

APPLICATION FOR BYPRODUCT MATERIAL LICENSE  
INDUSTRIAL

- ☒ a. NEW LICENSE  
☐ b. AMENDMENT TO:  
LICENSE NUMBER  
☐ c. RENEWAL OF:  
LICENSE NUMBER  
22-09816-01 (expired)

See attached instructions for details.

Completed applications are filed in duplicate with the Division of Fuel Cycle and Material Safety, Office of Nuclear Material Safety, and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555 or applications may be filed in person at the Commission's office at 1717 H Street, NW, Washington, D. C. or 7915 Eastern Avenue, Silver Spring, Maryland.

2. APPLICANT'S NAME (Institution, firm, person, etc.)  
Dr. Marvin Formo Cargill Research  
612/475-6452  
TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION

3. NAME OF PERSON TO BE CONTACTED REGARDING THIS APPLICATION  
Dr. Marvin Formo  
TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION  
612/475-6452

4. APPLICANT'S MAILING ADDRESS (Include Zip Code)  
Cargill Research  
Analytical Department  
2301 Crosby Road  
Wayzata, MN 55391

5. STREET ADDRESS WHERE LICENSED MATERIAL WILL BE USED  
(Include Zip Code)  
2301 Crosby Road  
Wayzata, MN 55391

(IF MORE SPACE IS NEEDED FOR ANY ITEM, USE ADDITIONAL PROPERLY KEYED PAGES.)

6. INDIVIDUAL(S) WHO WILL USE OR DIRECTLY SUPERVISE THE USE OF LICENSED MATERIAL  
(See Items 16 and 17 for required training and experience of each individual named below)

FULL NAME	TITLE
a. Dr. Marvin Formo PhD Chemistry	Manager- Research Analytical
b. Stephan C. Anderson BA Chemistry	Section Leader- Instrumental Analysis
c.	

7. RADIATION PROTECTION OFFICER  
Dr. Marvin Formo  
Attach a resume of person's training and experience as outlined in Items 16 and 17 and describe his responsibilities under Item 15.

8. LICENSED MATERIAL

L I N E  NO.	ELEMENT AND MASS NUMBER  A	CHEMICAL AND/OR PHYSICAL FORM  B	NAME OF MANUFACTURER AND MODEL NUMBER (If Sealed Source)  C	MAXIMUM NUMBER OF MILLICURIES AND/OR SEALED SOURCES AND MAXIMUM ACTI- VITY PER SOURCE WHICH WILL BE POSSESSED AT ANY ONE TIME  D
(1)	Tritium	Scandium Tritide	Analog Technology	1 Curie <sup>3</sup> H
(2)	Tritium	Scandium Tritide	Analog Technology Model 140	1 Curie <sup>3</sup> H
(3)	<sup>63</sup> Ni	Nickel Metal	Varian EC 02-001972-00	8 millicuries
(4)				

DESCRIBE USE OF LICENSED MATERIAL  
E

- (1) All radioactive materials are used as integral components of gas  
(2) chromatographic electron capture detectors. All are sealed sources.

(3)  
(4) 7948880581 477.

JUN 10 1978

Control No. 01882

# INFORMATION REQUIRED FOR ITEMS 15, 16 AND 17

Describe in detail the information required for Items 15, 16 and 17. Begin each item on a separate page and key to the application as follows:

15. RADIATION PROTECTION PROGRAM. Describe the radiation protection program as appropriate for the material to be used including the duties and responsibilities of the Radiation Protection Officer, control measures, bioassay procedures *(if needed)*, day-to-day general safety instruction to be followed, etc. If the application is for sealed source's also submit leak testing procedures, or if leak testing will be performed using a leak test kit, specify manufacturer and model number of the leak test kit.
16. FORMAL TRAINING IN RADIATION SAFETY. Attach a resume for each individual named in Items 6 and 7. Describe individual's formal training in the following areas where applicable. Include the name of person or institution providing the training, duration of training, when training was received, etc.
  - a. Principles and practices of radiation protection.
  - b. Radioactivity measurement standardization and monitoring techniques and instruments.
  - c. Mathematics and calculations basic to the use and measurement of radioactivity.
  - d. Biological effects of radiation.
17. EXPERIENCE. Attach a resume for each individual named in Items 6 and 7. Describe individual's work experience with radiation, including where experience was obtained. Work experience or on-the-job training should be commensurate with the proposed use. Include list of radioisotopes and maximum activity of each used.

## 18. CERTIFICATE

*(This item must be completed by applicant)*

*The applicant and any official executing this certificate on behalf of the applicant named in Item 2, certify that this application is prepared in conformity with Title 10, Code of Federal Regulations, Part 30, and that all information contained herein, including any supplements attached hereto, is true and correct to the best of our 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.

<p>a. LICENSE FEE REQUIRED (See Section 170.31, 10 CFR 170)</p> <p>\$110.00</p>	<p>b. CERTIFYING OFFICIAL <i>(Signature)</i></p> <p><i>Marvin W. Formo</i></p> <p>c. NAME <i>(Type or print)</i></p> <p>Marvin W. Formo</p>
<p>(1) LICENSE FEE CATEGORY: 170.31 Section 3 Subsection L.</p>	<p>d. TITLE</p> <p>Manager/ Research Analytical</p>
<p>(2) LICENSE FEE ENCLOSED: \$ 110.00</p>	<p>e. DATE</p> <p>6/11/79</p>

Item 15 Radiation Protection Officer. The duties of the radiation protection officer will be to supervise the use of the forementioned radiation sources and to assure their safe use. The duties will include conducting wipe tests each six month period.

Item 16 NA

Item 17 Dr. Marvin Formo- Over 20 years experience in using sealed radiation sources. This experience was obtained at Ashland Chemical and Cargill.

Stephan C. Anderson- Over 10 years experience in working with electron capture detectors. Experience also includes extensive work with both <sup>14</sup>C and <sup>3</sup>H labelled compounds as used in metabolism research. This experience was obtained at the 3M Company.