

1. APPLICATION FOR:
(Check and/or complete as appropriate)

APPLICATION FOR BYPRODUCT MATERIAL LICENSE
INDUSTRIAL

a. NEW LICENSE

b. AMENDMENT TO:
LICENSE NUMBER
22-00519-06

c. RENEWAL OF:
LICENSE NUMBER

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 7015 Eastern Avenue, Silver Spring, Maryland.

2. APPLICANT'S NAME (Institution, firm, person, etc.)

Mayo Clinic

TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION
(507) 284-4400

3. NAME OF PERSON TO BE CONTACTED REGARDING THIS APPLICATION

Alan L. Orvis

TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION
(507) 284-7183

4. APPLICANT'S MAILING ADDRESS (Include Zip Code)

Radiation Safety Office
Rochester, MN 55905

5. STREET ADDRESS WHERE LICENSED MATERIAL WILL BE USED (Include Zip Code)

Mayo Clinic
Rochester, MN 55905

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

Richard G. Evans, M.D.

Consultant in Therapeutic Radiology

7. RADIATION PROTECTION OFFICER

Attach a resume of person's training and experience as outlined in items 16 and 17 and describe his responsibilities under item 15.

Alan LeRoy Orvis

8. LICENSED MATERIAL

LINE NO.	ELEMENT AND MASS NUMBER	CHEMICAL AND/OR PHYSICAL FORM	NAME OF MANUFACTURER AND MODEL NUMBER (If Sealed Source)	MAXIMUM NUMBER OF MILLICURIES AND/OR SEALED SOURCES AND MAXIMUM ACTIVITY PER SOURCE WHICH WILL BE POSSESSED AT ANY ONE TIME
1	137-Cesium	Sealed Source	J.L. Shepherd Assoc. 1050 Ci	
(2)			Series 143-45	
(3)				
(4)				

DESCRIBE USE OF LICENSED MATERIAL
E

1. Irradiation of blood and blood components

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.

See attached sheet

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.

See below

- 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.

Richard G. Evans: See applications dated August 17, 1979, and December 28, 1979, Re amendment to 22-00519-06.

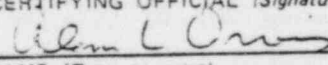
Alan L. Orvis: See 22-00519-03 renewal application dated August 25, 1978.

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.

a. LICENSE FEE REQUIRED <i>(See Section 170.31, 10 CFR 170)</i> \$40.00	b. CERTIFYING OFFICIAL <i>(Signature)</i> 
	c. NAME <i>(Type or print)</i> Alan L. Orvis
(1) LICENSE FEE CATEGORY: 7.B. (amendment)	d. TITLE Radiation Safety Officer
(2) LICENSE FEE ENCLOSED: \$40.00	e. DATE May 21, 1981