



Metal Division

SAMUEL R. HOLLINGSWORTH, MANAGER
J. H. SABO, ASSISTANT MANAGER

NATIONAL LEAD COMPANY

Atlantic Branch

Manufacturers of 'DUTCH BOY' PRODUCTS

SAMUEL R. HOLLINGSWORTH
MANAGER

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P. O. BOX 831
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Isotopes Branch
Division of Licensing and Regulation
U. S. Atomic Energy Commission
Washington 25, D. C.

February 7, 1963

Att: Mr. E. R. Price, Assistant Director

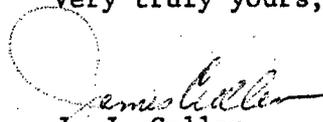
Gentlemen:

Please find enclosed three (3) copies of National Lead Company's application for Byproduct License (Form AEC-313) in which we request approval to use radioactive I-131 as a developmental radioactive tracer, at our Perth Amboy, New Jersey plant site.

Since we have an urgent need for product development and control outlined in this application, we would appreciate your handling this application as soon as possible. If there is any additional information required concerning the application, please call me collect.

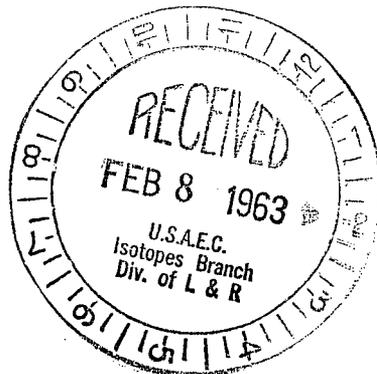
Thank you for your immediate attention to our application.

Very truly yours,


J. J. Cullen

JJC:dk

Enclosures



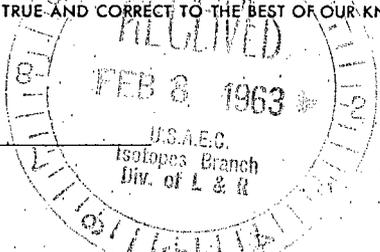
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APPLICATION FOR BYPRODUCT MATERIAL LICENSE

INSTRUCTIONS.—Complete Items 1 through 16 if this is an initial application. If application is for renewal of a license, complete only Items 1 through 7 and indicate new information or changes in the program as requested in Items 8 through 15. Use supplemental sheets where necessary. Item 16 must be completed on all applications. Mail three copies to: U. S. Atomic Energy Commission, Washington 25, D. C. Attention: Isotopes Branch, Division of Licensing and Regulation. 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.)</p> <p>National Lead Company 1050 State Street P. O. Box 831 Perth Amboy, New Jersey</p>	<p>(b) STREET ADDRESS(ES) AT WHICH BYPRODUCT MATERIAL WILL BE USED. (If different from 1 (a).)</p> <p>Same as 1. (a)</p>
<p>2. DEPARTMENT TO USE BYPRODUCT MATERIAL</p> <p>Atlantic Branch</p>	<p>3. PREVIOUS LICENSE NUMBER(S). (If this is an application for renewal of a license, please indicate and give number.)</p> <p>29-6033-1</p>
<p>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.)</p> <p>James J. Cullen G. L. Stukenbroeker S. S. Voris (34-7836-1)</p>	<p>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.)</p> <p>James J. Cullen</p>
<p>6. (a) BYPRODUCT MATERIAL. (Elements and mass number of each.)</p> <p>131 I 53</p>	<p>(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.)</p> <p>Na I in basic sodium sulfide solution -- 5 mc</p>
<p>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.)</p> <p>The I-131 will be used as a developmental radioactive tracer. I-131 will be added to solder flux and optimum extrusion characteristics will be determined by flux "skips" appearing in the finished cored solder. The flux "skips" will be detected using a NaI crystal and associated electronic readout equipment.</p>	

TRAINING AND EXPERIENCE OF EACH INDIVIDUAL NAMED IN ITEM 1		(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 (mr/hr)	WINDOW THICKNESS (mg/cm ²)	USE (Monitoring, surveying, measuring)
11. METHOD, FREQUENCY, AND STANDARDS USED IN CALIBRATING INSTRUMENTS LISTED ABOVE.					
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					
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.					
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					
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	February 6, 1963				
			National Lead Company Applicant named in item 1 By: <u>N. S. Muccilli</u> N. S. Muccilli Plant Manager 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.					

APPLICATION FOR BYPRODUCT MATERIAL LICENSE

NATIONAL LEAD COMPANY'

Item (15) Waste Disposal

The I-131 will be added to the solder flux in a concentration which will permit detection in the finished cored solder. Preliminary calculations indicate this concentration to be 1.3×10^{-4} mc I-131 per linear inch of extruded solder.

Solder manufactured during these experimental tests will be retained by National Lead Company at Perth Amboy until the I-131 has decayed to less than 6×10^{-5} mc/gm of Sn-Pb alloy. After this lower limit has been attained, the solder will be sold through normal channels.

Verification of the 6×10^{-5} mc/gm of I-131 will be done using a 3" "well type" NaI crystal with a 400 channel RIRL Gamma Ray Spectrometer.

Form AEC-313 (5-58)	ATOMIC ENERGY COMMISSION APPLICATION FOR BYPRODUCT MATERIAL LICENSE		Form approved. Budget Bureau No. 38-R027.4.
<p>INSTRUCTIONS.—Complete Items 1 through 16 if this is an initial application. If application is for renewal of a license, complete only Items 1 through 7 and indicate new information or changes in the program as requested in Items 8 through 15. Use supplemental sheets where necessary. Item 16 must be completed on all applications. Mail three copies to: U. S. Atomic Energy Commission, Washington 25, D. C. Attention: Isotopes Branch, Division of Licensing and Regulation. 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>			
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d. Biological effects of radiation			Yes	No	Yes	No

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ISOTOPE	MAXIMUM AMOUNT	WHERE EXPERIENCE WAS GAINED	DURATION OF EXPERIENCE	TYPE OF USE

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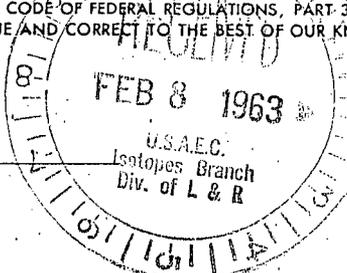
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Date **February 6, 1963**



By: N. S. Muccilli
N. S. Muccilli
 Plant Manager
 Title of certifying official

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