

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.) CHEMAGRO AGRICULTURAL DIVISION OF MOBAY CHEMICAL CORPORATION (Changed from Chemagro, A Division of Baychem Corporation)	(b) STREET ADDRESS(ES) AT WHICH BYPRODUCT MATERIAL WILL BE USED (If different from 1 (a). Include ZIP Code.) No Change
2. DEPARTMENT TO USE BYPRODUCT MATERIAL Manufacturing Department (Cs 137 only) Research Dept. will continue use of Items A, -H in Item 6 of license	3. PREVIOUS LICENSE NUMBER(S). (If this is an application for renewal of a license, please indicate and give number.) Current License No. 24-03830-01
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.) License to be amended to add: Edward H. McLees	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.) License to be amended to add: I. Cesium 137 J. Cesium 137 K. Cesium 137	(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.) 2 sealed sources 50 mCi each Ohmart Model A2102 2 sealed sources 20 mCi each Ohmart Model A2102 1 sealed source 300 mCi each Ohmart Model A2102
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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.)

I. to be used in two (2) Ohmart Model SHLG-1 source holders for detection of level in 80" diameter vessels with 0.25 inch walls.

J. to be used in two (2) Ohmart Model Sr-1 source holders for detection of level in 32" diameter vessels with 0.25 inch walls.

K. to be used in one (1) Ohmart Model SHLG-1 source holder for detection of level in 60" diameter vessel with 1.0 inch walls.

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24-03830-01 PDR

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	Mr. McLees received courses on Radiation safety and on the principles, use and maintenance of the gages - see attachment.		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	Additional training (2-3 days) will be provided by Ohmart representative at time of installation of the devices.		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
None				

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)
None required. Ohmart representative will make radiation survey and occupancy evaluation at time of installation of the devices.					

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

Not applicable, see Item 10.

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

None expected to be required. No 100 mr/hr field will exist external to the devices and occupancy will be low.

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

Not applicable

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.

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 _____

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U.S. ATOMIC ENERGY COMM.

CHEMAGRO AGRICULTURAL DIVISION
MOBAY CHEMICAL CORPORATION

Applicant named in item 1

By: Donald R. Flint

T. Bill Waggoner

Radiation Safety 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 as to any matter within its jurisdiction.

- Calibration Procedure
- Maintenance
- Troubleshooting

OHMART SCHOOLAEC RADIATION SAFETY

→ E. H. McLees
Chemagro

DATES, 1975

February 27, 28 (Thursday, Friday)
March 13, 14 (Thursday, Friday)
May 8, 9 (Thursday, Friday)
August 21, 22 (Thursday, Friday)
August 28, 29 (Thursday, Friday)
November 13, 14 (Thursday, Friday)

SUMMARY:

Radiation Safety and the regulations of the Atomic Energy Commission are covered. Instruction in wipe testing, safe handling of isotopes and various types of source holders are shown and discussed.

SUBJECTS:

- Principles of Nuclear Gaging
- Safety Features of Ohmart Nuclear Gages
- Radiation Safety
- Types of Radiation
- AEC Requirements
- Wipe Testing Requirements

The two-day Radiation Safety session is offered on Thursday and Friday so as to enable the student to combine the Density and Level session or Ray-Weigh session with the AEC training.

CERTIFICATION:

Upon completion of the two-day course and a written examination, a CERTIFICATE OF PROFICIENCY is awarded. This Certificate acknowledges satisfactory completion of this course and meets the AEC requirements for training in the safe handling of isotopes.

OHMART SCHOOLDENSITY AND LEVEL GAGESDATES, 1975

February 24, 25, 26 (Monday, Tuesday, Wednesday)

May 5, 6, 7 (Monday, Tuesday, Wednesday)

August 18, 19, 20 (Monday, Tuesday, Wednesday)

November 10, 11, 12 (Monday, Tuesday, Wednesday) → E. H. McLees
ChemagroSUMMARY:

Theory and application of density and level measuring devices is covered with various concepts and types being covered. Emphasis is on servicing, applications and calibration techniques.

SUBJECTS:

- Principles of Nuclear Gaging
- Demonstration of Components and Assemblies
- Theory and Circuitry of Electronic Components
- Auxiliary Equipment
- ✓ • Installation and Checkout Procedures
- Calibration Procedure
- Maintenance and Servicing Techniques

OHMART SCHOOLRAY-WEIGH SCALEDATES, 1975

March 10, 11, 12 (Monday, Tuesday, Wednesday)

August 25, 26, 27 (Monday, Tuesday, Wednesday)

SUMMARY:

This class is designed to thoroughly qualify the student to calibrate and service the Ohmart Ray-Weigh scale. Theory and actual practice working with a scale mock-up is provided.

SUBJECTS:

- Theory of Belt Weighing
- Electronics Theory
- Installation and Checkout Procedures
- Calibration Data

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ATTACHED SHEET - FORM AEC 313

ITEM 14 A. Control Measures - Source holder will be shipped and installed in CLOSED position. Source holder placed in OPEN position after mounting when process is started. If process is shut down, source holder will be placed in CLOSED position. If source holder is removed, it will be placed in the CLOSED position before removal.

B. Initial radiation survey will be made by the Ohmart Corporation field engineer at the time of installation of the gage. A copy of the radiation survey will be kept on file for future reference.

C. If maintenance or repair of the source holder is required, it will be returned to the Ohmart Corporation in the CLOSED position. The Ohmart Corporation will be contacted for detailed shipping instructions.

The Ohmart Corporation, the local Public Health Agency, the regional office of Inspection & Enforcement USNRC or other qualified agency will be contacted immediately in the event of an emergency involving the source holder. (Such an emergency might be a fire or explosion involving the source holder or damage to the source holder which would prevent placing it in the CLOSED position). In the event of an emergency, the area in the vicinity of the source holder will be barricaded until inspected by a qualified person.

D. Leak Test Procedure - A test will be performed on the surface of the source holder every 3 years by Edward H. McLees, to assure that there has been no leakage of radioactive material from the source container in the source holder. The leak test materials will be supplied and analyzed by The Ohmart Corporation. The Ohmart Corporation standard "Leak Test Procedure for Sealed Sources (6-58 Amended 10-65) - Sealed Sources in Ohmart Source Holders" will be followed. Results of the tests will be maintained in the files of the Radiation Safety Officer.

ITEM 15 Whenever the source holder is not needed, it will be returned to The Ohmart Corporation. The Ohmart Corporation will be contacted for detailed shipping instructions.