



DONALD DANFORTH  
PLANT SCIENCE CENTER

March 28, 2007  
Toye L. Simmons  
Materials Licensing Branch  
U.S. Nuclear Regulatory Commission  
Region III  
2443 Warrenville Road, Suite 210  
Lisle, IL 60532-4352

**Howard F. Beittenmiller**  
Radiation Safety Officer  
Donald Danforth Plant Science Center  
  
975 North Warson Road  
St. Louis, Missouri 63132

Re: Request for Amend License Number 24-32339-01  
Docket Number 030-35805

Dear Ms. Simmons,

Enclosed, please find Form 313 and attached pages requesting amendment of the Materials License No. 24-32339-01 issued to the Donald Danforth Plant Science Center. The amendment request addresses the following areas:

1. Please remove the following Authorized Users from License:  
Karel R. Schubert, Ph.D.  
Erik Nielsen, Ph.D.
2. Please add Meinhart H. Zenk, Ph. D. to License as Authorized User for All Materials and Uses. Dr. Zenk's Curriculum Vitae with relevant information is attached.
3. The Danforth Center will abolish the formal position of Assistant Radiation Safety Officer. In the absence of the Radiation Safety Officer, Assistant RSO responsibilities will be assumed by volunteer Radiation Safety Committee members.

Thank you very much for your help in this matter.

Sincerely,

Howard F. Beittenmiller  
Radiation Safety Officer  
Donald Danforth Plant Science Center

RECEIVED APR 02 2007

NRC FORM 313

(10-2005)

10 CFR 30, 32, 33,  
34, 35, 36, 39, and 40

## U.S. NUCLEAR REGULATORY COMMISSION

## APPLICATION FOR MATERIAL LICENSE

APPROVED BY OMB: NO. 3150-0120

EXPIRES: 10/31/2008

Estimated burden per response to comply with this mandatory collection request: 4.4 hours. Submittal of the application is necessary to determine that the applicant is qualified and that adequate procedures exist to protect the public health and safety. Send comments regarding burden estimate to the Records and FOIA/Privacy Services Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to [infocollects@nrc.gov](mailto:infocollects@nrc.gov), and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0120), 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.

**INSTRUCTIONS:** SEE THE APPROPRIATE LICENSE APPLICATION GUIDE FOR DETAILED INSTRUCTIONS FOR COMPLETING APPLICATION. SEND TWO COPIES OF THE ENTIRE COMPLETED APPLICATION TO THE NRC OFFICE SPECIFIED BELOW.

## APPLICATION FOR DISTRIBUTION OF EXEMPT PRODUCTS FILE APPLICATIONS WITH:

DIVISION OF INDUSTRIAL AND MEDICAL NUCLEAR SAFETY  
OFFICE OF NUCLEAR MATERIALS SAFETY AND SAFEGUARDS  
U.S. NUCLEAR REGULATORY COMMISSION  
WASHINGTON, DC 20555-0001

## ALL OTHER PERSONS FILE APPLICATIONS AS FOLLOWS:

## IF YOU ARE LOCATED IN:

ALABAMA, CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, FLORIDA, GEORGIA, KENTUCKY, MAINE, MARYLAND, MASSACHUSETTS, MISSISSIPPI, NEW HAMPSHIRE, NEW JERSEY, NEW YORK, NORTH CAROLINA, PENNSYLVANIA, PUERTO RICO, RHODE ISLAND, SOUTH CAROLINA, TENNESSEE, VERMONT, VIRGINIA, VIRGIN ISLANDS, OR WEST VIRGINIA, SEND APPLICATIONS TO:

LICENSING ASSISTANCE TEAM  
DIVISION OF NUCLEAR MATERIALS SAFETY  
U.S. NUCLEAR REGULATORY COMMISSION, REGION I  
475 ALLENDALE ROAD  
KING OF PRUSSIA, PA 19406-1415

## IF YOU ARE LOCATED IN:

ILLINOIS, INDIANA, IOWA, MICHIGAN, MINNESOTA, MISSOURI, OHIO, OR WISCONSIN, SEND APPLICATIONS TO:

MATERIALS LICENSING BRANCH  
U.S. NUCLEAR REGULATORY COMMISSION, REGION III  
2443 WARRENVILLE ROAD, SUITE 210  
LISLE, IL 60532-4352

ALASKA, ARIZONA, ARKANSAS, CALIFORNIA, COLORADO, HAWAII, IDAHO, KANSAS, LOUISIANA, MONTANA, NEBRASKA, NEVADA, NEW MEXICO, NORTH DAKOTA, OKLAHOMA, OREGON, PACIFIC TRUST TERRITORIES, SOUTH DAKOTA, TEXAS, UTAH, WASHINGTON, OR WYOMING, SEND APPLICATIONS TO:

NUCLEAR MATERIALS LICENSING BRANCH  
U.S. NUCLEAR REGULATORY COMMISSION, REGION IV  
611 RYAN PLAZA DRIVE, SUITE 400  
ARLINGTON, TX 76011-4005

PERSONS LOCATED IN AGREEMENT STATES SEND APPLICATIONS TO THE U.S. NUCLEAR REGULATORY COMMISSION ONLY IF THEY WISH TO POSSESS AND USE LICENSED MATERIAL IN STATES SUBJECT TO U.S. NUCLEAR REGULATORY COMMISSION JURISDICTIONS.

## 1. THIS IS AN APPLICATION FOR (Check appropriate item)

☐

A. NEW LICENSE

☒

B. AMENDMENT TO LICENSE NUMBER 24-32339-01

☐

C. RENEWAL OF LICENSE NUMBER

## 2. NAME AND MAILING ADDRESS OF APPLICANT (Include ZIP code)

Donald Danforth Plant Science Center  
975 North Warson Road  
St. Louis, Missouri 63132

## 3. ADDRESS WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED

Donald Danforth Plant Science Center  
975 North Warson Road  
St. Louis, Missouri 63132

## 4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION

Howard F. Beittenmiller, Radiation Safety Officer

## TELEPHONE NUMBER

(314) 587-1051

SUBMIT ITEMS 5 THROUGH 11 ON 8-1/2 X 11" PAPER. THE TYPE AND SCOPE OF INFORMATION TO BE PROVIDED IS DESCRIBED IN THE LICENSE APPLICATION GUIDE.

## 5. RADIOACTIVE MATERIAL

a. Element and mass number; b. chemical and/or physical form; and c. maximum amount which will be possessed at any one time.

## 6. PURPOSE(S) FOR WHICH LICENSED MATERIAL WILL BE USED.

## 7. INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING EXPERIENCE.

## 8. TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS.

## 9. FACILITIES AND EQUIPMENT.

## 10. RADIATION SAFETY PROGRAM.

## 11. WASTE MANAGEMENT.

## 12. LICENSE FEES (See 10 CFR 170 and Section 170.31)

FEE CATEGORY 3M

AMOUNT  
ENCLOSED \$

13. CERTIFICATION. (Must be completed by applicant) THE APPLICANT UNDERSTANDS THAT ALL STATEMENTS AND REPRESENTATIONS MADE IN THIS APPLICATION ARE BINDING UPON THE APPLICANT.

THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATION ON BEHALF OF THE APPLICANT, NAMED IN ITEM 2, CERTIFY THAT THIS APPLICATION IS PREPARED IN CONFORMITY WITH TITLE 10, CODE OF FEDERAL REGULATIONS, PARTS 30, 32, 33, 34, 35, 36, 39, AND 40, AND THAT ALL INFORMATION CONTAINED HEREIN IS TRUE AND CORRECT TO THE BEST OF THEIR KNOWLEDGE AND BELIEF.

WARNING: 18 U.S.C. SECTION 1001 ACT OF JUNE 25, 1948 62 STAT. 749 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.

## CERTIFYING OFFICER - TYPED/PRINTED NAME AND TITLE

Roger N. Beachy, Ph.D., President

## SIGNATURE

*Roger N. Beachy*

## DATE

3/5/07

## FOR NRC USE ONLY

TYPE OF FEE	FEE LOG	FEE CATEGORY	AMOUNT RECEIVED	CHECK NUMBER	COMMENTS
			\$		
APPROVED BY				DATE	

**Professor Meinhart H. Zenk**  
**Member**  
**Donald Danforth Plant Science Center**  
**St. Louis, Missouri**

**Employment and Record of Radioisotope Use**

2006-                    Member, Donald Danforth Plant Science Center, St. Louis, MO

1999-2006            Honorary Professor  
University of Halle-Wittenberg Biocenter  
Halle, Germany

Isotope Use:

<sup>33</sup>P: DNA labeling/hybridization

<sup>14</sup>C: Enzyme assays, feeding experiments

<sup>3</sup>H: Synthesis, product isolation

Training:

Institutional Radiation Safety Training

Annual Refresher Radiation Safety Training

Supervision:

Responsible for graduate students, technicians, post-doctoral fellows,  
scientific guests.

1980-1999            Full Professor and Department Head  
Department of Pharmaceutical Biology  
University of Munich  
Munich, Germany

Isotopes Used:

<sup>35</sup>S; Phytochelatin metabolism

<sup>33</sup>P: DNA labeling/hybridization

<sup>14</sup>C: Radiochemical synthesis, feeding experiments

<sup>3</sup>H: Radiochemical synthesis, feeding experiments, enzyme assays

Training:

Institutional Radiation Safety Training

Supervision:

Responsible for graduate students, technicians, post-doctoral fellows,  
undergraduate biochemistry laboratory course.

**Professor Meinhart H. Zenk**  
**Member**  
**Donald Danforth Plant Science Center**  
**St. Louis, Missouri**

- 1968-1980      Full Professor and Department Head  
Department of Plant Physiology  
The Ruhr University  
Bochum, Germany
- Director of the Central Isotope Laboratory of the university  
Responsible for the departmental isotope laboratory
- Isotopes Used:  
<sup>32</sup>P: Metabolic studies  
<sup>14</sup>C: Synthesis and plant precursor feeding  
<sup>3</sup>H: Enzyme assays and plant precursor feeding
- Training:  
Taught Biology Department training course on safe use & handling of radioactive materials
- Supervision:  
Responsible for graduate students, technicians, post-doctoral fellows, scientific guests.
- 1959-1968      Assistant  
Botany Department  
University of Munich  
Munich, Germany
- Established the first radioisotope laboratory in a biology department of a German university in 1960
- Isotopes Used:  
<sup>14</sup>C: Precursor synthesis, plant feeding, isolation and degradation of radioactive plant metabolites  
<sup>3</sup>H: Precursor synthesis, plant feeding, isolation and degradation of radioactive plant metabolites
- Training:  
Teaching safe use & handling of radioactive materials
- Supervision:  
Doctoral students
- 1956-1959      Graduate student  
Department of Biology / Horticulture  
Purdue University  
West Lafayette, IN

**Professor Meinhart H. Zenk**  
**Member**  
**Donald Danforth Plant Science Center**  
**St. Louis, Missouri**

Isotope Used:

$^{14}\text{C}$ : Enzyme assays, feeding experiments in animals and plants,  
photosynthesis, radioactive metabolite isolation and degradation for  
elucidation of labeling pattern

Training:

Graduate courses on the use of isotopes in biology and safety training

Supervision:

None

FOR PICKUP CALL 1-800-222-1811

DOMESTIC USE ONLY



PRIORITY  
MAIL



US POSTAGE

\$ 04.55

FIRST CLASS

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03/28/2007

031A 0002307467

HOW TO USE:



1. COMPLETE ADDRESS LABEL AREA

Type or print required return address  
and addressee information.



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