FORM NRC-313 I (1-79) 10 CFR 30

U.S. NUCLEAR REGULATORY COMMISSION

APPLICATION FOR BYPRODUCT MATERIAL LICENSE
INDUSTRIAL

See attached instructions for details.

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.

1. APPLICATION FOR: *(Check and/or complete as appropriate)* 030-10970

- [ ] a. NEW LICENSE
- [ ] b. AMENDMENT TO: LICENSE NUMBER
- [X] c. RENEWAL OF: LICENSE NUMBER 12-07244-02

2. APPLICANT'S NAME *(Institution, firm, person, etc.)*

Pierce Chemical Company

TELEPHONE NUMBER: AREA CODE – NUMBER EXTENSION

815/968-0747 Ext. 248

3. NAME OF PERSON TO BE CONTACTED REGARDING THIS APPLICATION

Edward J. Conklin

TELEPHONE NUMBER: AREA CODE – NUMBER EXTENSION

815/968-0747 Ext. 248

4. APPLICANT'S MAILING ADDRESS *(Include Zip Code)*

Box 117
Rockford, Illinois 61105

5. STREET ADDRESS WHERE LICENSED MATERIAL WILL BE USED *(Include Zip Code)*

3747 N. Meridian Road
Rockford, Illinois 61103

(IF MORE SPACE IS NEEDED FOR ANY ITEM, USE ADDITIONAL PROPERLY KEYED PAGES.)

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)

	FULL NAME	TITLE
a.	Edward J. Conklin	Technical Service Director
b.		
c.		

7. RADIATION PROTECTION OFFICER

Edward J. Conklin

Attach a resume of person's training and experience as outlined in Items 16 and 17 and describe his responsibilities under Item 15.

8. LICENSED MATERIAL

LINE NO.	A ELEMENT AND MASS NUMBER	B CHEMICAL AND/OR PHYSICAL FORM	C NAME OF MANUFACTURER AND MODEL NUMBER *(If Sealed Source)*	D MAXIMUM NUMBER OF MILLICURIES AND/OR SEALED SOURCES AND MAXIMUM ACTIVITY PER SOURCE WHICH WILL BE POSSESSED AT ANY ONE TIME
(1)	Nickel 63	Plated Solid	Hewlett-Packard Model 18713A	15 millicuries
(2)				
(3)				
(4)				

	E DESCRIBE USE OF LICENSED MATERIAL
(1)	Electron capture detector in Hewlett-Packard gas chromatograph
(2)	
(3)	
(4)	

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9. STORAGE OF SEALED SOURCES

LINE NO.	CONTAINER AND/OR DEVICE IN WHICH EACH SEALED SOURCE WILL BE STORED OR USED. A.	NAME OF MANUFACTURER B.	MODEL NUMBER C.
(1)	Gas Chromatograph	Hewlett-Packard	5835
(2)			
(3)			
(4)			

10. RADIATION DETECTION INSTRUMENTS

LINE NO.	TYPE OF INSTRUMENT A	MANUFACTURER'S NAME B	MODEL NUMBER C	NUMBER AVAILABLE D	RADIATION DETECTED (alpha, beta, gamma, neutron) E	SENSITIVITY RANGE (milliroentgens/hour or counts/minute) F
(1)	None					
(2)						
(3)						
(4)						

11. CALIBRATION OF INSTRUMENTS LISTED IN ITEM 10

☐ a. CALIBRATED BY SERVICE COMPANY

NAME, ADDRESS, AND FREQUENCY

N/A

☐ b. CALIBRATED BY APPLICANT

Attach a separate sheet describing method, frequency and standards used for calibrating instruments.

N/A

12. PERSONNEL MONITORING DEVICES

TYPE (Check and/or complete as appropriate.) A	SUPPLIER (Service Company) B	EXCHANGE FREQUENCY C
☐ (1) FILM BADGE ☐ (2) THERMOLUMINESCENCE DOSIMETER (TLD) ☐ (3) OTHER (Specify): None	N/A	☐ MONTHLY ☐ QUARTERLY ☐ OTHER (Specify): N/A

13. FACILITIES AND EQUIPMENT (Check were 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.

14. WASTE DISPOSAL

a. NAME OF COMMERCIAL WASTE DISPOSAL SERVICE EMPLOYED

None - no waste

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.

This application is for a sealed source which will be returned to the manufacturer for disposal.

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 sources 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)*	b. CERTIFYING OFFICIAL *(Signature)* Edward J. Conklin
$110 US NRC	c. NAME *(Type or print)* Edward J. Conklin
(1) LICENSE FEE CATEGORY:	d. TITLE Technical Service Director
(2) LICENSE FEE ENCLOSED: $ 110	e. DATE May 1, 1980

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13. Gas Chromatograph is located in our analytical methods development lab. The electron capture detector is vented via plastic tubing outside the building.

15. Photocopies (2 pages) of our wipe test procedure enclosed. The service is used in accordance with manufacturer instructions and no formal supplemental radiation protection program is conducted. Appropriate warning notices for employee notification and protection are posted.

16. Formal Training in Radiation Safety

Edward J. Conklin received formal training in the four indicated areas in a one semester course in radiochemistry at the University of Illinois and additional training while serving at Army Chemical Center in Edgewood, Maryland. While at Army Chemical Center he worked in the radiological chemistry building and was thoroughly trained in radiation safety although he did no work with radioactive materials.

17. Experience

Edward J. Conklin has been employed as a chemist for 20 years since the completion of his graduate work in chemistry. Although he has been involved with several areas of work with radioactive materials, he has no direct experience except for the use of the sealed unit in the detector in this license.

HEWLETT hp PACKARD

ANALYTICAL INSTRUMENTS

SERVICE NOTE

Return to DM

SUPERSEDES: P-6761

NICKEL 63 ELECTRON CAPTURE DETECTOR LEAK (WIPE) TEST KIT INSTRUCTIONS

A. GENERAL

Performing a contamination wipe test every six months is part of the licensing requirement to possess an Electron Capture Detector which contains a Nickel 63 radioactive foil. It is essential that the test be performed to insure retention of the A.E.C. license. The first due date is six months after the date stamped on the Nickel 63 Detector.

B. SERIAL NUMBER BREAK

This note is applicable to any instrument which has an Electron Capture Detector, factory or field installed.

C. LEAK (WIPE) TEST KIT 18713-60050 Contains the following:

ITEM	DESCRIPTION	PART NO.	QTY.
1	Information Card	18713-90040	12
2	Filter Paper # 41	3152-0035	12
3	Plastic Bags 4" x 8"	9222-0308	12
4	Envelope-Wipe Test Kit	05750-80036	4
5	Service Note 5700A-5	5700A-5 (this)	1

D. PERFORMING THE LEAK (WIPE) TEST

The test should be performed as follows:

(1) Select three information cards (Item 1) and fill out completely.

(2) Select three pieces of filter paper (Item 2) and label them with a pencil as follows:

Sample 1 - Det. Entrance Fitting
Sample 2 - Det. Housing
Sample 3 - Det. Exit

(3) Disconnect the column from the EC Cell.

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(4) Wipe the detector entrance fitting, (column connection) with a piece of filter paper labelled "Det. Entrance Fitting Sample", and immediately insert it and a filled-out information card into one of the plastic bags (Item 3). Wipe both the inside and outside of the fitting.

(5) Wipe the detector housing (outside case) with the filter paper labelled "Det. Housing Sample 2", and insert it and filled-out information card into a second plastic bag.

(6) Disconnect the teflon exit fitting, if equipped (fitting where vent tube is attached), from the detector cathode by unscrewing. Wipe the metal detector exit fitting and the inside of the tube exit fitting with the filter paper labelled "Det. Exit Sample 3", and insert it and a filled-out information card into a third plastic container.

(7) Place the three plastic containers into one of the envelopes (Item 4) addressed to Nuclear Radiation Developments Inc. along with your purchase order for $25 for counting these wipes.

Nuclear Radiation Developments Inc.
2957 Alt Boulevard
Grand Island, NY 14022

(8) Sufficient material is supplied in each kit to perform four wipe tests. Extra Leak Test Kits can be purchased from Hewlett-Packard when your supply becomes exhausted.