such that any remaining residual radioactivity is within the limits of 10 CFR Part 20, Subpart E, and is ALARA.

C. SURVEYS PERFORMED AND REPORTED

- ☒ 1. A radiation survey was conducted by the licensee. The survey confirms:
- ☐ a. the absence of licensed radioactive materials
- ☒ b. that any remaining residual radioactivity is within the limits of 10 CFR 20, Subpart E, and is ALARA.
- ☒ 2. A copy of the radiation survey results:
- ☒ a. is attached; or ☐ b. is not attached (Provide explanation); or ☐ c. was forwarded to NRC on: _____ Date _____
- ☐ 3. A radiation survey is not required as only sealed sources were ever possessed under this license, and
- ☐ a. The results of the latest leak test are attached; and/or ☐ b. No leaking sources have ever been identified.

The person to be contacted regarding the information provided on this form:

NAME STEVEN PER	TITLE VICE-PRESIDENT, US OPERATIONS	TELEPHONE (Include Area Code) 732-274-2882	E-MAIL ADDRESS Steven.per@morphochem.com
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Mail all future correspondence regarding this license to:
11 Deer Park Drive, Ste 116A, Monmouth Jct, NJ 08852

C. CERTIFYING OFFICIAL

I CERTIFY UNDER PENALTY OF PERJURY THAT THE FOREGOING IS TRUE AND CORRECT

PRINTED NAME AND TITLE

STEVEN PER, VP, US OPS + RSO

SIGNATURE

[Signature]

DATE

8/8/2005

WARNING: FALSE STATEMENTS IN THIS CERTIFICATE MAY BE SUBJECT TO CIVIL AND/OR CRIMINAL PENALTIES. NRC REGULATIONS REQUIRE THAT SUBMISSIONS TO THE NRC BE COMPLETE AND ACCURATE IN ALL MATERIAL RESPECT. 18 U.S.C. SECTION 1001 MAKES IT A CRIMINAL OFFENSE TO MAKE A WILLFULLY FALSE STATEMENT OR REPRESENTATION TO ANY DEPARTMENT OR AGENCY OF THE UNITED STATES AS TO ANY MATTER WITHIN ITS JURISDICTION.

steven per

From: Hector Martos [hecky50@optonline.net]
Sent: Wednesday, September 03, 2003 7:51 PM
To: Steve Per
Subject: Shipment Report

The attached document is your receipt that your waste was shipped to and received by Duratek for processing and disposal.

Should you have any questions, please contact me at one of the telephone numbers below.

To find your waste print out the form, look at column 19 (last column on right) for your number.

Your Manifest is : R24A

~~~~~  
Hector A. Martos  
Manager, Broker Services  
RSI, Inc.  
10 South River Road  
Cranbury, New Jersey 08512  
PH: 609-395-1996  
FX: 609-395-1178  
Cell: 609-468-7129  
hmartos@radsci.com



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RSI-5.pdf

**MATERIALS LICENSE**

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter I, Parts 30, 31, 32, 33, 34, 35, 36, 39, 40, and 70, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations, and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

|                                                                    |                                                                              |
|--------------------------------------------------------------------|------------------------------------------------------------------------------|
| Licensee                                                           | In accordance with the application dated February 5, 2003,                   |
| 1. Radiation Science, Inc.                                         | 3. License number 29-30310-02 is amended in its entirety to read as follows: |
| 2. 10 South River Road<br>Suite 1005<br>Cranbury, New Jersey 08512 | 4. Expiration date January 31, 2012                                          |
|                                                                    | 5. Docket No. 030-35874<br>Reference No.                                     |

|                                                                                            |                                  |                                                                                |
|--------------------------------------------------------------------------------------------|----------------------------------|--------------------------------------------------------------------------------|
| 6. Byproduct, source, and/or special nuclear material                                      | 7. Chemical and/or physical form | 8. Maximum amount that licensee may possess at any one time under this license |
| A. Hydrogen 3                                                                              | A. Any                           | A. 30 curies                                                                   |
| B. Carbon 14                                                                               | B. Any                           | B. 3 curies                                                                    |
| C. Any byproduct material with atomic numbers 1 through 83 except Hydrogen 3 and Carbon 14 | C. Any                           | C. 1 curie                                                                     |
| D. Any byproduct material with atomic numbers 1 through 83                                 | D. Sealed sources                | D. 10 curies                                                                   |
| E. Any source material                                                                     | E. Any                           | E. 300 kilograms                                                               |

9. Authorized use:

A. through E. For receipt, possession, and storage of prepackaged radioactive wastes.

**MATERIALS LICENSE  
SUPPLEMENTARY SHEET**License Number  
29-30310-02Docket or Reference Number  
030-35874

Amendment No. 1

**CONDITIONS**

10. Licensed material may be used only at the licensee's facilities located at 10 South River Road, Suite 1005, Cranbury, New Jersey, and radioactive waste may also be picked up, received, and possessed anywhere in the United States where the U.S. Nuclear Regulatory Commission maintains jurisdiction for regulating the use of licensed material.

If the jurisdiction status of a Federal facility within an Agreement State is unknown, the licensee should contact the Federal agency controlling the job site in question to determine whether the proposed job site is an area of exclusive Federal jurisdiction. Authorization for use of radioactive materials at job sites in Agreement States not under exclusive Federal jurisdiction shall be obtained from the appropriate state regulatory agency.

11. A. Licensed material shall be used by, or under the supervision and in the physical presence of, Joel Antkowiak, Thomas P. Bracke, Hector Martos, or individuals who have received the training described in the letter dated January 10, 2002. The licensee shall maintain records of individuals designated as users for 3 years following the last use of licensed material by the individual.
- B. The Radiation Safety Officer for this license is Thomas P. Bracke.
12. The licensee shall not open packages containing licensed materials.
13. The licensee shall not possess any package containing waste byproduct or source material for a period of more than six months from the date of receipt of the package.
14. In addition to the possession limits in Item 8, the licensee shall further restrict the possession of licensed material at a single location to quantities below the limits specified in 10 CFR 30.72 which require consideration of the need for an emergency plan for responding to a release of licensed material.
15. The licensee is authorized to transport licensed material in accordance with the provisions of 10 CFR Part 71, "Packaging and Transportation of Radioactive Material."

**MATERIALS LICENSE  
SUPPLEMENTARY SHEET**

License Number

29-30310-02

Docket or Reference Number

030-35874

Amendment No. 1

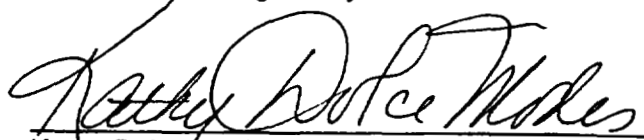
16. Except as specifically provided otherwise in this license, the licensee shall conduct its program in accordance with the statements, representations, and procedures contained in the documents, including any enclosures, listed below. The U.S. Nuclear Regulatory Commission's regulations shall govern unless the statements, representations, and procedures in the licensee's application and correspondence are more restrictive than the regulations.

- A. Letter dated January 10, 2002 with enclosures  
B. Letter dated June 13, 2003

For the U.S. Nuclear Regulatory Commission

Date July 2, 2003

By



Kathy Dolce Modes

Nuclear Materials Safety Branch 2

Region I

King of Prussia, Pennsylvania 19406

39731236

[illegible]

# UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

## CONTAINER AND WASTE DESCRIPTION

Additional Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer and Disposal of Radioactive Waste

| 1. MANIFEST TOTALS               |            | 2. MANIFEST NUMBER |            |
|----------------------------------|------------|--------------------|------------|
| SPECIAL NUCLEAR MATERIAL (grams) |            | R24                |            |
| U-233                            | U-235      | Pu                 | TOTAL      |
| NP                               | NP         | NP                 | NP         |
| ACTIVITY                         |            | SOURCE             |            |
| ALL NUCLEIDES                    | TRITIUM    | C-14               | Tc-99      |
| MBq                              | 2.8166E+02 | 2.9600E+02         | 5.6600E+00 |
| mCi                              | 7.6000E+00 | 8.0000E+00         | 1.5000E-01 |
|                                  |            | (kgs)              | NA         |
|                                  |            | (lbs)              | NA         |

| DISPOSAL CONTAINER DESCRIPTION                             |                                                                                                              |                               |                                               |                                                 |                                                         | WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER |                                                        |                  |                                                       |                                                           |                                                                                                                                      | 16 WASTE CLASSIFICATION |            |    |
|------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|-------------------------------|-----------------------------------------------|-------------------------------------------------|---------------------------------------------------------|----------------------------------------------------|--------------------------------------------------------|------------------|-------------------------------------------------------|-----------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|-------------------------|------------|----|
| 5<br>CONTAINER IDENTIFICATION NUMBER / GENERATOR ID NUMBER | 6. CONTAINER DESCRIPTION (See Note 1)<br>PROCESS REQUESTED (See Note 1A)<br>BURIAL/DISPOSITION (See Note 2A) | 7.<br>VOLUME<br>(m3)<br>(ft3) | 8. WASTE AND CONTAINER WEIGHT<br>(kg)<br>(lb) | 9. SURFACE RADIATION LEVEL<br>mSv/hr<br>mrem/hr | 10. SURFACE CONTAMINATION<br>MBq/100 cm2<br>dpm/100 cm2 | 11. WASTE DESCRIPTOR (See Note 2)                  | 12 APPROXIMATE WASTE VOLUME(S) IN CONTAINER (m3) (FT3) |                  | 13 SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3) | 14 CHEMICAL DESCRIPTION<br>CHEMICAL FORM/ CHELATING AGENT | 15 RADIOLOGICAL DESCRIPTION<br>INDIVIDUAL RADIONUCLIDES AND ACTIVITY AND CONTAINER TOTAL, OR TOTAL ACTIVITY AND RADIONUCLIDE PERCENT | RADIONUCLIDES           |            |    |
|                                                            |                                                                                                              |                               |                                               |                                                 |                                                         |                                                    |                                                        |                  |                                                       |                                                           |                                                                                                                                      | MBq                     | mCi        | NA |
| R24-1/91921                                                | DI<br>E                                                                                                      | 0.0278                        | 6.3033                                        | <6.0000E-03                                     | <3.8740E-06                                             | 68-SCINT. VIALS                                    | 0.0278                                                 | 68-CAREFRESH 100 | MICROSCINT/na                                         | 0.00                                                      | C-14<br>H-3                                                                                                                          | 1.8500E+00              | 5.0000E-02 | NA |
|                                                            |                                                                                                              | 0.3830                        | 16.0000                                       | <6.0000E-01                                     | <2.200E+02                                              |                                                    | 0.3830                                                 |                  |                                                       |                                                           |                                                                                                                                      | 2.0350E+01              | 5.5000E-01 |    |
|                                                            |                                                                                                              |                               |                                               |                                                 |                                                         |                                                    |                                                        |                  |                                                       |                                                           | Total                                                                                                                                | 2.0350E+01              | 5.5000E-01 |    |
| R24-2/91921                                                | DI<br>E                                                                                                      | 0.0278                        | 6.3033                                        | <6.0000E-03                                     | <3.8740E-06                                             | 68-SCINT. VIALS                                    | 0.0278                                                 | 68-CAREFRESH 100 | MICROSCINT/na                                         | 0.00                                                      | C-14<br>H-3                                                                                                                          | 1.8500E+00              | 5.0000E-02 | NA |
|                                                            |                                                                                                              | 0.3830                        | 16.0000                                       | <6.0000E-01                                     | <2.200E+02                                              |                                                    | 0.3830                                                 |                  |                                                       |                                                           |                                                                                                                                      | 2.0350E+01              | 5.5000E-01 |    |
|                                                            |                                                                                                              |                               |                                               |                                                 |                                                         |                                                    |                                                        |                  |                                                       |                                                           | Total                                                                                                                                | 2.0350E+01              | 5.5000E-01 |    |
| R24-3/91921                                                | FIBER BOX / DRUM<br>DI<br>E                                                                                  | 0.1982                        | 20.1117                                       | <6.0000E-03                                     | <3.8740E-06                                             | 68-INCINERABLE DAW                                 | 0.1982                                                 | 100              | paper, plastic/na                                     | 0.00                                                      | C-14<br>H-3                                                                                                                          | 9.2500E-01              | 2.5000E-02 | NA |
|                                                            |                                                                                                              | 7.0000                        | 45.0000                                       | <6.0000E-01                                     | <2.200E+02                                              |                                                    | 7.0000                                                 |                  |                                                       |                                                           |                                                                                                                                      | 1.2950E+02              | 3.5000E+00 |    |
|                                                            |                                                                                                              |                               |                                               |                                                 |                                                         |                                                    |                                                        |                  |                                                       |                                                           | Total                                                                                                                                | 1.3043E+02              | 3.5250E+00 |    |

NOTE 1: Container Description Codes. For containers/waste requiring disposal in approved structural overpacks the numerical code must be followed by "-OP."

- |                               |                                                   |
|-------------------------------|---------------------------------------------------|
| 1. Wooden Box or Crate        | 9. Demineralizer                                  |
| 2. Metal Box                  | 10. Gas Cylinder                                  |
| 3. Plastic Drum or Pail       | 11. Bulk, Unpackaged Waste                        |
| 4. Metal Drum or Pail         | 12. Unpackaged Components                         |
| 5. Metal Tank or Liner        | 13. High Integrity Container                      |
| 6. Concrete Tank or Liner     | 19. Other: Describe in Item 6, or additional page |
| 7. Polyethylene Tank or Liner |                                                   |
| 8. Fiberglass Tank or Liner   |                                                   |

Note 1A: Process Requested

- |                            |
|----------------------------|
| C. Compton                 |
| SR. Steam Reforming        |
| DI. Direct Incineration    |
| SI. Sort & Incinerate      |
| D. Decon                   |
| G. Green is Clean          |
| M. Metal Melt              |
| T. Trans-Ship              |
| L. Liquid for Incineration |
| OI. Oil for Incineration   |
| O. Other (describe)        |

NOTE 2: Waste Descriptor Codes. (Choose up to three which predominate by volume.)

- |                            |                                  |                                                    |
|----------------------------|----------------------------------|----------------------------------------------------|
| 20. Charcoal               | 29. Demolition Rubble            | 38. Evaporator Bottoms/Sludges/Concentrates        |
| 21. Incinerator Ash        | 30. Cation Ion-exchange Media    | 39. Compactible Trash                              |
| 22. Soil                   | 31. Anion Ion-exchange Media     | 40. Noncompactible Trash                           |
| 23. Gas                    | 32. Mixed Bed Ion-exchange Media | 41. Animal Carcass                                 |
| 24. Oil                    | 33. Contaminated Equipment       | 42. Biological Material (except animal carcass)    |
| 25. Aqueous Liquid         | 34. Organic Liquid (except oil)  | 43. Activated Material                             |
| 26. Filter Media           | 35. Glassware or Labware         | 59. Other: Describe in item 11, or additional page |
| 27. Mechanical Filter      | 36. Sealed Source/Device         |                                                    |
| 28. EPA or State Hazardous | 37. Paint or Plating             |                                                    |

Note 2A: Burial/Disposition Site

- |                                       |
|---------------------------------------|
| B. Barnwell Waste Management Facility |
| E. Envirocare                         |
| R. Richland, WA                       |
| PR. Process and Return                |
| O. Other                              |

Note 3: Solidification and Stabilization Media Codes. (Choose up to three which predominate by volume. For media meeting disposal site structural stability requirements, the numerical code must be followed by "-S" and the media vendor and brand name must also be identified in Item 13. Code 100=NONE REQUIRED.)

- |                    |                                                    |
|--------------------|----------------------------------------------------|
| 90. Cement         | 94. Vinyl Ester Styrene                            |
| 91. Concrete       | 99. Other: Describe in item 13, or additional page |
| 92. Bitumen        |                                                    |
| 93. Vinyl Chloride | 100. None Required.                                |



# UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

GTS DURATEK

2. MANIFEST NUMBER

R24

3. PAGE 2 OF 2 PAGE(S)

## CONTAINER AND WASTE DESCRIPTION (CONTINUATION)

| DISPOSAL CONTAINER DESCRIPTION                             |                                                                                                                       |                                                      |                                               |                                                 |                                                                                 | WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER |                                      |                                                                                         |     |                                                           | 15 RADIOLOGICAL DESCRIPTION                                   |                                          |                                                                                                       | 16 WASTE CLASSIFICATION<br>AS-Class A<br>Stable<br>AU-Class A<br>Unstable<br>B-Class B<br>C-Class C |            |    |
|------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|-----------------------------------------------|-------------------------------------------------|---------------------------------------------------------------------------------|----------------------------------------------------|--------------------------------------|-----------------------------------------------------------------------------------------|-----|-----------------------------------------------------------|---------------------------------------------------------------|------------------------------------------|-------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|------------|----|
| 5<br>CONTAINER IDENTIFICATION NUMBER / GENERATOR ID NUMBER | 6. CONTAINER DESCRIPTION<br>(See Note 1)<br>PROCESS REQUESTED<br>(See Note 1A)<br>BURIAL/DISPOSITION<br>(See Note 2A) | 7. VOLUME<br>(m <sup>3</sup> )<br>(ft <sup>3</sup> ) | 8. WASTE AND CONTAINER WEIGHT<br>(kg)<br>(LB) | 9. SURFACE RADIATION LEVEL<br>mSv/hr<br>mrem/hr | 10. SURFACE CONTAMINATION<br>MBq/100 cm <sup>2</sup><br>dpm/100 cm <sup>2</sup> |                                                    | 11. WASTE DESCRIPTOR<br>(See Note 2) | 12. APPROXIMATE WASTE VOLUME(S) IN CONTAINER<br>(m <sup>3</sup> )<br>(FT <sup>3</sup> ) |     | 13. SOLIDIFICATION OR STABILIZATION MEDIA<br>(See Note 3) | 14. CHEMICAL DESCRIPTION<br>CHEMICAL FORM/<br>CHELATING AGENT | WEIGHT %<br>CHELATING AGENT<br>IF > 0.1% | INDIVIDUAL RADIONUCLIDES AND ACTIVITY AND CONTAINER TOTAL, OR TOTAL ACTIVITY AND RADIONUCLIDE PERCENT |                                                                                                     |            |    |
|                                                            |                                                                                                                       |                                                      |                                               |                                                 | ALPHA                                                                           | BETA-GAMMA                                         |                                      | RADIONUCLIDES                                                                           | MBq |                                                           |                                                               |                                          | mCi                                                                                                   |                                                                                                     |            |    |
| R24-491921                                                 | 19 FIBER BOX / DRUM<br>DI E                                                                                           | 0.1982                                               | 28.4117                                       | <5.000E-03                                      | <3.8740E-04                                                                     | <3.8740E-04                                        | 89-INCINERABLE DAW                   | 0.1982                                                                                  | 100 | 100                                                       | paper/plastic/ss                                              | 0.00                                     | C-14                                                                                                  | 9.2500E-01                                                                                          | 2.5000E-02 | NA |
|                                                            |                                                                                                                       | 7.0000                                               | 46.0000                                       | <5.000E-01                                      | <2.200E+02                                                                      | <2.200E+03                                         |                                      | 7.0000                                                                                  | H-3 |                                                           |                                                               |                                          | 1.2950E+02                                                                                            | 3.5000E+00                                                                                          |            |    |
|                                                            |                                                                                                                       |                                                      |                                               |                                                 |                                                                                 |                                                    |                                      |                                                                                         |     |                                                           |                                                               |                                          | Subtotal                                                                                              | 1.3043E+02                                                                                          | 3.5250E+00 |    |
|                                                            |                                                                                                                       |                                                      |                                               |                                                 |                                                                                 |                                                    |                                      |                                                                                         |     |                                                           |                                                               |                                          | Total                                                                                                 | 1.3043E+02                                                                                          | 3.5250E+00 |    |
| Shipment Totals                                            |                                                                                                                       | 0.4820                                               | 64.4312                                       |                                                 |                                                                                 |                                                    |                                      |                                                                                         |     |                                                           |                                                               |                                          |                                                                                                       | 3.0155E+02                                                                                          | 8.1500E+00 |    |
|                                                            |                                                                                                                       | 16.0000                                              | 128.0000                                      |                                                 |                                                                                 |                                                    |                                      |                                                                                         |     |                                                           |                                                               |                                          |                                                                                                       |                                                                                                     |            |    |
|                                                            |                                                                                                                       |                                                      |                                               |                                                 |                                                                                 |                                                    |                                      |                                                                                         |     |                                                           |                                                               |                                          |                                                                                                       |                                                                                                     |            |    |
|                                                            |                                                                                                                       |                                                      |                                               |                                                 |                                                                                 |                                                    |                                      |                                                                                         |     |                                                           |                                                               |                                          |                                                                                                       |                                                                                                     |            |    |
|                                                            |                                                                                                                       |                                                      |                                               |                                                 |                                                                                 |                                                    |                                      |                                                                                         |     |                                                           |                                                               |                                          |                                                                                                       |                                                                                                     |            |    |
|                                                            |                                                                                                                       |                                                      |                                               |                                                 |                                                                                 |                                                    |                                      |                                                                                         |     |                                                           |                                                               |                                          |                                                                                                       |                                                                                                     |            |    |
|                                                            |                                                                                                                       |                                                      |                                               |                                                 |                                                                                 |                                                    |                                      |                                                                                         |     |                                                           |                                                               |                                          |                                                                                                       |                                                                                                     |            |    |
|                                                            |                                                                                                                       |                                                      |                                               |                                                 |                                                                                 |                                                    |                                      |                                                                                         |     |                                                           |                                                               |                                          |                                                                                                       |                                                                                                     |            |    |
|                                                            |                                                                                                                       |                                                      |                                               |                                                 |                                                                                 |                                                    |                                      |                                                                                         |     |                                                           |                                                               |                                          |                                                                                                       |                                                                                                     |            |    |
|                                                            |                                                                                                                       |                                                      |                                               |                                                 |                                                                                 |                                                    |                                      |                                                                                         |     |                                                           |                                                               |                                          |                                                                                                       |                                                                                                     |            |    |

|                                                                                                                                                                                                                                                     |                  |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |  |  |  |                                |                  |                               |  |                         |  |                                                                       |  |  |  |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--------------------------------|------------------|-------------------------------|--|-------------------------|--|-----------------------------------------------------------------------|--|--|--|--|
| <b>FORM 542</b><br><br><b>UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST</b><br><br><small>MANIFEST INDEX AND REGIONAL COMPACT TABULATION</small><br><br>List all original "PROCESSED WASTE" generators (if any) before "COLLECTED WASTE" generators. |                  | <b>GTS DURATEK</b> | <b>1. WASTE COLLECTOR/PROCESSOR</b><br><table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%;">           NAME<br/>           Radiation Science Inc.         </td> <td style="width:50%;">           SHIPPER USE ONLY         </td> </tr> <tr> <td>           IDENTIFICATION NUMBER<br/>           1424         </td> <td></td> </tr> <tr> <td colspan="2">           SHIPPING DATE<br/>           6/9/03         </td> </tr> </table> |  |  |  |  | NAME<br>Radiation Science Inc. | SHIPPER USE ONLY | IDENTIFICATION NUMBER<br>1424 |  | SHIPPING DATE<br>6/9/03 |  | <b>2. MANIFEST NUMBER</b><br>R24<br><br><b>3. PAGE 1 OF 1 PAGE(S)</b> |  |  |  |  |
| NAME<br>Radiation Science Inc.                                                                                                                                                                                                                      | SHIPPER USE ONLY |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |  |  |  |                                |                  |                               |  |                         |  |                                                                       |  |  |  |  |
| IDENTIFICATION NUMBER<br>1424                                                                                                                                                                                                                       |                  |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |  |  |  |                                |                  |                               |  |                         |  |                                                                       |  |  |  |  |
| SHIPPING DATE<br>6/9/03                                                                                                                                                                                                                             |                  |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |  |  |  |                                |                  |                               |  |                         |  |                                                                       |  |  |  |  |

| 4.                                              | 5.                                                                | 6.                                                                | 7.                                                   | 8.                                                                              | 9.                                           | 10.                                 | 11. AS PROCESSED/COLLECTED TOTAL |            |               |                            |            |                         |         |
|-------------------------------------------------|-------------------------------------------------------------------|-------------------------------------------------------------------|------------------------------------------------------|---------------------------------------------------------------------------------|----------------------------------------------|-------------------------------------|----------------------------------|------------|---------------|----------------------------|------------|-------------------------|---------|
| GENERATOR IDENTIFICATION NUMBER                 | GENERATOR NAME PERMIT NUMBER (IF APPLICABLE) AND TELEPHONE NUMBER | GENERATOR FACILITY ADDRESS                                        | PREPROCESSED WASTE (OR MATERIAL) VOLUME<br>(m3) (l3) | MANIFEST NUMBER(S) UNDER WHICH WASTE (OR MATERIAL) RECEIVED AND DATE OF RECEIPT | WASTE CODE<br>P = PROCESSED<br>C = COLLECTED | ORIGINATING COMPACT REGION OR STATE | A. SOURCE MATERIAL<br>(kg) (lb)  |            | B. SNM<br>(g) | C. ACTIVITY<br>(MBq) (mCi) |            | D. VOLUME<br>(m3) (ft3) |         |
| 91821<br>60                                     | Morphoschem, Inc.<br>733-274-2262                                 | 11 Deer Park Drive<br>Suite 116<br>Monmouth Junction, NJ<br>08852 | 0.4621 16.3660                                       | R24 (06/09/2003)                                                                | C                                            | NJ                                  | 0.0001E+00                       | 0.0000E+00 | 0.0000E+00    | 3.0154E+02                 | 0.1600E+00 | 0.4621                  | 16.3660 |
| 61                                              |                                                                   |                                                                   |                                                      |                                                                                 |                                              |                                     |                                  |            |               |                            |            |                         |         |
|                                                 |                                                                   |                                                                   |                                                      |                                                                                 |                                              |                                     |                                  |            |               |                            |            |                         |         |
|                                                 |                                                                   |                                                                   |                                                      |                                                                                 |                                              |                                     |                                  |            |               |                            |            |                         |         |
|                                                 |                                                                   |                                                                   |                                                      |                                                                                 |                                              |                                     |                                  |            |               |                            |            |                         |         |
|                                                 |                                                                   |                                                                   |                                                      |                                                                                 |                                              |                                     |                                  |            |               |                            |            |                         |         |
|                                                 |                                                                   |                                                                   |                                                      |                                                                                 |                                              |                                     |                                  |            |               |                            |            |                         |         |
|                                                 |                                                                   |                                                                   |                                                      |                                                                                 |                                              |                                     |                                  |            |               |                            |            |                         |         |
| <b>TOTALS OF ALL PAGES (FORMS 542 AND 542A)</b> |                                                                   |                                                                   |                                                      |                                                                                 |                                              |                                     | 0.0001E+00                       | 0.0000E+00 | 0.0000E+00    | 3.0154E+02                 | 0.1600E+00 | 0.4621                  | 16.3660 |

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|                                                                                                                                                                                                                                                                                    |  |                                                                       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |                                                                                                                                            |  |                                                                                                 |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                                                                                              |  |                          |  |                                                              |  |                                             |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------|--|--------------------------|--|--------------------------------------------------------------|--|---------------------------------------------|--|
| <b>FORM 540</b><br><b>UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST SHIPPING PAPER</b>                                                                                                                                                                                              |  | <b>GTS DURATEK</b>                                                    |  | <b>5. SHIPPER - NAME AND FACILITY</b><br>Radiation Science, Inc.<br>10 South River Road<br>Cranbury, NJ 08512                                                                                                                                                                                                                                                                                                                                                                                                                              |  | <b>SHIPMENT I.D. NUMBER</b><br>1424<br><input checked="" type="checkbox"/> COLLECTOR<br>PROCESSOR<br>GENERATOR TYPE (Specify)              |  | <b>7. FORM 540 AND 540A</b><br>FORM 541 AND 541A<br>FORM 542 AND 542A<br>ADDITIONAL INFORMATION |  | PAGE 1 OF 12<br>PAGE(S)<br>27 PAGE(S)<br>4 PAGE(S)<br>None PAGE(S)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  | <b>8. MANIFEST NUMBER</b><br>(Use this number on all continuation pages)<br>RSI-5            |  |                          |  |                                                              |  |                                             |  |
| <b>1. EMERGENCY TELEPHONE NUMBER</b> (Include Area Code)<br>1-800-255-3924                                                                                                                                                                                                         |  |                                                                       |  | <b>NA</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  | <b>SHIPMENT NUMBER</b><br>NA                                                                                                               |  | <b>TELEPHONE NUMBER</b> (Include Area Code)<br>609-395-1996                                     |  | <b>9. CONSIGNEE - Name and Facility Address</b><br>GTS Duratek<br>Bear Creek Operations<br>1560 Bear Creek Road<br>Oak Ridge, TN 37830                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  | <b>CONTACT</b><br>Chad Powers<br><b>TELEPHONE NUMBER</b> (Include Area Code)<br>865-481-0222 |  |                          |  |                                                              |  |                                             |  |
| <b>ORGANIZATION</b><br>Chem-Tel                                                                                                                                                                                                                                                    |  |                                                                       |  | <b>CONTACT</b><br>Hector A. Martos                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  | <b>6. CARRIER - Name and Address</b><br>Radiation Science, Inc.<br>10 River Road<br>Cranbury, NJ 08512<br>Truck #: AF758Z<br>Trailer #: NA |  | <b>EPA I.D. NUMBER</b><br>NA                                                                    |  | <b>SIGNATURE - Authorized consignee acknowledging waste receipt</b><br><i>Daniel J. ...</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  | <b>DATE</b><br>8/12/03                                                                       |  |                          |  |                                                              |  |                                             |  |
| <b>2. IS THIS AN "EXCLUSIVE USE" SHIPMENT?</b><br><input type="checkbox"/> YES<br><input checked="" type="checkbox"/> NO                                                                                                                                                           |  | <b>3. TOTAL NUMBER OF PACKAGES IDENTIFIED ON THIS MANIFEST</b><br>147 |  | <b>CONTACT</b><br>Hector Martos                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  | <b>SHIPPING DATE</b><br>8/16/03                                                                                                            |  | <b>TELEPHONE NUMBER</b> (Include Area Code)<br>609-395-1996                                     |  | <b>SIGNATURE - Authorized carrier acknowledging waste receipt</b><br><i>Hector A. Martos</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  | <b>DATE</b><br>8/16/03                                                                       |  |                          |  |                                                              |  |                                             |  |
| <b>4. DOES EPA REGULATED WASTE REQUIRING A MANIFEST ACCOMPANY THIS SHIPMENT?</b><br>If "Yes," provide Manifest Number                                                                                                                                                              |  | <b>EPA MANIFEST NUMBER</b><br>NA                                      |  | <b>10. CERTIFICATION</b><br>This is to certify that the herein-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. This also certifies that the materials are classified, packaged, marked, and labeled and are in proper condition for transportation and disposal as described in accordance with the requirements of 10 CFR Parts 20 and 61, or equivalent state regulations. |  | <b>AUTHORIZED SIGNATURE</b><br><i>Hector A. Martos</i>                                                                                     |  | <b>TITLE</b><br>Mgr. Boby ...                                                                   |  | <b>DATE</b><br>08/16/03                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |                                                                                              |  |                          |  |                                                              |  |                                             |  |
| <b>11. U.S. DEPARTMENT OF TRANSPORTATION DESCRIPTION</b><br>(Including proper shipping name, hazard class, UN ID number, and any additional information)                                                                                                                           |  |                                                                       |  | <b>12. DOT LABEL "RADIOACTIVE"</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  | <b>13. TRANSPORT INDEX</b>                                                                                                                 |  | <b>14. PHYSICAL AND CHEMICAL FORM</b>                                                           |  | <b>15. INDIVIDUAL RADIONUCLIDES</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  | <b>16. TOTAL PACKAGE ACTIVITY</b><br>MBq                                                     |  | <b>17. ICA/SCO CLASS</b> |  | <b>18. TOTAL WEIGHT OR VOLUME</b><br>(Use appropriate units) |  | <b>19. IDENTIFICATION NUMBER OF PACKAGE</b> |  |
| Radioactive material, excepted package-limited quantity of material, 7, UN2910                                                                                                                                                                                                     |  |                                                                       |  | NA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  | NA                                                                                                                                         |  | Solid paper, plastic                                                                            |  | H-3 S-35                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  | 3.0766E+01                                                                                   |  | 8.3150E-01               |  | NA                                                           |  | 50. LBS; 7. FT3 R15-8                       |  |
| Radioactive material, excepted package-limited quantity of material, 7, UN2910                                                                                                                                                                                                     |  |                                                                       |  | NA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  | NA                                                                                                                                         |  | Solid Paper, plastic                                                                            |  | H-3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  | 2.2020E+01                                                                                   |  | 5.9513E-01               |  | NA                                                           |  | 50. LBS; 7. FT3 R16-1                       |  |
| Radioactive material, excepted package-limited quantity of material, 7, UN2910                                                                                                                                                                                                     |  |                                                                       |  | NA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  | NA                                                                                                                                         |  | Solid Paper, plastic                                                                            |  | H-3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  | 2.4133E+01                                                                                   |  | 5.5223E-01               |  | NA                                                           |  | 50. LBS; 7. FT3 R16-2                       |  |
| Radioactive material, excepted package-limited quantity of material, 7, UN2910                                                                                                                                                                                                     |  |                                                                       |  | NA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  | NA                                                                                                                                         |  | Solid Paper, plastic                                                                            |  | H-3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  | 3.9930E+00                                                                                   |  | 1.0792E-01               |  | NA                                                           |  | 50. LBS; 7. FT3 R16-3                       |  |
| Radioactive material, excepted package-limited quantity of material, 7, UN2910                                                                                                                                                                                                     |  |                                                                       |  | NA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  | NA                                                                                                                                         |  | Solid Paper, plastic                                                                            |  | H-3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  | 4.7427E+01                                                                                   |  | 1.2818E+00               |  | NA                                                           |  | 50. LBS; 7. FT3 R16-4                       |  |
| Radioactive material, excepted package-limited quantity of material, 7, UN2910                                                                                                                                                                                                     |  |                                                                       |  | NA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  | NA                                                                                                                                         |  | Solid Paper, plastic, glass                                                                     |  | H-3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  | 3.5335E+01                                                                                   |  | 9.5500E-01               |  | NA                                                           |  | 100. LBS; 4.01 FT3 R17-1                    |  |
| <b>FOR CONSIGNEE USE ONLY</b><br>TENNESSEE "LICENSE FOR DELIVERY" NO _____<br>SOUTH CAROLINA TRANSPORT PERMIT NO _____<br>US ECOLOGY GENERATOR NO _____<br>US ECOLOGY PERMIT NO _____<br>From: Radiation Science Inc.<br>10 South River Road<br>Cranbury, NJ 08512<br>609-395-1996 |  |                                                                       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |                                                                                                                                            |  |                                                                                                 |  | <b>20. GENERATOR CERTIFICATION STATEMENT</b><br>A) Radioactive Materials. Certification is hereby made to GTS Duratek, Inc. that this shipment of low-level radioactive material/waste has been prepared in accordance with radioactive waste management program which has been approved by the Nuclear Regulatory Commission or an Agreement State regulatory agency and with the current revision of the GTS Duratek Material Acceptance Criteria.<br>B) Hazardous Materials. Generator hereby certifies that this material does not contain a hazardous waste as defined in 40 CFR 261.<br>C) Date. Generator hereby represents and warrants that all data set forth in this (UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST) are true and correct in all respects and in accordance with all applicable governmental laws, rules, regulations and GTS Duratek State of Tennessee Radioactive Material Licenses.<br><i>Hector A. Martos</i> Print Name<br><i>Hector A. Martos</i> Signature<br>08/16/03 Date |  |                                                                                              |  |                          |  |                                                              |  |                                             |  |

Surveyed 8-18-03 Nicholas ...

FORM 540A

GTS DURATEK

8. MANIFEST NUMBER  
(Use this number on all continuation  
pages)  
RSI-5

PAGE 2 OF 12 PAGES

UNIFORM LOW-LEVEL RADIOACTIVE  
WASTE MANIFEST  
SHIPPING PAPER (CONTINUATION)

| 11. U.S. DEPARTMENT OF TRANSPORTATION DESCRIPTION<br>(Including proper shipping name, hazard class, UN ID number,<br>and any additional information) | 12. DOT LABEL<br>"RADIOACTIVE" | 13. TRANSPORT<br>INDEX | 14. PHYSICAL AND<br>CHEMICAL FORM | 15. INDIVIDUAL<br>RADIONUCLIDES | 16. TOTAL PACKAGE ACTIVITY<br>mBq | 17. LSA/SCO<br>CLASS | 18. TOTAL WEIGHT<br>OR VOLUME<br>(Use appropriate units) | 19. IDENTIFICATION<br>NUMBER OF<br>PACKAGE |
|------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|------------------------|-----------------------------------|---------------------------------|-----------------------------------|----------------------|----------------------------------------------------------|--------------------------------------------|
| Radioactive material, excepted package-limited quantity of<br>material, 7, UN2910                                                                    | NA                             | NA                     | Solid Paper,plastic               | H-3 I-125                       | 3.4557E+02 9.3397E+00             | NA                   | 60. LBS; 7.<br>FT3                                       | R18-214                                    |
| Radioactive material, excepted package-limited quantity of<br>material, 7, UN2910                                                                    | NA                             | NA                     | Solid Paper,plastic               | I-125 P-33                      | 1.4637E+02 3.9560E+00             | NA                   | 60. LBS; 7.<br>FT3                                       | R18-216                                    |
| Radioactive material, excepted package-limited quantity of<br>material, 7, UN2910                                                                    | NA                             | NA                     | Solid Paper,Plastic               | H-3                             | 2.9452E+00 7.9600E-02             | NA                   | 50. LBS; 7.<br>FT3                                       | R19-1004                                   |
| Radioactive material, excepted package-limited quantity of<br>material, 7, UN2910                                                                    | NA                             | NA                     | Solid Paper,Plastic               | H-3                             | 3.3840E+00 9.1460E-02             | NA                   | 50. LBS; 7.<br>FT3                                       | R19-1008                                   |
| Radioactive material, excepted package-limited quantity of<br>material, 7, UN2910                                                                    | NA                             | NA                     | Solid Paper,Plastic               | H-3                             | 2.2731E+01 8.1436E-01             | NA                   | 50. LBS; 7.<br>FT3                                       | R19-1011                                   |
| Radioactive material, excepted package-limited quantity of<br>material, 7, UN2910                                                                    | NA                             | NA                     | Solid Paper,Plastic               | P-33                            | 4.1292E+02 1.1160E+01             | NA                   | 50. LBS; 7.<br>FT3                                       | R19-1014                                   |
| Radioactive material, excepted package-limited quantity of<br>material, 7, UN2910                                                                    | NA                             | NA                     | Solid Paper,Plastic               | I-125                           | 3.7514E+01 1.0139E+00             | NA                   | 50. LBS; 7.<br>FT3                                       | R19-1019                                   |
| Radioactive material, excepted package-limited quantity of<br>material, 7, UN2910                                                                    | NA                             | NA                     | Solid Paper,Plastic               | H-3 P-32                        | 1.2110E+01 3.2729E-01             | NA                   | 50. LBS; 7.<br>FT3                                       | R19-1020                                   |
| Radioactive material, excepted package-limited quantity of<br>material, 7, UN2910                                                                    | NA                             | NA                     | Liquid Bactec Vials               | C-14                            | 1.3320E+01 3.6000E-01             | NA                   | 15. LBS; 0.983<br>FT3                                    | R20-1                                      |
| Radioactive material, excepted package-limited quantity of<br>material, 7, UN2910                                                                    | NA                             | NA                     | Solid paper,plastic               | C-14 H-3                        | 1.4875E+01 4.0202E-01             | NA                   | 50. LBS; 7.<br>FT3                                       | R21-9                                      |
| Radioactive material, low specific activity, n.o.s., 7, UN2912                                                                                       | NA                             | <1                     | Solid Plastic,paper               | Cr-51 H-3                       | 1.1100E+02 0.0000E+00             | LSA-II               | 50. LBS; 7.<br>FT3                                       | R22-1                                      |
| Radioactive material, low specific activity, n.o.s., 7, UN2912                                                                                       | NA                             | <1                     | Liquid Aqueous Liquid             | Cr-51                           | 1.4800E+02 4.0000E+00             | LSA-II               | 10. LBS; 0.983<br>FT3                                    | R22-2                                      |
| Radioactive material, excepted package-limited quantity of<br>material, 7, UN2910                                                                    | NA                             | NA                     | Solid Paper,plastic               | I-125                           | 5.5500E+00 1.5000E-01             | NA                   | 60. LBS; 7.<br>FT3                                       | R23-1                                      |

FORM 540A (10-96)

38.40

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FORM 540A

GTS DURATEK

6. MANIFEST NUMBER  
(Use this number on all continuation  
pages)  
RSI-5

PAGE 3 OF 12 PAGES

UNIFORM LOW-LEVEL RADIOACTIVE  
WASTE MANIFEST  
SHIPPING PAPER (CONTINUATION)

| 11. U.S. DEPARTMENT OF TRANSPORTATION DESCRIPTION<br>(Including proper shipping name, hazard class, UN ID number,<br>and any additional information) | 12. DOT LABEL<br>"RADIOACTIVE" | 13. TRANSPORT<br>INDEX | 14. PHYSICAL AND<br>CHEMICAL FORM | 15. INDIVIDUAL<br>RADIONUCLIDES | 16. TOTAL PACKAGE ACTIVITY<br>MBq mCi | 17. LSA/SCO<br>CLASS | 18. TOTAL WEIGHT<br>OR VOLUME<br>(Use appropriate units) | 19. IDENTIFICATION<br>NUMBER OF<br>PACKAGE |
|------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|------------------------|-----------------------------------|---------------------------------|---------------------------------------|----------------------|----------------------------------------------------------|--------------------------------------------|
| Radioactive material, excepted package-limited quantity of<br>material, 7, UN2910                                                                    | NA                             | NA                     | Solid Paper,plastic               | I-125                           | 5.5500E+00 1.5000E-01                 | NA                   | 50. LBS; 7.<br>FT3                                       | R23-2                                      |
| Radioactive material, excepted package-limited quantity of<br>material, 7, UN2910                                                                    | NA                             | NA                     | Liquid Aqueous Liquid             | I-125                           | 1.5492E+01 4.1870E-01                 | NA                   | 250. LBS; 7.5<br>FT3                                     | R23-3                                      |
| Radioactive material, excepted package-limited quantity of<br>material, 7, UN2910                                                                    | NA                             | NA                     | Solid paper,plastic               | C-14 H-3 S-35                   | 1.2354E+01 3.3388E-01                 | NA                   | 50. LBS; 7.<br>FT3                                       | R24-10                                     |
| Radioactive material, excepted package-limited quantity of<br>material, 7, UN2910                                                                    | NA                             | NA                     | Liq MICROSCINT                    | C-14 H-3                        | 2.0350E+01 5.5000E-01                 | NA                   | 15. LBS; 0.983<br>FT3                                    | R24A-1                                     |
| Radioactive material, excepted package-limited quantity of<br>material, 7, UN2910                                                                    | NA                             | NA                     | Liq MICROSCINT                    | C-14 H-3                        | 2.0350E+01 5.5000E-01                 | NA                   | 15. LBS; 0.983<br>FT3                                    | R24A-2                                     |
| Radioactive material, excepted package-limited quantity of<br>material, 7, UN2910                                                                    | NA                             | NA                     | Solid paper,plastic               | C-14 H-3                        | 1.3043E+02 3.5250E+00                 | NA                   | 45. LBS; 7.<br>FT3                                       | R24A-3                                     |
| Radioactive material, excepted package-limited quantity of<br>material, 7, UN2910                                                                    | NA                             | NA                     | Solid paper,plastic               | C-14 H-3                        | 1.3043E+02 3.5250E+00                 | NA                   | 45. LBS; 7.<br>FT3                                       | R24A-4                                     |
| Radioactive material, excepted package-limited quantity of<br>material, 7, UN2910                                                                    | NA                             | NA                     | Liq. Aqueous Liquid               | H-3                             | 1.3968E+03 3.7752E+01                 | NA                   | 325. LBS; 7.5<br>FT3                                     | R25-1                                      |
| Radioactive material, excepted package-limited quantity of<br>material, 7, UN2910                                                                    | NA                             | NA                     | Solid paper,plastic               | C-14 I-125 S-35                 | 8.6963E+01 2.3504E+00                 | NA                   | 50. LBS; 7.<br>FT3                                       | R27-217                                    |
| Radioactive material, excepted package-limited quantity of<br>material, 7, UN2910                                                                    | NA                             | NA                     | Solid paper,plastic               | I-125                           | 1.3424E+01 3.6282E-01                 | NA                   | 50. LBS; 7.<br>FT3                                       | R27-223                                    |
| Radioactive material, excepted package-limited quantity of<br>material, 7, UN2910                                                                    | NA                             | NA                     | Solid Paper,Plastic               | H-3 I-125                       | 2.6909E+01 7.2726E-01                 | NA                   | 50. LBS; 7.<br>FT3                                       | R28-1022                                   |
| Radioactive material, excepted package-limited quantity of<br>material, 7, UN2910                                                                    | NA                             | NA                     | Solid Paper,Plastic               | H-3                             | 2.3673E+00 6.3980E-02                 | NA                   | 50. LBS; 7.<br>FT3                                       | R28-1023                                   |
| Radioactive material, excepted package-limited quantity of<br>material, 7, UN2910                                                                    | NA                             | NA                     | Solid Paper,Plastic               | H-3 I-125                       | 3.3766E+01 9.1260E-01                 | NA                   | 50. LBS; 7.<br>FT3                                       | R28-1024                                   |



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION I  
475 ALLENDALE ROAD  
KING OF PRUSSIA, PENNSYLVANIA 19406-1415

March 2, 2004

Docket No. 03034681  
Control No. 134298

License No. 29-30442-01

Steven R. Per, Ph.D.  
Vice President, US Operations  
Morphochem, Inc.  
Suite 116  
11 Deer Park Drive  
Monmouth Junction, NJ 08852

SUBJECT: MORPHOCHEM, INC., ISSUANCE OF LICENSE AMENDMENT, CONTROL NO. 134298

Dear Dr. Per:

This refers to your license amendment request. Enclosed with this letter is the amended license.

Please review the enclosed document carefully and be sure that you understand and fully implement all the conditions incorporated into the amended license. If there are any errors or questions, please notify the U.S. Nuclear Regulatory Commission, Region I Office, Licensing Assistance Team, (610) 337-5239, so that we can provide appropriate corrections and answers.

*An environmental assessment for this action is not required, since this action is categorically excluded under 10 CFR 51.22(c)(14).*

In accordance with 10 CFR 2.790, a copy of this letter will be placed in the NRC Public Document Room and will be accessible from the NRC Web site at <http://www.nrc.gov/reading-rm.html>.

Thank you for your cooperation.

Sincerely,

Donna M. Janda  
Health Physicist  
Nuclear Materials Safety Branch 2  
Division of Nuclear Materials Safety

Enclosure:  
Amendment No. 1

Attached are  
\* Swipes done for NRC  
license termination.

prp

Protocol# 1 - Swipe 2min.1sa

Serial# 423241

User: MorphochemSMT

## Assay Definition-

## Assay Description:

Used for 2' swipe tests of labs

Assay Type: DPM (Dual)

Report Name: Official 2' Swipe Test Results

Output Data Path: C:\Packard\Tricarb\Results\MorphochemSMT\Swipe 2min

Raw Results Path: C:\Packard\Tricarb\Results\MorphochemSMT\Swipe 2min

Comma-Delimited File Name: C:\Packard\Tricarb\Results\MorphochemSMT\Swipe 2min\Official 2' swipe.112

## Count Conditions-

Nuclide: 3H-14C-32P

Quench Indicator: tSIE/AEC

External Std Terminator (sec): 0.5 2s%

Pre-Count Delay (min): 0.00

## Quench Sets:

Low Energy: 3H-UG

Mid Energy: 14C-UG

Count Time (min): 2.00

Count Mode: Normal

Assay Count Cycles: 1

#Vials/Sample: 1

Repeat Sample Count: 1

Calculate % Reference: Off

Background Subtract: Off

Low CPM Threshold: Off

2 Sigma % Terminator: Off

| Regions | LL    | UL     |
|---------|-------|--------|
| A       | 0.0   | 12.0   |
| B       | 12.0  | 156.0  |
| C       | 156.0 | 1700.0 |

## Count Corrections-

Static Controller: On

Colored Samples: Off

Coincidence Time (nsec): 18

Luminescence Correction: Off

Heterogeneity Monitor: n/a

Delay Before Burst (nsec): 75

## Half Life-

Half Life Correction: Off

Regions Half Life

Units

Reference Date

Reference Time

A  
B  
C

## Cycle 1 Results

S# Count Time  
MESSAGES

CPMA

CPMB

CPMC

DPM1

DPM2

DPM-32P

SIS

tSIE

|       |   |      |    |    |   |    |    |   |       |        |
|-------|---|------|----|----|---|----|----|---|-------|--------|
| AD#1T | 1 | 2.00 | 17 | 20 | 4 | 30 | 22 | 5 | 69.65 | 489.43 |
| AD#1B | 2 | 2.00 | 26 | 15 | 3 | 50 | 15 | 3 | 28.52 | 493.60 |
| AD#1T | 3 | 2.00 | 25 | 18 | 5 | 51 | 20 | 6 | 43.44 | 436.50 |
| AD#2B | 4 | 2.00 | 19 | 14 | 4 | 34 | 15 | 5 | 52.95 | 536.28 |
| AD#3T | 5 | 2.00 | 12 | 14 | 6 | 21 | 16 | 7 | 58.66 | 501.75 |

Swipe of Rad Waste

RAD 1 = Solid Waste Container 1

RAD 2 = " " " 2

RAD 3 = LSC Vial " 1

RAD 4 = LSC Vial " 2

T = Top of Container

B = Base of container

All wet wipe results  
were < 100 dpm, i.e.  
background rad levels

After  
5/9/03

Protocol# 1 - Swipe 2min.1sa

Serial# 423241

User: MorphochemSMT

|                  |      |    |    |    |      |    |    |       |        |
|------------------|------|----|----|----|------|----|----|-------|--------|
| RAD3B 6          | 2.00 | 16 | 12 | 4  | 28   | 13 | 4  | 51.45 | 550.13 |
| RAD4T 7          | 2.00 | 18 | 15 | 4  | 32   | 17 | 5  | 53.74 | 536.32 |
| RAD4B 8          | 2.00 | 7  | 13 | 2  | 10   | 15 | 2  | 75.84 | 601.86 |
| CTRL 9           | 2.00 | 9  | 6  | 2  | 16   | 7  | 2  | 50.79 | 598.69 |
| OHG-D            |      |    |    |    |      |    |    |       |        |
| Missing vial 10. |      |    |    |    |      |    |    |       |        |
| Missing vial 11. |      |    |    |    |      |    |    |       |        |
| Missing vial 12. |      |    |    |    |      |    |    |       |        |
| 13               | 2.00 | 3  | 8  | 11 | 20   | 15 | 13 | 23.73 | 68.41  |
| 14               | 2.00 | 1  | 13 | 7  | 0    | 23 | 8  | 32.29 | 75.38  |
| 15               | 2.00 | 5  | 9  | 15 | 38   | 15 | 17 | 31.30 | 74.79  |
| 16               | 2.00 | 1  | 9  | 6  | 0    | 19 | 7  | 28.09 | 62.07  |
| 17               | 2.00 | 3  | 13 | 11 | 0    | 23 | 12 | 32.68 | 75.26  |
| 18               | 2.00 | 4  | 8  | 13 | 27   | 14 | 15 | 33.49 | 70.51  |
| 19               | 2.00 | 4  | 8  | 10 | 26   | 13 | 12 | 27.07 | 74.64  |
| 20               | 2.00 | 2  | 13 | 7  | 0    | 24 | 8  | 31.64 | 73.62  |
| 21               | 2.00 | 2  | 11 | 6  | 0    | 19 | 6  | 31.16 | 75.19  |
| 22               | 2.00 | 1  | 19 | 8  | 0    | 34 | 9  | 32.78 | 74.65  |
| 23               | 2.00 | 3  | 8  | 9  | 17   | 13 | 10 | 29.69 | 75.62  |
| 24               | 2.00 | 0  | 14 | 9  | 5269 | 35 | 10 | 31.65 | 25.23  |
| E 25             | 2.00 | 2  | 12 | 10 | 0    | 21 | 12 | 41.16 | 77.94  |
| 26               | 2.00 | 6  | 8  | 11 | 80   | 15 | 14 | 26.18 | 60.32  |
| 27               | 2.00 | 2  | 9  | 8  | 0    | 15 | 9  | 27.69 | 74.95  |
| 28               | 2.00 | 6  | 9  | 14 | 71   | 15 | 16 | 24.69 | 73.21  |
| 29               | 2.00 | 3  | 10 | 11 | 16   | 17 | 13 | 28.02 | 74.55  |
| 30               | 2.00 | 3  | 10 | 8  | 9    | 18 | 9  | 28.28 | 72.02  |
| 31               | 2.00 | 7  | 13 | 13 | 71   | 22 | 15 | 27.57 | 71.66  |
| 32               | 2.00 | 6  | 11 | 7  | 57   | 19 | 8  | 28.36 | 74.58  |
| 33               | 2.00 | 3  | 12 | 6  | 0    | 23 | 7  | 29.45 | 68.77  |
| 34               | 2.00 | 2  | 13 | 11 | 0    | 24 | 12 | 36.85 | 70.74  |
| 35               | 2.00 | 8  | 8  | 11 | 112  | 12 | 12 | 24.07 | 71.96  |
| 36               | 2.00 | 3  | 10 | 12 | 0    | 19 | 14 | 34.22 | 68.52  |



SNC Protocol

Serial# 423241

## Calibration Information

Software Version IC: 2.09

Software Version EC: 1.10

Instrument Model: Tri-Carb 2900TR

Instrument Serial Number: 423241

3H Chi Square: Not Processed

14C Chi Square: Not Processed

3H E<sup>2</sup>/B (0-18.6 keV and 1-18.6 keV): 301.56 Date Processed: 4/25/03 1:54:06 PM14C E<sup>2</sup>/B (0-156 keV and 1-156 keV): 650.74 Date Processed: 4/25/03 1:54:06 PM

3H Efficiency (0-18.6 keV): 67.43 Date Processed: 4/25/03 1:54:05 PM

14C Efficiency (0-156 keV): 96.63 Date Processed: 4/25/03 1:54:05 PM

IPA Background Date Processed: 4/25/03 1:54:06 PM

3H Background CPM (0-18.6 keV): 14.35 Date Processed: 4/25/03 1:54:06 PM

14C Background CPM (0-156 keV): 19.80 Date Processed: 4/25/03 1:54:06 PM

3H Calibration DPM: 283500

3H Reference Date: 5/5/00

14C Calibration DPM: 135100

===== Errors and Warnings =====

===== End of Errors and Warnings =====

Handwritten signature and date 5/9/03.

**Morphochem, Inc. Small Molecule Therapeutics**

**Date: July 18, 2002 - Final wet wipe test**

| Position | Room             | Area/Equipment Swiped    |
|----------|------------------|--------------------------|
| 1        | Screening lab    | Water bath               |
| 2        | Screening lab    | Pipettes                 |
| 3        | Screening lab    | Racks                    |
| 4        | Screening lab    | Plexiglas shields        |
| 5        | Screening lab    | Telephone                |
| 6        | Screening lab    | Rad sink                 |
| 7        | Middle lab       | Water bath               |
| 8        | Middle lab       | Pipettes                 |
| 9        | Middle lab       | Racks                    |
| 10       | Middle lab       | Sequencing gel apparatus |
| 11       | Middle lab       | Sink                     |
| 12       | Middle lab       | Chemical fume hood       |
| 13       | TC/Compounds lab | Sink                     |
| 14       | TC/Compounds lab | Harvester apparatus      |
| 15       | TC/Compounds lab | Telephone                |
| 16       | TC/Compounds lab | Top count                |
| 17       | TC/Compounds lab | Pipettes                 |
| 18       | TC/Compounds lab | Racks                    |
| 19       | Front lab        | Refrigerator             |
| 20       | Front lab        | Telephone                |
| 21       | Front lab        | Fume hood                |
| 22       | Front lab        | Pipettes                 |
| 23       | Blank swipe      | N/A                      |
| 24       | Empty vial       | N/A                      |

Background survey sweep done

Geiger counter Ludlum Instruments #147677

Bkgd less than 0.01 mR/hr

All areas & surfaces  
surveyed were less than  
threshold of  $< 300$  dpm.

Removed stickers/labels  
indicating "radioactive  
material".

AP 7/18/02

Protocol# 1 - Swipe 2min.1sa

Serial# 423241

User: MorphochemSMT

## Assay Definition-

## Assay Description:

Used for 2' swipe tests of labs

## Assay Type: DPM (Dual)

Report Name: Official 2' Swipe Test Results

Output Data Path: C:\Packard\Tricarb\Results\MorphochemSMT\Swipe 2min

Raw Results Path: C:\Packard\Tricarb\Results\MorphochemSMT\Swipe 2min

Comma-Delimited File Name: C:\Packard\Tricarb\Results\MorphochemSMT\Swipe 2min\Official 2' swipe.110

## Count Conditions-

Nuclide: 3H-14C-32P

Quench Indicator: tSIE/AEC

External Std Terminator (sec): 0.5 2s%

Pre-Count Delay (min): 0.00

## Quench Sets:

Low Energy: 3H-UG

Mid Energy: 14C-UG

Count Time (min): 2.00

Count Mode: Normal

Assay Count Cycles: 1

#Vials/Sample: 1

Repeat Sample Count: 1

Calculate % Reference: Off

Background Subtract: Off

Low CPM Threshold: Off

2 Sigma % Terminator: Off

| Regions | LL    | UL     |
|---------|-------|--------|
| A       | 0.0   | 12.0   |
| B       | 12.0  | 156.0  |
| C       | 156.0 | 1700.0 |

## Count Corrections-

Static Controller: On

Luminescence Correction: Off

Colored Samples: Off

Heterogeneity Monitor: n/a

Coincidence Time (nsec): 18

Delay Before Burst (nsec): 75

## Half Life-

Half Life Correction: Off

| Regions | Half Life | Units | Reference Date | Reference Time |
|---------|-----------|-------|----------------|----------------|
| A       |           |       |                |                |
| B       |           |       |                |                |
| C       |           |       |                |                |

## Cycle 1 Results

| S# | Count Time | CPMA | CPMB | CPMC | DPM1 | DPM2 | DPM-32P | SIS   | tSIE   |
|----|------------|------|------|------|------|------|---------|-------|--------|
| 1  | 2.00       | 11   | 13   | 6    | 20   | 15   | 6       | 52.70 | 473.46 |
| 2  | 2.00       | 6    | 14   | 6    | 8    | 17   | 6       | 74.72 | 415.72 |
| 3  | 2.00       | 6    | 8    | 3    | 10   | 9    | 4       | 56.11 | 488.58 |
| 4  | 2.00       | 14   | 59   | 7    | 11   | 72   | 8       | 63.93 | 452.21 |
| 5  | 2.00       | 10   | 17   | 10   | 15   | 21   | 11      | 58.80 | 465.15 |

Protocol# 1 - Swipe 2min.1sa

Serial# 423241

User: MorphochemSMT

|    |      |    |     |    |    |     |    |       |        |
|----|------|----|-----|----|----|-----|----|-------|--------|
| 6  | 2.00 | 44 | 133 | 5  | 51 | 158 | 5  | 62.94 | 501.92 |
| 7  | 2.00 | 5  | 18  | 5  | 6  | 22  | 6  | 60.26 | 434.29 |
| 8  | 2.00 | 12 | 19  | 13 | 20 | 22  | 15 | 55.86 | 469.04 |
| 9  | 2.00 | 9  | 36  | 9  | 9  | 44  | 10 | 57.69 | 324.69 |
| 10 | 2.00 | 15 | 48  | 40 | 18 | 57  | 47 | 63.86 | 478.26 |
| 11 | 2.00 | 14 | 95  | 16 | 0  | 116 | 19 | 75.74 | 407.02 |
| 12 | 2.00 | 7  | 11  | 4  | 12 | 12  | 4  | 64.40 | 385.23 |
| 13 | 2.00 | 9  | 24  | 6  | 13 | 28  | 6  | 59.09 | 360.17 |
| 14 | 2.00 | 6  | 15  | 12 | 9  | 18  | 14 | 47.96 | 374.44 |
| 15 | 2.00 | 6  | 12  | 6  | 9  | 14  | 7  | 73.27 | 394.92 |
| 16 | 2.00 | 6  | 16  | 8  | 12 | 20  | 9  | 46.89 | 244.43 |
| 17 | 2.00 | 20 | 19  | 4  | 45 | 21  | 5  | 42.75 | 345.44 |
| 18 | 2.00 | 7  | 21  | 4  | 11 | 25  | 5  | 59.99 | 338.75 |
| 19 | 2.00 | 5  | 12  | 3  | 8  | 14  | 4  | 56.63 | 365.63 |
| 20 | 2.00 | 6  | 16  | 7  | 10 | 19  | 8  | 46.51 | 315.26 |
| 21 | 2.00 | 7  | 25  | 74 | 8  | 30  | 87 | 94.82 | 392.98 |
| 22 | 2.00 | 4  | 15  | 5  | 4  | 18  | 5  | 52.88 | 312.79 |
| 23 | 2.00 | 4  | 19  | 3  | 3  | 23  | 4  | 65.15 | 454.99 |
| 24 | 2.00 | 1  | 11  | 11 | 0  | 33  | 12 | 26.97 | 33.45  |

E

All surfaces were  
below threshold  
of 500 dpm.  
pop 7/18/02

## Room: Screening Lab

Diagram of the 5th floor layout. The floor is labeled "5 floor" in the center. The layout includes:

- Darkroom** (top left)
- 1 door** (below Darkroom)
- Filter harvester/rad area** (top center, containing sub-areas **2** and **3**)
- 4 rad sink** (top right, indicated by a dashed line)
- 6 bench** (center)
- 7 door** (bottom left)
- to offices** (bottom left, pointing to a dotted line)

Background survey sweep  
Geiger counter Ludlum Instruments  
Bkqd less than 0.01 mR/hr

## Room: Middle Lab

8 Bench

9 Sink

10 / 11 Hood

18 Floor

Door

Phone: 12  
Door: 13

to screen lab

20

21

19 cfig.

17 Door

15 / 16 Ref/Frz

Door 14  
to office

Background survey sweep  
Geiger counter Ludlum Instruments  
Bkgd less than 0.01 mR/hr

2006/02/20

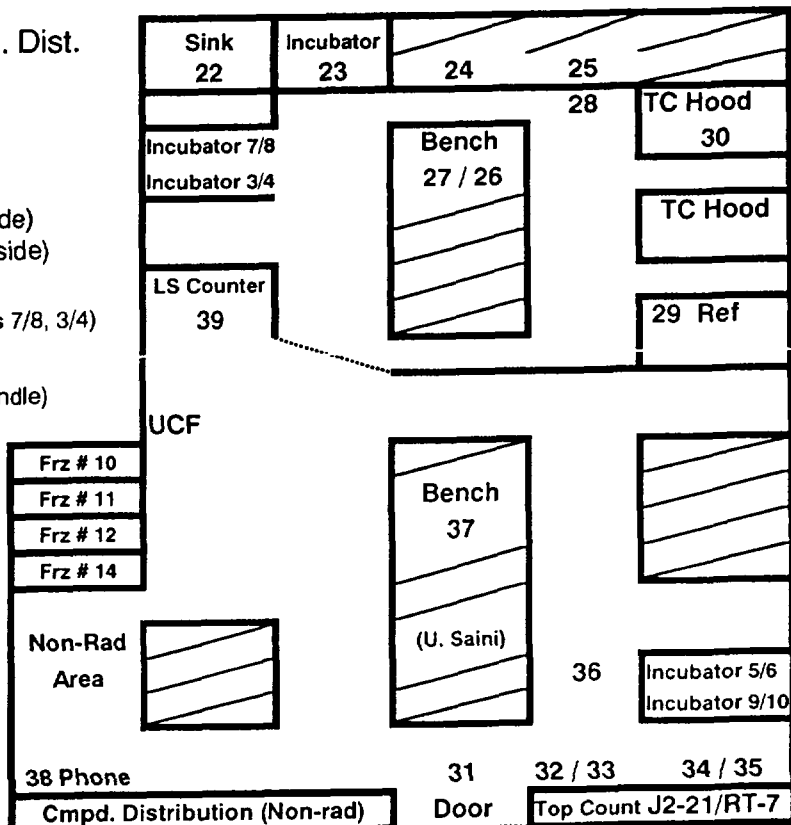
Morphochem, Inc. Small Molecule Therapeutics

Date: June 28, 2002

Room: Tissue Culture/Cmpd. Dist.

**Position Area Swiped**

- 22 Sink
- 23 Incubator door handle
- 24 Lab bench (back, left side)
- 25 Lab bench (back, right side)
- 26 Lab bench (by hoods)
- 27 Lab bench (by incubators 7/8, 3/4)
- 28 Floor by back bench
- 29 Refrigerator #R7 (door handle)
- 30 Hood (Rad use)
- 31 Door handle (in lab)
- 32 Top Count keyboard/mouse
- 33 Top Count stackers
- 34 J2-21 centrifuge
- 35 RT-7 centrifuge
- 36 Incubator # 6
- 37 Lab bench (by incubator 6)
- 38 Phone
- 39 Scint counter lid area



Background survey sweep

Geiger counter Ludlum Instruments

Bkgd less than 0.01 mR/hr

Fzr 2 46

to freezer rm

45

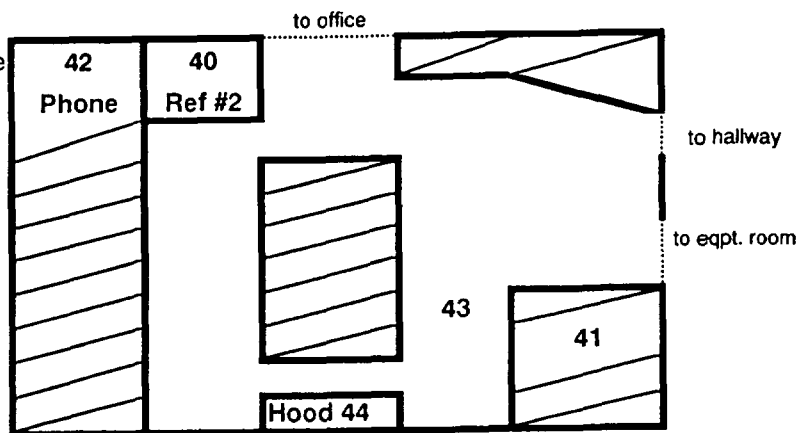
Morphochem, Inc. Small Molecule Therapeutics

Date: June 28, 2002

Room: Front lab

**Position Area Swiped**

- 40 Refrigerator #R2 (door handle)
- 41 Lab bench
- 42 Telephone
- 43 Lab floor by bench
- 44 Fume Hood



Background survey sweep

Geiger counter Ludlum Instruments

Bkgd less than 0.01 mR/hr

Room: Freezer room (outside TC /Cmpd. lab)

**Position Area Swiped**

- 45 Freezer room: door to TC lab

**Position Area Swiped**

- 46 Freezer # F2 (door handle)
- 47 Geiger Counter used for sweep
- 48 Blank disc

*AP 1/1/02*

Protocol# 1 - Swipe 2min.lsa

Serial# 423241

User: MorphochemSMT

## Assay Definition-

## Assay Description:

Used for 2' swipe tests of labs

Assay Type: DPM (Dual)

Report Name: Official 2' Swipe Test Results

Output Data Path: C:\Packard\Tricarb\Results\MorphochemSMT\Swipe 2min

Raw Results Path: C:\Packard\Tricarb\Results\MorphochemSMT\Swipe 2min

Comma-Delimited File Name: C:\Packard\Tricarb\Results\MorphochemSMT\Swipe 2min\Official 2' swipe.109

## Count Conditions-

Nuclide: 3H-14C-32P

Quench Indicator: tSIE/AEC

External Std Terminator (sec): 0.5 2s%

Pre-Count Delay (min): 0.00

## Quench Sets:

Low Energy: 3H-UG

Mid Energy: 14C-UG

Count Time (min): 2.00

Count Mode: Normal

Assay Count Cycles: 1

#Vials/Sample: 1

Repeat Sample Count: 1

Calculate % Reference: Off

Background Subtract: Off

Low CPM Threshold: Off

2 Sigma % Terminator: Off

| Regions | LL    | UL     |
|---------|-------|--------|
| A       | 0.0   | 12.0   |
| B       | 12.0  | 156.0  |
| C       | 156.0 | 1700.0 |

*ADD 6/28/02  
Revised by DAE - all areas  
were < 300 dpm.*

## Count Corrections-

Static Controller: On

Luminescence Correction: Off

Colored Samples: Off

Heterogeneity Monitor: n/a

Coincidence Time (nsec): 18

Delay Before Burst (nsec): 75

## Half Life-

Half Life Correction: Off

| Regions | Half Life | Units | Reference Date | Reference Time |
|---------|-----------|-------|----------------|----------------|
| A       |           |       |                |                |
| B       |           |       |                |                |
| C       |           |       |                |                |

## Cycle 1 Results

| S# | Count Time | CPMA | CPMB | CPMC | DPM1 | DPM2 | DPM-32P | SIS   | tSIE   |
|----|------------|------|------|------|------|------|---------|-------|--------|
| 1  | 2.00       | 7    | 13   | 6    | 13   | 16   | 6       | 53.81 | 383.60 |
| 2  | 2.00       | 4    | 16   | 6    | 5    | 20   | 7       | 81.01 | 350.60 |
| 3  | 2.00       | 11   | 18   | 8    | 22   | 21   | 9       | 48.27 | 342.68 |
| 4  | 2.00       | 7    | 17   | 7    | 10   | 20   | 8       | 60.40 | 371.54 |
| 5  | 2.00       | 3    | 14   | 6    | 3    | 17   | 7       | 43.36 | 242.77 |

Protocol# 1 - Swipe 2min.1sa

Serial# 423241

User: MorphochemSMT

|    |      |    |     |    |    |     |    |       |        |
|----|------|----|-----|----|----|-----|----|-------|--------|
| 6  | 2.00 | 4  | 10  | 5  | 7  | 12  | 6  | 50.02 | 329.27 |
| 7  | 2.00 | 4  | 17  | 4  | 3  | 21  | 4  | 77.58 | 380.38 |
| 8  | 2.00 | 8  | 13  | 4  | 14 | 16  | 5  | 58.58 | 433.70 |
| 9  | 2.00 | 20 | 68  | 15 | 26 | 82  | 17 | 51.48 | 367.48 |
| 10 | 2.00 | 30 | 73  | 16 | 54 | 89  | 18 | 47.48 | 305.55 |
| 11 | 2.00 | 37 | 222 | 27 | 9  | 272 | 32 | 76.19 | 378.04 |
| 12 | 2.00 | 6  | 16  | 6  | 7  | 19  | 6  | 75.09 | 413.64 |
| 13 | 2.00 | 3  | 19  | 6  | 0  | 23  | 6  | 68.10 | 376.94 |
| 14 | 2.00 | 6  | 15  | 5  | 10 | 18  | 6  | 49.03 | 414.76 |
| 15 | 2.00 | 5  | 15  | 3  | 6  | 18  | 4  | 60.35 | 370.02 |
| 16 | 2.00 | 4  | 17  | 5  | 3  | 20  | 5  | 63.71 | 433.34 |
| 17 | 2.00 | 3  | 14  | 4  | 1  | 17  | 4  | 75.03 | 456.50 |
| 18 | 2.00 | 4  | 17  | 3  | 4  | 21  | 4  | 64.96 | 276.77 |
| 19 | 2.00 | 5  | 15  | 5  | 8  | 18  | 5  | 68.00 | 393.21 |
| 20 | 2.00 | 5  | 15  | 2  | 7  | 17  | 2  | 52.80 | 408.02 |
| 21 | 2.00 | 11 | 17  | 4  | 19 | 20  | 4  | 56.82 | 404.43 |
| 22 | 2.00 | 7  | 12  | 4  | 14 | 14  | 5  | 60.37 | 395.42 |
| 23 | 2.00 | 10 | 16  | 6  | 18 | 19  | 8  | 68.53 | 361.17 |
| 24 | 2.00 | 5  | 17  | 3  | 7  | 21  | 4  | 57.31 | 313.17 |
| 25 | 2.00 | 3  | 19  | 3  | 0  | 23  | 3  | 79.45 | 364.50 |
| 26 | 2.00 | 5  | 14  | 4  | 6  | 17  | 5  | 74.45 | 408.26 |
| 27 | 2.00 | 3  | 10  | 4  | 5  | 11  | 5  | 61.79 | 422.14 |
| 28 | 2.00 | 5  | 14  | 8  | 7  | 17  | 9  | 51.43 | 342.80 |
| 29 | 2.00 | 7  | 14  | 3  | 12 | 17  | 3  | 55.01 | 389.80 |
| 30 | 2.00 | 3  | 14  | 5  | 1  | 17  | 6  | 74.97 | 368.84 |
| 31 | 2.00 | 7  | 14  | 4  | 12 | 17  | 5  | 75.49 | 395.09 |
| 32 | 2.00 | 5  | 14  | 4  | 6  | 17  | 4  | 71.47 | 434.00 |
| 33 | 2.00 | 6  | 14  | 8  | 9  | 17  | 9  | 49.27 | 338.52 |
| 34 | 2.00 | 5  | 17  | 5  | 6  | 21  | 6  | 62.61 | 363.25 |
| 35 | 2.00 | 4  | 17  | 3  | 4  | 21  | 4  | 68.53 | 340.46 |
| 36 | 2.00 | 7  | 10  | 5  | 12 | 11  | 5  | 54.49 | 407.48 |
| 37 | 2.00 | 2  | 13  | 5  | 1  | 16  | 5  | 63.45 | 278.15 |

not 6 min



Protocol# 1 - Swipe 2min.lsa

Serial# 423241

User: MorphochemSMT

|    |      |    |     |    |    |     |    |       |        |
|----|------|----|-----|----|----|-----|----|-------|--------|
| 38 | 2.00 | 6  | 13  | 7  | 11 | 15  | 8  | 65.72 | 390.79 |
| 39 | 2.00 | 7  | 16  | 5  | 10 | 19  | 5  | 59.16 | 380.31 |
| 40 | 2.00 | 3  | 13  | 6  | 2  | 16  | 6  | 58.69 | 363.27 |
| 41 | 2.00 | 4  | 14  | 9  | 6  | 17  | 10 | 55.37 | 278.04 |
| 42 | 2.00 | 3  | 10  | 5  | 3  | 12  | 6  | 62.66 | 384.92 |
| 43 | 2.00 | 2  | 14  | 5  | 1  | 17  | 5  | 80.20 | 345.50 |
| 44 | 2.00 | 4  | 14  | 5  | 6  | 17  | 6  | 49.60 | 276.29 |
| 45 | 2.00 | 27 | 200 | 29 | 0  | 244 | 35 | 76.76 | 407.17 |
| 46 | 2.00 | 5  | 11  | 5  | 9  | 13  | 6  | 62.93 | 389.99 |
| 47 | 2.00 | 3  | 16  | 4  | 2  | 19  | 5  | 74.59 | 433.65 |
| 48 | 2.00 | 38 | 115 | 27 | 47 | 138 | 31 | 49.62 | 428.64 |

All areas < 300 DPM.

6/28/02

DAK

OK 6/28/02

22-1811

PLACE STICKER AT TOP OF ENVELOPE TO THE RIGHT  
OF THE RETURN ADDRESS. FOLD AT DOTTED LINE

**CERTIFIED MAIL™**

9262



19406

**\$7.91**  
00047642



7004 2890 0002 3770 1187

Morphochem, Inc.  
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Monmouth Junction NJ 08852

US Nuclear Regulatory Commission Region 1  
Licensing Assistance Team  
Nuclear Materials Safety Branch  
475 Allendale Rd  
King of Prussia, PA 19406-1415

This is to acknowledge the receipt of your letter/application dated

8/8/2005, and to inform you that the initial processing which includes an administrative review has been performed.

☒ TEAM. 29-30442-01 There were no administrative omissions. Your application was assigned to a technical reviewer. Please note that the technical review may identify additional omissions or require additional information.

☐ Please provide to this office within 30 days of your receipt of this card

A copy of your action has been forwarded to our License Fee & Accounts Receivable Branch, who will contact you separately if there is a fee issue involved.

Your action has been assigned Mail Control Number 137497.  
When calling to inquire about this action, please refer to this control number.  
You may call us on (610) 337-5398, or 337-5260.