

UNITED STATES ATOMIC ENERGY COMMISSION
APPLICATION FOR BYPRODUCT MATERIAL LICENSE

Form approved
Budget Bureau No. 38-R0027

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: Materials Branch, Directorate of 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, and the license fee provisions of Title 10, Code of Federal Regulations, Part 170. The license fee category should be stated in Item 16 and the appropriate fee enclosed. (See Note in Instruction Sheet).

1. (a) NAME AND STREET ADDRESS OF APPLICANT. (Institution, firm, hospital person, etc. Include ZIP Code and telephone number.) Nuclear Products Company 2519 North Merced Avenue South El Monte, California 91733		(b) STREET ADDRESS(ES) AT WHICH BYPRODUCT MATERIAL WILL BE USED. (If different from 1(a), include ZIP Code.)	
2. DEPARTMENT TO USE BYPRODUCT MATERIAL		3. PREVIOUS LICENSE NUMBER(S). (If this is an application for renewal of a license, please indicate and give number.) Renewal of 04-01100-01G	
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.) Charles D. Evleth, Production Manager		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.) Walter F. Wegst, Ph.D.	
6. (a) BYPRODUCT MATERIAL. (Elements and mass number of each.) Polonium 210		(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.) FOIL (Minnesota Mining & Manufacturing Co. Model 7B8L)	

Applicant.....
Lic. No. 7699.....
Lic. Fee Category 110-34.....
Type of Fee Renewal.....
Lic. Check Rec'd. 10/25/78.....
Received By. AEC.....

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.) Licensee applies for authorization to distribute devices as specified below to persons generally licensed pursuant to Section 31.3, 10 CFR 31, when such devices are manufactured pursuant to California Radioactive Material License No. 0637-70 and the conditions of this license:

8510310103 850523
REGS LIC30
04-01100-01G PDR

✓ 1C200 *
✓ 3C500 *
✓ 1U200 *
✓ 1U400 *
✓ 3U400 *
✓ 2U500 *
✓ 5U500 *

96958

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			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

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 (mv/hr)	WINDOW THICKNESS (mg/cm ²)	USE (Monitoring, surveying, measuring)
Technical Assoc. Model Pug-1 with a PAS-9 scintillation probe	One (1)	alpha	0 - 50,000 c/m	0.8	Survey monitoring & product smear test- ing by Nuclear Prods. Co.

11. METHOD, FREQUENCY, AND STANDARDS USED IN CALIBRATING INSTRUMENTS LISTED ABOVE Checked against uranium oxide source before monitoring product smears. Calibrated every 6 months by W. F. Wegst against an Eberline Inst. Corp. plutonium alpha standard.

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

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

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.

Leak tests as specified in current license.

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.

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.

License Fee Category \$ 3.L.
Fee Enclosed \$ 110.00

N011035 174500N Nuclear Products Company

Applicant named in item 1

By:

Richard M. Evleth

Richard M. Evleth, President

Date October 20, 1978

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.



July 27, 1978

Bureau of Radiological Health
Department of Public Health
2151 Berkeley Way
Berkeley, California 94704

Ref: Application for Renewal of License 0637-70

Gentlemen:

Enclosed is an application for renewal of our License No. 0637-70, together with supporting documentation. The following supplemental information is provided where space on the form is insufficient:

4. We use the Polonium 210 sealed sources to manufacture static eliminating and ionized air producing devices for distribution to authorized recipients in accordance with USNRC License No. 04-01100-01G. A drawing of polonium source 3M Company Model 7B8L is enclosed. The polonium sealed source is 13-1/8" long, divided into 30 active rectangles (images), each with dimensions of 0.18" X 0.312" and separated by inactive spaces so we can cut the source into smaller sections without disturbing the active areas. The maximum activity per image is 100 microcuries and the maximum activity per 13-1/8" source is 3 millicuries. We believe that you are familiar with the 3M Company procedure of manufacturing polonium sources containing radiating microspheres.
9. Nuclear Products Company is located in a modern 5,500 sq. ft. masonry block building. A separate facility within the building, known as the Polonium Room, is utilized for handling the polonium sealed sources. This room is specially designed to minimize the spread of contamination to other areas of the plant. The floor of the Polonium Room is covered with vinyl sheeting, coved at all edges, hence facilitating mopping of the floor and minimizing cracks which tend to collect radioactive contamination. Work surfaces are covered with formica, coved at the back edge, again to facilitate decontamination. A secondary control area, which includes a wash sink, aids in reducing the general low level of contamination transferred into the main plant area. The primary control area in the Polonium Room contains a Labconco Model Advance 70 Fume Hood in which the foil cutting operations are conducted. The hood is made from molded fiberglass with a smooth, seamless, interior. The blower for the hood is capable of maintaining a face velocity of 100 linear ft. per minute with the hood sash in operating position. The affluent air

- continued -

MAIL ADDRESS: P.O. BOX 5178 • EL MONTE, CALIFORNIA 91734
OFFICE AND PLANT: 2511 NO. MERCED AVE. • SO. EL MONTE, CALIFORNIA 91733
TELEPHONES: LOS ANGELES (213) 283-2603 • LOCAL (213) 444-3852

06958

Department of Public Health, Berkeley, CA.

- 2 -

passes through standard 2" thick fiberglass filters and is then exhausted horizontally, along the roof, in a direction 180° to the intakes of the plant air conditioners and in the direction of the prevailing winds in the area. Our plant and the Polonium Room facility were inspected and approved by the Los Angeles County Health Department prior to being placed in operation October 1, 1967. They have been periodically inspected by the Department.

We will be pleased to supply any additional information that may be required.

Sincerely,

NUCLEAR PRODUCTS COMPANY



Richard M. Evleth, President

RME/lh
encls.

State of California

Department of Health

Radiologic Health Section

744 P Street

Sacramento, California 95814

APPLICATION FOR RADIOACTIVE MATERIAL LICENSE

Instructions: 1. Refer to Guide for Applicants, Form RH 2051. 2. Where the space provided on this form is insufficient, attach supplemental sheets referencing the part being expanded. 3. Submit all material in duplicate to the Radiologic Health Section at the address given above. 4. Medical applicants should request other forms if in-vivo use is involved.

1. a. Name of applicant Nuclear Products Company

b. Mailing address Number and Street P.O. Box 5178
City and State El Monte, CA Zip 91734

c. Telephone number Area Code 213 Number 283-2603 Extension _____

2. a. Type of business: ☐ individual ☐ partnership or association ☒ corporation

b. List all addresses at which radioactive material will be used or stored:

Street Address 2519 N. Merced Avenue City South El Monte Zip 91733

Street address _____ City _____ Zip _____

Street address _____ City _____ Zip _____

Will radioactive material be used at temporary job sites? ☐ Yes ☒ No

c. This is an application for:

☐ A new radioactive material license

☐ Renewal of radioactive material license No. 0637-70

☐ Amendment to radioactive material license No. _____

3. a. Nuclide b. Chemical and/or physical form c. Possession limit

Polonium 210

Foil (3M Co. Model 7B8L)
Microspheres

4 Curies (no single
Source to exceed 10mc)

4. Describe the proposed use of the radioactive material.

See accompanying letter

5. Radiation safety officer and individual users.

List radiation safety officer first. Attach Form RH 2050-A, Statement of Training and Experience, for each individual who will use radioactive material.

Walter F. Wegst, Radiation Safety Officer
Charles D. Evleth, Production Manager

6. Radiation detection instruments.

Make & Model Number	Description	Number Available	Purpose for which used
a. Technical Assoc. Model Pug-1 with a PAS-9 scintillation probe	Portable Alpha Survey Meter	1	Survey monitoring & product smear testing by Nuclear Products Co.
b. Eberline Instrument Co. PAC-1SA	Portable Alpha Survey Counter	1	Survey monitoring by Radiation Safety Officer
c. Beckman Low Beta II	Thin window flow counter	1	Smear counting by Rad. Safety Officer.

7. Method, frequency, and standards used in calibrating instruments listed above.

Inst. 6a checked against uranium oxide source before monitoring product smears. 6a cal. every 6 months & 6b & c every 3 months by W. Wegst against an Eberline Inst. Corp. plutonium alpha standard.

8. Personnel monitoring and bioassay procedures.

Urine activity analysis conducted by Bio-Science Laboratories. See accompanying Health Physics Rules & Regulations.

9. Facilities and equipment.

See accompanying letter

10. Radiation safety program.

See accompanying Health Physics Rules & Regulations (Note: HPR&R reviewed by Dr. Wegst in April, 1978 and he determined that they did not need to be revised.)

11. Waste disposal.

ICN Pharmaceuticals, Inc., Life Sciences Group,
2727 Campus Drive, Irvine, CA 92664

12. Certificate.

The applicant and any official executing this certificate on behalf of the applicant named in Item 1, certify that all information contained herein, including any supplements attached hereto, is true and correct. The individual executing this certificate has authority to commit the applicant relative to matters involved in this application.

Nuclear Products Company

Date: July 27, 1978

By: Richard M. Evleth
Richard M. Evleth,
President

State of California
Department of Health

Radiologic Health Section
744 P Street
Sacramento, California 95814

STATEMENT OF TRAINING AND EXPERIENCE

(Use additional sheets as necessary)

Instruction: Every individual proposing to use radioactive material is required to submit a Statement of Training and Experience in duplicate to the address given above. Physicians should request Form RH 2000 when applying for human use authorizations.

1. Name of proposed user: Dr. Walter F. Wegst Jr. Position title: Rad. Safety Officer
Address: 510 Fairview City: Sierra Madre Zip: 91024
To be included on Lic. No. D-37-70 in name of NUCLEAR PRODUCTS CO.

2. Description of proposed use
Manufacture of static elimination devices containing ^{210}Po .

3. Training:

- a. High School Graduate: Yes X No
b. College or University: Name and location Univ. of Michigan, Ann Arbor, Mich.
Years completed 8 Degree PhD Course of study Environmental Health
c. Education specifically applicable to use of radioactive material Health Physics

Courses: Interaction of Radiation & Matter
Nuclear Instrumentation & Measurements
Nuclear Reactor Lab.
Radiation Biology
AEC Advanced Health Physics Fellow 1960/63
Certified in Health Physics by ABHP in 1966

4. Experience:

- a. List experience with radioactivity beginning with most recent
(1) Dates: From 1963 to Present
Title and duties: Institute Health Physicist - responsible for Campus radiation Safety program. (Also, Manager of Safety Office)
Employer: Calif. Inst. of Technology Address:
(2) Dates: From 1959 to 1960
Title and duties: Laboratory Supervisor - responsible for operation of Hot Cells, Kilocurie ^{60}Co source, Hi-level radiochemistry labs, tracer labs, etc.
Employer: Univ. of Michigan Address: Ann Arbor, Mich.
(3) Dates: From 1957 to 1959
Title and duties: Laboratory & Reactor Health Physicist - responsible for health physics on a one megawatt reactor & associated labs.
Employer: Univ. of Michigan Address: Ann Arbor, Mich.

- b. Radioactive materials previously used. Cite typical radioisotopes in appropriate box and key to Part 4.a above:

Quantities Handled

	Microcuries	Millicuries	Curies	Kilocuries
Sealed sources		Po-226 Am-241	Cs-137 Sr-90	Co-60
Unsealed alpha emitters		Po-210	U-235 Po-210	
Unsealed beta-gamma emitters		H-3, C-14, P-32 I-131, I-125, Cr-51	Na-24, Au-198 A-41, Sr-90 Cs-137, H-3	Spent reactor fuel elements
Neutron sources			Pu-Be	1 megawatt reactor

- c. Describe procedures similar to those proposed in Part 2 with which you have had experience. Indicate months or years for each and key to Part 4.a above.

I have worked in and supervised (2yr.) a radiochem. lab with pneumatic tubes leading directly to a reactor. Hence, many types of unsealed sources of radioactivity material were used. I have used a multi-Kilocurie hot cell for work with spent reactor fuel elements & experimental devices containing ^{235}U . I have been the Health Physics consultant for Nuclear Products for some 14 years, and have consulted for several other companies using ^{241}Am to manufacture ionization smoke detectors.

- d. Indicate which types of facilities you have used and key to Part 4.a.

- (X) Ordinary Chemical laboratories - Caltech, Univ. Mich.
- (X) "Controlled Area" (Type B) laboratories Caltech, Univ. Mich.
- (X) Glove boxes Univ. Mich.
- (X) Shielded glove boxes Univ. Mich.
- (X) Caves with remote manipulators - spent fuel elements, Univ. Mich.
- (X) Field operations with portable equipment - work at Caltech

5. Certificate:

I hereby certify that all information contained in this Statement is true and correct.

Walter F. Negat Jr.

Signature of proposed user

7-11-78

Date

State of California
Department of Health

Radiologic Health Section
744 P Street
Sacramento, California 95814

STATEMENT OF TRAINING AND EXPERIENCE

(Use additional sheets as necessary)

Instruction: Every individual proposing to use radioactive material is required to submit a Statement of Training and Experience in duplicate to the address given above. Physicians should request Form RH 2000 when applying for human use authorizations.

1. Name of proposed user: Charles D. Evleth Position title: Production Manager
Address: 2519 N. Merced Avenue City: South El Monte Zip: 91733
To be included on Lic. No. 0637-70 in name of Nuclear Products Company

2. Description of proposed use

Manufacture of static eliminators utilizing Polonium 210

3. Training:

- a. High School Graduate: Yes X No
b. College or University: Name and location No
Years completed Degree Course of study
c. Education specifically applicable to use of radioactive material
None

4. Experience:

a. List experience with radioactivity beginning with most recent

(1) Dates: From 1951 to 1978

Title and duties: Production Manager - supervision of all production operations.

Employer: Nuclear Products Company Address: 2519 N. Merced Ave., South El Monte

(2) Dates: From to

Title and duties:

Employer: Address:

(3) Dates: From to

Title and duties:

Employer: Address:

- b. Radioactive materials previously used. Cite typical radioisotopes in appropriate box and key to Part 4.a above:

	Quantities Handled			
	Microcuries	Millicuries	Curies	Kilocuries
Sealed sources		Po 210		
Unsealed alpha emitters	Po 210			
Unsealed beta-gamma emitters				
Neutron sources				

- c. Describe procedures similar to those proposed in Part 2 with which you have had experience. Indicate months or years for each and key to Part 4.a above.

I have supervised and trained all of the factory employees at Nuclear Products Company in the safe handling of Po 210 sources. I received on the job training from Louis B. Silverman and Walter F. Weget, Certified Health Physicists. Over a 27 year period, we have safely processed more than 300 curies of Po 210 sources.

- d. Indicate which types of facilities you have used and key to Part 4.a.

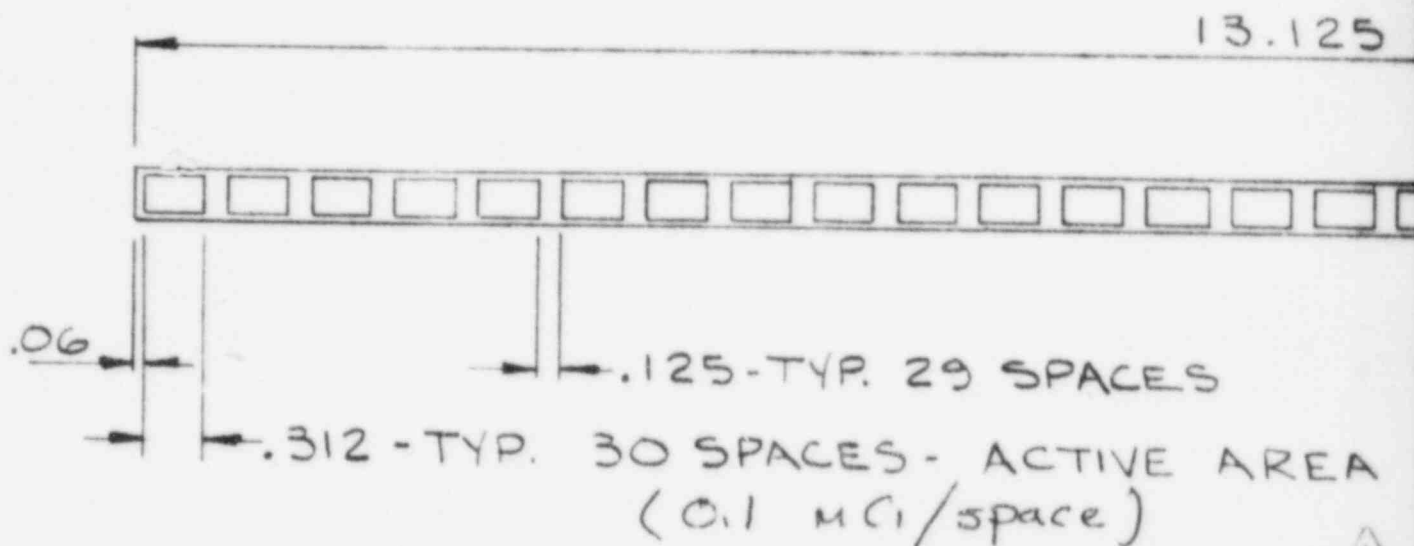
- () Ordinary Chemical laboratories None
 () "Controlled Area" (Type B) laboratories
 () Glove boxes
 () Shielded glove boxes
 () Caves with remote manipulators
 () Field operations with portable equipment

5. Certificate:

I hereby certify that all information contained in this Statement is true and correct.

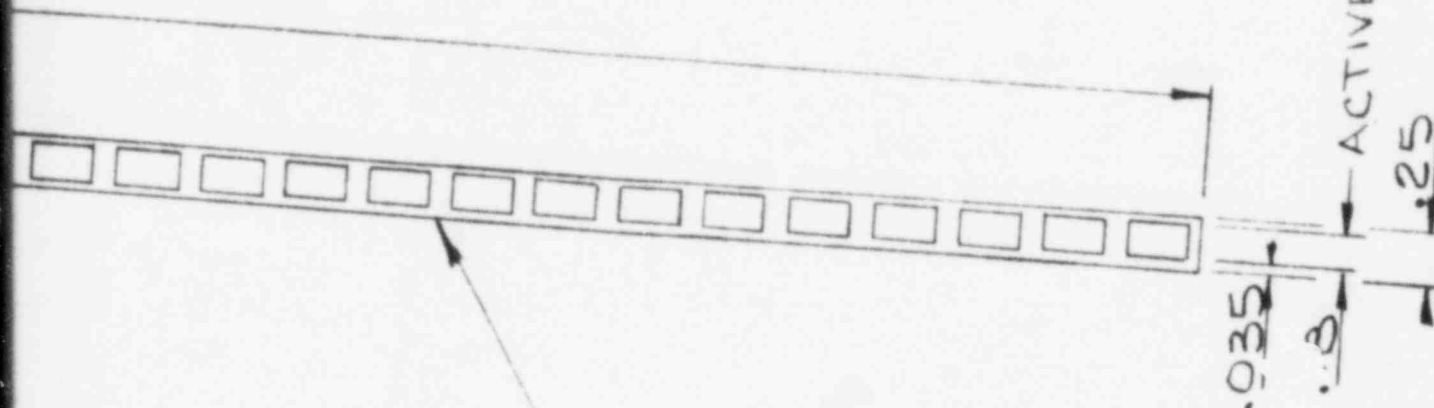

 Signature of proposed user

7/18/78
 Date



NOTE :
FLAT, DEBURRED, AND
SANDED (TIME SAVER)

851031003



6 THK ALUMINUM
PE 3003-H14 STRIP
G #A-1921-1185

ED ON

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DIMENSIONS AND SURFACE ROUGHNESS UNLESS NOTED

TOLERANCE	PLACES IN DIMENSION			MAXIMUM SURFACE ROUGHNESS
	.0	.00	.000	
GENERAL	±.1	±.02	±.005	✓
FINISH (SAW, MEAN)	±.1	±.04	///	
	±	±	±	
	±.1	±.06	DR. J.D. SWENSON	
DIM.	±		CH. J.W. JOHNSON	
	1" = 1"		APP. TNL	

3M
COMPANY

ENGINEERING DIVISION
St. Paul
Minnesota

B

D DEC 21, 73

1 ADDED

3 JAN. 26, 1972
REDRAWN

RMWFP

JBF EH

ISSUE DATE AND CHANGE RECORD

CODE NO

REV. CH.

TITLE

PO-210 FOIL
MODEL No. 7B8L

PART NO

1921-673

HEALTH PHYSICS AND RULES AND REGULATIONS
FOR
NUCLEAR PRODUCTS COMPANY
SOUTH EL MONTE, CALIFORNIA

REVISED:

NOV. 13, 1954
AUG. 6, 1956
JUNE 1, 1960
JULY 30, 1970
OCT. 12, 1970

Safety in a laboratory or industry in which radioactive materials are used requires a rigorous and careful observance of the normal safety requirements, plus the special requirements that each person allowed to use or work with any active materials must be competent and responsible in order to prevent the radioactive materials from injuring any person. It is most essential that each individual be constantly on his guard to confine contamination and prevent its spread.

Since the radioactive material used at this plant is an alpha radiation emitter, the hazards involved are mainly due to the contamination potential of this material. Alpha radiation has little or no penetration power. Its maximum range in air is less than four inches; these radiations are completely absorbed by a sheet of paper and they cannot penetrate the unbroken outer layers of a person's skin. However, they possess tremendous ionizing power and it is this power which makes for their extremely hazardous nature if they are accidentally ingested or inhaled.

Thus, the fundamental purposes of the protective measures used at this plant in handling radioactive materials are: (1) To prevent ingestion, inhalation, or other modes of entry into the body of any person working or visiting this plant, and (2) To prevent the product from becoming contaminated so that it will not offer any unknown hazards to potential users.

In order that the personnel at this plant may carry out their duties successfully and safely, the management has established the following general procedures and safeguards.

1. Persons who are neat and careful are preferred workers in any industry and these qualities are especially important where materials are being handled that involve any hazard. Care will be exercised when engaging additional employees to insure that new people measure up to the present standards. New employees will be informed of the hazards involved and will be instructed regarding these safety rules and regulations. For the protection of all, the management requests that any careless or thoughtless action that violates our safety rules be reported so that corrective steps may be promptly taken.
2. It has been determined that urine activity analysis for polonium on a regular schedule is a certain method for detecting polonium before dangerous amounts are present. Large quantities of polonium foil have been processed by the company and a great many urine analysis have been performed, all showing no significant amount of ingested polonium. This is a splendid record and indicates that by observing reasonable rules, complete safety can be assured. Employees will be given urine analysis on the following schedule, which will permit detection and corrective measures taken before injury can occur. The reports shall be reviewed by the consulting health physicist.

SCHEDULE

- (a) For all employees working in the Polonium Room, a urine analysis every four months.
 - (b) For all other employees, a urine analysis each year.
 - (c) A urine activity analysis will be done on all employees at termination of employment.
3. In each case in which a urine analysis indicates an activity level of 4×10^{-3} dpm/ml, the licensee shall insure that the employee is immediately given a follow-up urine activity analysis. If a second analysis confirms the first report, a blood count shall be taken. A Po-210 urine concentration of 4×10^{-3} dpm/ml would result from an uptake of 0.03 μ ci, 120 days prior to detection.

An investigation will be conducted and corrective measures taken to prevent a reoccurrence of the polonium ingestion. Copies of all reports requiring follow-up action, as well as copies of the follow-up reports, shall be forwarded to the State Department of Public Health, Bureau of Radiological Health, within five days from receipt of the reports.

A complete medical examination, including blood count, shall be administered to each of the licensee's employees performing work described in (a) above before, or as soon as practicable after, starting this work, and at termination of employment with the licensee; otherwise, neither complete medical examinations nor blood counts are required for employees for which urine analysis are made annually or more frequently.

Records of urine analysis, blood counts, and medical examinations shall be made available to representatives of the Department upon request.

The following rules and regulations are important for your protection and the protection of your fellow workers.

Rules for Working in the Polonium Room

1. The hood blower must be turned on while working in the primary control area and the hood sash should be lowered eleven inches before working in the hood.
2. Inspect shoe covers and gloves for holes before wearing. Shoe covers are to be put on while standing on the floor mat. Once shoe covers are on, step immediately into the primary control area without allowing shoe covers to come in contact with floor mat. Next, put on apron and then gloves, using care to avoid handling contaminated surfaces such as fingers of gloves and outside surfaces of aprons. Two pairs of rubber gloves are used, the first pair while handling and cutting the polonium foil. The second pair of gloves is used while handling the polonium with the hemostats. While the second pair of gloves is worn, the polonium should not be handled except with the hemostats provided. Cutting of the polonium should be done only over the small (metal) pan provided. Dispose of paper liner in pan after each cutting operation. Replace with clean paper just prior to the next cutting.

3. The polonium foil stock and cut parts of foil should be stored in a designated storage facility bearing the required radiation caution label.
4. All protective clothing worn in Polonium Room will be distinctly marked and left inside the primary control area.
5. All persons working in the Polonium Room must immediately, after leaving the primary control area, use the sink in the secondary control area to scrub their hands and arms up to the elbow with the soap provided.
6. The door to the Polonium Room should be kept closed when the room is not in use. The required caution sign shall be posted.
7. Any accident involving radioactive foil must be reported immediately to Charles D. Evleth or, if he is absent, to the person left in charge.

Rules for Working in all Parts of Plant Where
Assembly of Static Eliminators Performed

1. Any break in the skin below the elbow is to be covered with an approved waterproof type of bandage.
2. If a break in the skin occurs, wash cut with plenty of warm water before applying bandage.
3. The eating, storing, or preparation of food is prohibited in all areas where radioactive foils, or parts containing radioactive foils, are being assembled.
4. Smoking or application of cosmetics is prohibited in all areas where radioactive foils, or parts containing radioactive foils, are being assembled.
5. If a polonium foil is accidentally touched by a finger, immediately wash hands thoroughly with soap. If a tool slips and touches a foil, it also should be thoroughly cleaned to guard against spread of contamination that may have occurred.
6. All plant personnel must wash their hands with soap and water before eating, smoking and/or leaving work.
7. All work benches and table tops in areas where active materials are handled should be covered with paper and the paper changed at the beginning of each work week.
8. Only disposable paper wipes, tissues or towels will be allowed in areas handling radioactive materials. Kleenex type of disposable tissues should be used instead of personal handkerchiefs.

Maintenance and Cleaning Rules

1. Our consulting health physicist will make an inspection of the entire premises every three months. A portable alpha survey meter is used for this purpose, as well as a technique known as wipe tests. Complete reports

are submitted as soon as possible after inspection and any point of contamination found is designated. Whenever removable contamination exceeding the following limits is found, immediate decontamination steps are taken.

	<u>Fixed</u>	<u>Removable</u>
Uncontrolled areas:	100 dpm/100 cm ²	20 dpm/100 cm ²
Polonium Room:	2000 dpm/100 cm ²	500 dpm/100 cm ²
Radiochemical Hood:	N.A.	2000 dpm/100 cm ²

In general, contaminated areas will be cleaned until all activity is removed. However, if necessary, the levels of fixed activity listed above can be tolerated.

- Decontamination procedure consists of: Cleaning wooden surfaces with a saturated solution of detergent; then, after the surface has dried, coating with paint or varnish.
- Contaminated hand tools are washed with detergent and, after being thoroughly dried, are coated thinly with very light oil.
- It is expected that the floor in the Polonium Room may become contaminated due to dropping of polonium foil. If this occurs, the floor should be wet mopped with a self-wringing type of mop, and this mop should not be used elsewhere. A rubber mop is provided for this purpose.
- Working areas should be kept free from equipment and materials not required for the operations presently being performed. Neatness and cleanliness is a prime requisite for elimination of the spread of contamination. Each employee is expected to assist in maintaining orderliness.

INSTRUCTIONS FOR DISPOSAL OF WASTE MATERIALS

- Paper coverings used in the assembly area, and shipping containers in which radioactive materials are received, will be checked with a portable alpha survey meter. Papers and containers reading less than 200 cpm above background may be discarded as regular waste, provided that all radioactive signs and wordings are first removed or blocked out. Any item reading 200 cpm or over is to be stored as outlined under number 2 below.
- All contaminated waste materials (e.g. cotton swabs, polonium foil wrappings, protective gloves, aprons and shoe covers) will be collected in plastic bags placed in cans located in the primary control area of the Polonium Room. When the bag is full it will be sealed, placed in a permanent storage container, and transferred to the warehouse for long term storage. These containers will bear the required radiation caution sign and will be marked "Po-210 Contaminated Waste". They will also be marked with the date that the container was sealed. The contaminated waste material will be held in the warehouse until the Radiation Safety Officer checks it with an alpha survey meter and certifies that it has decayed to a level where it can safely be discarded as regular waste material. A waste disposal monitoring report, signed by the Radiation Safety Officer, shall be kept permanently on file.

3. Used and waste pieces of polonium foil will be collected in a metal drum bearing the required radiation caution sign. When filled, the drum will be removed by a licensed radioactive waste disposal contractor.

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