



MELPAR, INC.

A SUBSIDIARY OF WESTINGHOUSE AIR BRAKE COMPANY

7700 ARLINGTON BOULEVARD, FALLS CHURCH, VIRGINIA 22046 • AREA CODE 703 • 534-6000

6/4/68

14 August 1968

U. S. Atomic Energy Commission
Washington, D. C. 20545

Attention: Isotopes Branch
Division of Materials Licensing

Re: Byproduct Material License #45-07548-01
Supplementary Application

Gentlemen:

Enclosed herewith find supplementary application, executed in duplicate, requesting an amendment to the above license.

This amendment requests the addition of Chromium 51 to the authorized byproduct materials in our license. It also requests that the use of byproduct materials be extended to our Rockville, Maryland facility.

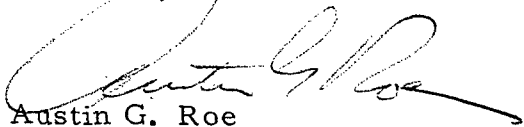
In addition, we are requesting R. G. Nemchin be added as an individual user of byproduct materials.

The following individual users have either left the Company or are no longer using byproduct materials and should be deleted from our license: W. R. DeBoskey, V. J. DeCarlo and A. D. McMaster.

If there is any further information you desire, we will be pleased to furnish it.

Very truly yours,

MELPAR, INC.


Austin G. Roe
Secretary and House Counsel

Enclosure
DUPLICATED
FOR DIV. OF COMPLIANCE

Information on this record was deleted
in accordance with the Freedom of Information
Act, exemptions 4
FOIA- 1009-0831

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Form AEC-313 8-64 10 CFR 30	SUPPLEMENTARY APPLICATION FOR BYPRODUCT MATERIAL LICENSE	Form approved. Budget Bureau No. 38-R027
<p>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.</p>		
1. (a) NAME AND STREET ADDRESS OF APPLICANT. (Institution, firm, hospital, person, etc. Include ZIP Code.) Melpar, Inc. 7700 Arlington Boulevard Falls Church, Virginia 22046		(b) STREET ADDRESS(ES) AT WHICH BYPRODUCT MATERIAL WILL BE USED. (If different from 1 (a). Include ZIP Code.) 1. 7700 Arl. Blvd., Falls Church, Va. 2. Melpar Shirley Research Plant, Shirley Industrial Area, Springfield, Va. 3. Melpar Rockville Plant, 2501 Research Blvd., Rockville, Maryland 20850
2. DEPARTMENT TO USE BYPRODUCT MATERIAL Research	3. PREVIOUS LICENSE NUMBER(S). (If this is an application for renewal of a license, please indicate and give number.) #45-07548-01	
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.) ADD to list of individual users: Robert G. Nemchin	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.) No change	
6. (a) BYPRODUCT MATERIAL. (Elements and mass number of each.) ADD as new subitem Q of item 6 of existing license: Q. Chromium 51	(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.) ADD as new subitem Q of Items 7 & 8 of existing license: Q. Sodium Chromate in aqueous solution - 10 m. c.	
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.) ADD as new subitem Q of Item 9 of existing license: Q. Red blood cell survival determinations using ⁵¹ Cr labeled RBC (Na ₂ ⁵¹ CrO ₄) in vivo (non-human). AMEND subitem O. of Item 9 of existing license to include: Use as a Tracer in labeling proteins for in vivo (non-human) research studies. AMEND subitem P. of Item 9 of existing license to include: In vivo (non-human) plasma volume determinations with Iodine 131 labeled plasma proteins.		

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

8. TYPE OF TRAINING	WHERE TRAINED	DURATION OF TRAINING	ON THE JOB (Circle answer)	FORMAL COURSE (Circle answer)
a. Principles and practices of radiation protection	See attached sheet #1		Yes No	Yes No
b. Radioactivity measurement standardization and monitoring techniques and instruments			Yes No	Yes No
c. Mathematics and calculations basic to the use and measurement of radioactivity			Yes No	Yes No
d. Biological effects of radiation			Yes No	Yes No

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

ISOTOPE	MAXIMUM AMOUNT	WHERE EXPERIENCE WAS GAINED	DURATION OF EXPERIENCE	TYPE OF USE
		See attached sheet #1		

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) ^{60}Co	WINDOW THICKNESS (mg/cm ²)	USE (Monitoring, surveying, measuring)
Add to those listed in existing license: Geiger Counter, Eberline Model E-120 with speaker and Model HP 190 hand probe	2	Beta, Gamma	~1400 C.P. M. per mR/hr. Range is 0 to 0.5, 5.0, and 50 mR/hr full scale	1.4 to 2.0 mg/cm ²	Monitoring and surveying

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

No change

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

Change film badge supplier to Eberline Instrument Corp.

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 **Melpar Rockville Plant - see attached sheets #2 & 3**
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 survey, servicing, maintenance and repair of the source. **No change**
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 sheet # 4**

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 14 August 1968

MELPAR, INC.

Applicant named in Item 1

By:

R. B. Power

Vice President, Research

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 as to any matter within its jurisdiction.

ROBERT G. NEMCHIN

Data with Respect to Training and Experience
(Reference: Items 8 & 9, Form AEC-313)

Item 8.

Robert G. Nemchin, Senior Chemist

B.A. - Biochemistry, Hofstra University

M.S. - Physical Biochemistry, Long Island University

<u>Type of Training</u>	<u>Where</u>	<u>Duration</u>	<u>On the Job</u>	<u>Formal Course</u>
a) Principles.....	Long Island Univ.	1/2 yr.	no	yes
b) Radioactivity ..	Long Island Univ. Sloan-Kettering Institute for Cancer Research	1/2 yr.	yes	yes
c) Mathematics...	Long Island Univ. Sloan-Kettering Institute for Cancer Research	1/2 yr.	yes	yes
d) Biological.....	Long Island Univ.	1/2 yr.	no	yes

Item 9.

Experience with Radiation

<u>Isotope</u>	<u>Max. Amt.</u>	<u>Where</u>	<u>Duration</u>	<u>Type of Use</u>
P ³²	60 uc	Sloan-Kettering Inst.	4 months	Metabolic
H ³	10 uc	Sloan-Kettering Inst.	3 months	studies;
C ¹⁴	10 uc	Long Island Univ.	6 months	synthesis of
S ³⁵	10 uc	Sloan-Kettering Inst.	4 months	biological macromolecules

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Item 13. Facilities and Equipment

Rockville Research Plant

For the periodic radioisotope studies to be performed at Melpar's Rockville Research Facility, a portion of the chemistry laboratory, approximately 10' x 10' square, has been provided. In this area are benches with quarry stone tops, asphalt tile floor and a fume hood equipped with a sink and utilities. A space below the hood has been selected for placement of lead brick enclosures for storage of radioactive solutions. Radioisotopes will be transported from the chemical laboratory to the surgical area and returned in lead containers. The surgical area is in close proximity to the designated radioisotope area in the chemical laboratory. A floor plan of the laboratory is attached.

The chemistry laboratory is locked at all times except during actual use by authorized personnel. These personnel report directly to the "Licensed User," who has been assigned responsibility for controlling access to the room.

Equipment in the Chemistry Laboratory which are pertinent to the utilization and control of radioisotopes include the following:

1. Radioisotope storage area; lead bricks and shielded carrying case.
2. Fume hood.
3. Stainless steel waste containers with plastic bags for dry wastes.
4. Siemens gamma-spectrometer (Crystalloflex IV).
5. Baird-Atomic 810B well-type scintillation detector.
6. Remote pipettes.

(b)(4)

Item 15. Waste Disposal

AMEND paragraph C. 3. (first sentence) to read:

3. Solid radioactive material, including research animal carcasses, will be disposed of through an AEC-approved disposal service.