

Form AEC-313
(5-58)

ATOMIC ENERGY COMMISSION

Form approved
Budget Bureau No. 38-R027.4

APPLICATION FOR BYPRODUCT MATERIAL LICENSE

INSTRUCTIONS.—Complete Items 1 through 16 if this is an initial application. If application is for renewal of a license, complete only Items 1 through 7 and indicate new information or changes in the program as requested in Items 8 through 15. Use supplemental sheets where necessary. Item 16 must be completed on all applications. Mail three copies to: U. S. Atomic Energy Commission, Washington 25, D. C. Attention: Isotopes Branch, Division of Licensing and Regulation. 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.)

MONSANTO CHEMICAL CO.
800 No. Lindbergh
St. Louis 66, Mo.

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

800 No. Lindbergh
St. Louis 66, Mo.

2. DEPARTMENT TO USE BYPRODUCT MATERIAL

Instrument Analytical Laboratory

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

34-825-8 (C62)

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.)

Donald R. Beasecker
D. B. Sharpe

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.)

William A. White

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

SR-90

(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.)

SR SO₄ 60 MC Three Sealed Sources

Manufacturer: Barber-Colman Co. (No A-4145)

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.)

Material to be supplied as ionization detector in
Barber-Colman Model 10 and 20 Capillary Chromatograph

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DUPLICATED
FOR DIV. OF COMPLIANCE

(Continued on reverse side)

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PDR FOIA
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Training and Experience of Each Individual Named in 4

Mr. D. R. Beasecker is Group Leader of the Instrumental Analytical Laboratory. He has had limited experience working with radioactive materials having performed spectrographic analyses of such materials for the Manhattan District Project in 1945-46. During that time he had "on-the-job" training re (a) principles and practices of radiation protection, (b) radioactive measurement and monitoring techniques, and (c) biological effects of radiation.

He has no formal radiochemical or radiation training. His chemical training is as follows:

B. S. and M. S. Analytical Chemistry	1940 and 1942
Michigan State University	
Monsanto Chemical Company	6/42 to Present
Analytical Control	6/42 to 3/44
Analytical Research	3/44 to 4/59
Group Leader	4/59 to Present

He will study and comply with Title No. 10, Code of Federal Regulation, Parts 20 and 30. In addition, he will acquire the necessary background on current principles and practices of radiation protection. He will consult with the Radioisotope Group and Safety Director at Monsanto to establish working rules.

Mr. D. B. Sharpe has no formal training.

Supplement to AEC 313, Question No. 9

Experience with Radiation

Mr. Beasecker has performed emission-spectrographic analyses on a variety of materials for the Manhattan District project. Principle among these was polonium. The work involved impurity checks and fundamental studies of the polonium spectrum.

Mr. Sharpe has performed emission spectrographic analyses on various materials. His work involved impurity checks and fundamental studies.

Second Street Radio Counting Equipment to move to Radio Counting Room - S-Building per Gino Marco's telephone conversation of 6-9-61

<u>Type of Instruments</u>	<u>Number Available</u>	<u>Radiation Detected</u>	<u>Sensitivity Range</u>	<u>Window Thickness</u>	<u>Use</u>
* SC6C Automatic Sample Changer - TracerLab Co.	1	B	1000 c/m	Gas Flow	Measuring
* Autoscaler Sample Changer Tracerlab Co.	1	B			
* Tracergraph - Tracerlab	1	B			
SC9D Shielded Manual Sample Changer - Tracerlab	1	B	1000 c/m	2 mg/cm ²	Measuring
Precision Rate Meter Tracerlab	1	B	1000 c/m	2 mg/cm ²	Measuring
1228 Timer Unit Multi-scaler - Atomic Instrument Company	1	B	1000 c/m	2 mg/cm ²	Measuring

*These three instrument all fit together into one unit

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Supplement to AEC 313, Question 13

Facilities and Equipment

A separate laboratory for radio-counting experiments is available adjacent to the instrumental analytical laboratory on the 3rd floor of the "S" Building, St. Louis 66.

This radio-counting laboratory will be under the supervision of Mr. W. S. Coakley who has had experience in this field through his employment at Mound Laboratories, Miamisburg, Ohio. The laboratory will contain the conventional equipment to insure safety, i. e., hoods, shields, tongs, etc.

Supplement to AEC 313, Question 14

Radiation Protection Program

Monthly swipe tests will be made with wet Kleenex tissues at outlet posts and accessible areas around the source. These will be submitted to the Radioisotope Group for assay. In addition, surveys of the area will be made initially and at other times if warranted by swipe tests. Swipe tests will be made under D. R. Beasecker's supervision. Records of the swipe tests will be maintained by the Safety Director's Assistant, W. A. White.

A "Caution, Radioactive Material" sign with magenta letters on a yellow background will be posted in the area. A "Caution, Radioactive Materials" tag will be applied to the apparatus containing the sealed Sr-90 source. The date and quantity of the Sr-90 will be noted on the tag or a separate adjacent tag. In addition, all tags pertaining to the Sr-90 and AEC regulations will not be removed from the sealed source.

If swipe tests indicate a leaking Sr-90 source, all operations with the gas chromatograph instrument will cease. The instrument will be transported to the "radio-counting" laboratory and the Sr-90 source removed. The source will be placed in a metal can, sealed, and transferred to the manufacturer, the Barber-Colman Co., for repair.

Supplement to AEC 313, Question 15

Waste Disposal

In the event of a leaking Sr-90 source, the instrument and area will be decontaminated. Low level wastes not exceeding 0.1 mc Sr-90 will be buried. If wastes exceed 0.1 mc, then all wastes will be transferred to a commercial disposal firm for proper waste disposal.