

<p>NRC Form 313 I (12-81) 10 CFR 30</p> <p style="text-align: center;">U.S. NUCLEAR REGULATORY COMMISSION</p> <p style="text-align: center;">APPLICATION FOR BYPRODUCT MATERIAL LICENSE INDUSTRIAL</p> <p><i>See attached instructions for details.</i></p> <p>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 7915 Eastern Avenue, Silver Spring, Maryland.</p>		<p>1. APPLICATION FOR: (Check and/or complete as appropriate)</p> <p>a. NEW LICENSE</p> <p>b. AMENDMENT TO: LICENSE NUMBER</p> <p>X 37-01961-02</p> <p>c. RENEWAL OF: LICENSE NUMBER</p> <p>X 37-01961-02</p>	
<p>2. APPLICANT'S NAME (Institution, firm, person, etc.) ALLIED CHEMICAL CORPORATION MARCUS HOOK, PA 19061</p> <p>TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION (302) 798-0621</p>		<p>3. NAME AND TITLE OF PERSON TO BE CONTACTED REGARDING THIS APPLICATION H. G. ALBRECHT</p> <p>TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION (302) 798-0621 - Ext. 483 <i>2-5502 302-798564</i></p>	
<p>4. APPLICANT'S MAILING ADDRESS (Include Zip Code) (Address to which NRC correspondence, notices, bulletins, etc., should be sent)</p> <p>U. S. ROUTE 13 MARCUS HOOK, PA 19061</p>		<p>5. STREET ADDRESS WHERE LICENSED MATERIAL WILL BE USED (Include Zip Code)</p> <p>U. S. ROUTE 13 MARCUS HOOK, PA 19061</p>	
(IF MORE SPACE IS NEEDED FOR ANY ITEM, USE ADDITIONAL PROPERLY KEYED PAGES.)			
<p>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)</p>			
<p>FULL NAME</p> <p>a. S. M. POMEROY</p> <p>b. <i>Amount/ Fee Category</i> 993639</p> <p>c. <i>Date Check</i> 6/15/83</p>		<p>TITLE</p> <p>CHEMIST</p> <p>Date 6/15/83</p> <p>Log June 8 I</p> <p>By Drum</p>	
<p>7. RADIATION PROTECTION OFFICER By</p> <p>HERBERT G. ALBRECHT</p>		<p>Attach a resume of person's training and experience as outlined in Items 16 and 17 and describe his responsibilities under Item 15.</p> <p>Action Compl. 6/20/83</p>	
8. LICENSED MATERIAL			
LINE NO.	ELEMENT AND MASS NUMBER	CHEMICAL AND/OR PHYSICAL FORM	NAME OF MANUFACTURER AND MODEL NUMBER (If Sealed Source)
(1)	NICKEL 63	FOILS	PERKIN-ELMER GAS CHROMATOGRAPH
(2)			
(3)		8703230064 861209 REG1 LIC30 07-16499-01	PDR
(4)			
DESCRIBE USE OF LICENSED MATERIAL E			
(1)	FOR USE IN A P&E GAS CHROMATOGRAPH FOR SAMPLE ANALYSIS		
(2)	(MODEL ... SIGMA 4)		
(3)			
(4)			

01447

9. STORAGE OF SEALED SOURCES

LINE NO.	CONTAINER AND/OR DEVICE IN WHICH EACH SEALED SOURCE WILL BE STORED OR USED.	NAME OF MANUFACTURER	MODEL NUMBER
	A.	B.	C.
(1)	REFERENCE ITEM 8		
(2)			
(3)			
(4)			

10. RADIATION DETECTION INSTRUMENTS

LINE NO.	TYPE OF INSTRUMENT	MANUFACTURER'S NAME	MODEL NUMBER	NUMBER AVAILABLE	RADIATION DETECTED <i>(alpha, beta, gamma, neutron)</i>	SENSITIVITY RANGE <i>(milliroentgens/hour or counts/minute)</i>
	A	B	C	D	E	F
(1)	N.A.					
(2)						
(3)						
(4)						

11. CALIBRATION OF INSTRUMENTS LISTED IN ITEM 10

<input type="checkbox"/> a. CALIBRATED BY SERVICE COMPANY NAME, ADDRESS, AND FREQUENCY NOT REQUIRED	<input type="checkbox"/> b. CALIBRATED BY APPLICANT <i>Attach a separate sheet describing method, frequency and standards used for calibrating instruments.</i> NOT REQUIRED
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12. PERSONNEL MONITORING DEVICES

TYPE <i>(Check and/or complete as appropriate.)</i> A	SUPPLIER <i>(Service Company)</i> B	EXCHANGE FREQUENCY C
<input type="checkbox"/> (1) FILM BADGE <input type="checkbox"/> (2) THERMOLUMINESCENCE DOSIMETER (TLD) <input type="checkbox"/> (3) OTHER <i>(Specify):</i> _____ _____ _____	NOT REQUIRED	<input type="checkbox"/> MONTHLY <input type="checkbox"/> QUARTERLY <input type="checkbox"/> OTHER <i>(Specify):</i> _____ _____ _____

13. FACILITIES AND EQUIPMENT *(Check where appropriate and attach annotated sketch(es) and description(s).)*

- ☒ a. LABORATORY FACILITIES, PLANT FACILITIES, FUME HOODS *(Include filtration, if any), ETC.*
- ☐ b. STORAGE FACILITIES, CONTAINERS, SPECIAL SHIELDING *(fixed and/or temporary), ETC.*
- ☐ c. REMOTE HANDLING TOOLS OR EQUIPMENT, ETC.
- ☐ d. RESPIRATORY PROTECTIVE EQUIPMENT, ETC.

(SEE ATTACHMENT)

14. WASTE DISPOSAL

a. NAME OF COMMERCIAL WASTE DISPOSAL SERVICE EMPLOYED

b. IF COMMERCIAL WASTE DISPOSAL SERVICE IS NOT EMPLOYED, SUBMIT A DETAILED DESCRIPTION OF METHODS WHICH WILL BE USED FOR DISPOSING OF RADIOACTIVE WASTES AND ESTIMATES OF THE TYPE AND AMOUNT OF ACTIVITY INVOLVED. IF THE APPLICATION IS FOR SEALED SOURCES AND DEVICES AND THEY WILL BE RETURNED TO THE MANUFACTURER, SO STATE.

(SEE ATTACHMENT)

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.
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.
 - 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.

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
(See Section 170.31, 10 CFR 170)

\$110.00

b. CERTIFYING OFFICIAL *(Signature)*

c. NAME *(Type or print)*

HERBERT G. ALBRECHT

(1) LICENSE FEE CATEGORY: 3L

d. TITLE

SUPERVISOR, IH/MEDICAL

(2) LICENSE FEE ENCLOSED: \$ 110.00

e. DATE

6/7/83

ITEM #1 - APPLICATION

AEC LICENSE #37-01961-02 expires June 30, 1983 and requires renewal. Amendments include change of "RADIATION PROTECTION OFFICER" and deletion of one (1) "BY-PRODUCT MATERIAL" source. (See Form NRC-314, CERTIFICATE OF DISPOSITION OF MATERIALS, Attached)

ITEM #13 - FACILITIES AND EQUIPMENT

Effluent gases from the gas chromatograph is piped into a fume hood at temperatures above 150°C.

ITEM #14 b. - WASTE DISPOSAL

The detector cell (330-0119) would be returned for disposal as described in the Instrument Manual to either:

NUCLEAR SOURCES & SERVICES, INC.
5711 ETHRIDGE STREET
HOUSTON, TEXAS 77017

or

NUCLEAR RADIATION DEV. CORPORATION
2937 ALT BLVD.
GRAND ISLAND, NEW YORK 14070

ITEM #15 - RADIATION PROTECTION PROGRAM

Detailed instructions for installing, operating and wipe testing detector cells are contained in the instruction manual supplied with the Model Sigma Gas Chromatograph.

Wipe tests for radioactivity are required at six (6) month intervals. Instructions for conducting the wipe test are included in the manual and in the wipe test kit (P&E Part No. 009-1667) shipped with the detector cell. The wipe test will be submitted to one of the following for a radiation survey:

NUCLEAR SOURCES & SERVICES, INC.
5711 ETHRIDGE STREET
HOUSTON, TEXAS 77017

or

NUCLEAR RADIATION DEV. CORPORATION
2937 ALT BLVD.
GRAND ISLAND, NEW YORK 14070

Cell cleaning and foil replacement will be performed by one of the above mentioned Companies.

ITEM #16 - FORMAL TRAINING IN RADIATION SAFETYA. S. M. POMEROY

	<u>TRAINING DURATION</u>	<u>ON JOB</u>	<u>FORMAL COURSE</u>
a. U.S. ARMY CBR WARFARE, FORT BRAGG, N.C.	1 week	No	Yes
b. U.S. ARMY CBR WARFARE, FORT BRAGG, N.C.	1 week	No	Yes
c. U.S. ARMY CBR WARFARE, FORT BRAGG, N.C.	1 week	No	Yes
d. U.S. ARMY CBR WARFARE, FORT BRAGG, N.C.	1 week	No	Yes

B. HERBERT G. ALBRECHT

- a. B.A. - UNIVERSITY OF BUFFALO (1949) Bio-Science
- b. M.A. - UNIVERSITY OF BUFFALO (1951) Bio-Science
- c. U.S. AIR UNIVERSITY (SQUADRON OFFICERS SCHOOL) (1953)
- d. NUCLEAR PHYSICS - USAF (1955)
- e. THEORY, OPERATION AND USE OF RADIAC INSTRUMENTS (1956)
- f. RADIOLOGICAL DEFENSE (USAF, VOL. I, II) - (1955)
- g. ATOMIC DEFENSE COURSE SERIES - CHEMICAL CORPS SCHOOL (1956)
- h. ARMY MEDICAL SERVICE OFFICERS CAREER PROGRAM: BROOKE ARMY MEDICAL CENTER (1964)
- i. INDUSTRIAL HYGIENE SUPERVISOR (ALLIED CHEMICAL CORPORATION) since 1975.
- j. INDUSTRIAL HYGIENE I, II (DELAWARE COMMUNITY COLLEGE) (1981, 82)

Subject courses included training in the following:
Principles and practices of radiation protection.
Radioactivity measurements, standardization and monitoring techniques and instruments.
Mathematics and calculations basic to the use and measurement of radioactivity.
Biological effects of radiation.

ITEM # 17 - EXPERIENCE

See Item #16, Above

ADDITIONAL EXPERIENCE

- A. S. M. POMEROY - knowledgeable with all aspects of the Safety Section of the SIGMA 4 Gas Chromatograph Instruction Manual. He has operated "By-product" Gas Chromatographs since 1963. (Hydrogen 3 and/or Ni 63 sources.
- B. HERBERT ALBRECHT - Radiation Protection Officer for Allied Chemical Corporation (Claymont, De.) since 1980 ... Cesium 137 sources/ 200 millicurie and 1 curie sources.