

UNITED STATES ATOMIC ENERGY COMMISSION
APPLICATION FOR BYPRODUCT MATERIAL LICENSE

INSTRUCTIONS.—Complete Items 1 through 16 if this is an initial application or an application for renewal of a license. Information contained in previous applications filed with the Commission with respect to Items 8 through 15 may be incorporated by reference provided references are clear and specific. Use supplemental sheets where necessary. Item 16 must be completed on all applications. Mail two copies to: U.S. Atomic Energy Commission, Washington, D.C., 20545, Attention: Isotopes Branch, Division of Materials Licensing. Upon approval of this application, the applicant will receive an AEC Byproduct Material License. An AEC Byproduct Material License is issued in accordance with the general requirements contained in Title 10, Code of Federal Regulations, Part 30, and the Licensee is subject to Title 10, Code of Federal Regulations, Part 20.

1. (a) NAME AND STREET ADDRESS OF APPLICANT. (Institution, firm, hospital person, etc. Include ZIP Code.)

The Harshaw Chemical Company
1945 East 97th Street
Cleveland, Ohio 44106

(b) STREET ADDRESS(ES) AT WHICH BYPRODUCT MATERIAL WILL BE USED. (If different from 1(a). Include ZIP Code.)

2. DEPARTMENT TO USE BYPRODUCT MATERIAL

Instrumental-Analytical

3. PREVIOUS LICENSE NUMBER(S). (If this is an application for renewal of a license, please indicate and give number.)

34-6558

4. INDIVIDUAL USER(S). (Name and title of individual(s) who will use or directly supervise use of byproduct material. Give training and experience in Items 8 and 9.)

Harry Richard Garner

5. RADIATION PROTECTION OFFICER. (Name of person designated as radiation protection officer if other than individual user. Attach resume of his training and experience as in Items 8 and 9.)

6. (a) BYPRODUCT MATERIAL. (Elements and mass number of each.)

Hydrogen (3)

(b) CHEMICAL AND/OR PHYSICAL FORM AND MAXIMUM NUMBER OF MILLICURIES OF EACH CHEMICAL AND/OR PHYSICAL FORM THAT YOU WILL POSSESS AT ANY ONE TIME. (If sealed source(s), also state name of manufacturer, model number, number of sources and maximum activity per source.)

Titanium Tritide coated on .001 thick stainless steel foil. Total activity not to exceed 250 millicuries per detector - (500 - we will have a spare).

7. DESCRIBE PURPOSE FOR WHICH BYPRODUCT MATERIAL WILL BE USED. (If byproduct material is for "human use," supplement A (Form AEC-313a) must be completed in lieu of this item. If byproduct material is in the form of a sealed source, include the make and model number of the storage container and/or device in which the source will be stored and/or used.)

Foils or sources are incorporated in an electron capture detector manufactured by Wilkens Instrument and Research, Inc. and will be used in Research.

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TRAINING AND EXPERIENCE OF EACH INDIVIDUAL NAMED IN ITEM 4 (Use supplemental sheets if necessary)

B. TYPE OF TRAINING	WHERE TRAINED	DURATION OF TRAINING	ON THE JOB (Circle answer)	FORMAL COURSE (Circle answer)
a. Principles and practices of radiation protection	Kent State University		Yes No	Yes No XX
b. Radioactivity measurement standardization and monitoring techniques and instruments	" " "	Course in	Yes No	Yes No XX
c. Mathematics and calculations basic to the use and measurement of radioactivity	" " "	Physics	Yes No	Yes No XX
d. Biological effects of radiation	" " "		Yes No	Yes No XX

9. EXPERIENCE WITH RADIATION. (Actual use of radioisotopes or equivalent experience.)

ISOTOPE	MAXIMUM AMOUNT	WHERE EXPERIENCE WAS GAINED	DURATION OF EXPERIENCE	TYPE OF USE
50 KV X-Ray Radiation	200 r/min intensity	Harshaw Chemical Co.	1958--1968	Analytical X-ray diffraction and fluorescence

10. RADIATION DETECTION INSTRUMENTS. (Use supplemental sheets if necessary.)

TYPE OF INSTRUMENTS (Include make and model number of each)	NUMBER AVAILABLE	RADIATION DETECTED	SENSITIVITY RANGE (mr/hr)	WINDOW THICKNESS (mg/cm ²)	USE (Monitoring, surveying, measuring)
Not required due to type of material being requested.					

11. METHOD, FREQUENCY, AND STANDARDS USED IN CALIBRATING INSTRUMENTS LISTED ABOVE.

Same as Item 10.

12. FILM BADGES, DOSIMETERS, AND BIO-ASSAY PROCEDURES USED. (For film badges, specify method of calibrating and processing, or name of supplier.)

Not applicable

INFORMATION TO BE SUBMITTED ON ADDITIONAL SHEETS IN DUPLICATE

13. FACILITIES AND EQUIPMENT. Describe laboratory facilities and remote handling equipment, storage containers, shielding, fume hoods, etc. Explanatory sketch of facility is attached. (Circle answer) Yes No See attached

14. RADIATION PROTECTION PROGRAM. Describe the radiation protection program including control measures. If application covers sealed sources, submit leak testing procedures where applicable, name, training, and experience of person to perform leak tests, and arrangements for performing initial radiation surveying, maintenance and repair of the source. See attached

15. WASTE DISPOSAL. If a commercial waste disposal service is employed, specify name of company. Otherwise, submit detailed description of methods which will be used for disposing of radioactive wastes and estimates of the type and amount of activity involved. See attached.

CERTIFICATE (This item must be completed by applicant)

16. THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATE ON BEHALF OF THE APPLICANT NAMED IN ITEM 1, 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.

Date July 25, 1968



The Harshaw Chemical Company

Applicant named in item 1

By: Doreen E. Smith

Security Officer
Title of certifying official

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 or to any officer within its jurisdiction.



The Harshaw Chemical Company

DIVISION OF KEWAWEE OIL COMPANY

1945 EAST 97th STREET
CLEVELAND, OHIO 44106
Telephone: 216 • 721-6300

July 25, 1968

- Item 13 "Facilities and Equipment". The company maintains a series of laboratory rooms for research and development work and routine chemical analyses. One area will be set aside in which the foils, referenced in this application, will be utilized. Traffic in and out of the laboratory will be kept to a minimum and only persons named in Item 4 of this application will work with the material requested in this application. At present, because of the material requested, no plans have been formulated for any remote handling, equipment storage tanks, shielding, or fume hoods, normally associated with by-product material will be properly labeled.
- Item 14 "Radiation Protection Program". The individual user is familiar through his training on the handling of by-product material. When the material is not being used it will be kept in a locked fireproof storage file.
- Item 15 "Waste Disposal". No waste is anticipated for the material subject to this application; however, if it is necessary to dispose of this material, we will either return the material to the vendor, Wilkens Instrument and Research, Inc., or to a commercial waste disposal organization operating in this area.