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Mallinckrodt

BOX 6172 LAMBERT FIELD • ST. LOUIS, MISSOURI 63145 • 314 AX 1-0540

NUC

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RADIOPHARMACEUTICALS

October 27, 1967

Director,
Isotopes Branch
Division of Materials Licensing
U. S. Atomic Energy Commission
1717 "H" Street
Washington, D.C.

Dear Sir:

Thyroid measurements performed on September 27, 1967 revealed the presence of 0.33 μC of Iodine-131, or 2.37 times the permissible quantity, in the thyroid gland of an individual. The average of this value and other taken during the week resulted in a value of 1.37, or 0.19 μC , for the week ending October 1, 1967. The subsequent average weekly values of .91 and .40 are the expected values as a result of restricting the work of this individual. This individual was allowed to resume his normal duties on October 16, 1967 which consist of decontamination and radioactive waste handling.

The air sample taken at station 17 (the radioactive waste storage room) averaged $51 \times 10^{-9} \mu\text{C}/\text{ml}$ for 9/25 and 9/26/67. The laboratory restricted area samples are programmed to run from 8 to 5 on working days. These samples are collected at 0800 Monday, Wednesday, and Friday. The thyroid burden measured on Wednesday morning could be directly related to the station 17 air sample also measured on Wednesday morning on the basis of occupancy time. An investigation disclosed an unsealed source of Iodine-131 in the waste storage room. The improperly sealed waste gave rise to high airborne concentrations of Iodine-131 which resulted in an exposure to the thyroid gland of the individual. All departments had access to the waste storage room at that time and it could not be determined who was responsible for the improperly sealed waste.

The following steps have been taken to minimize a recurrence of this situation:

1. A concrete block wall and a door have been erected to subdivide the area into a smaller radioactive waste storage room and a lead safe storage area.

Information in this record was deleted
in accordance with the Freedom of Information
Act, exemptions 6
FOIA- 96343

DUPLICATED
FOR THE RECORD

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Atomic Energy Commission
Washington, D.C.

October 27, 1967
Page 2

2. Only Health Physics personnel have access to the room which is kept locked at all times.
3. Instructions have been issued as to how waste is to be prepared and submitted to the Health Physics Department for subsequent storage.

Sincerely yours,

MALLINCKRODT/NJCLEAR

Donald W. Soldan

Donald W. Soldan, Manager
Health Physics Department

DWS:cd

encl.

cc: Manager, Region III
Division of Compliance, AEC
Suite 410 Oakbrook Professional Bldg.
Oak Brook, Illinois 60523

246

MALLINCKRODT/NUCLEAR

1967 FRACTIONAL PERMISSIBLE IODINE-131 THYROID BURDEN*

<u>NAME</u>		<u>SOCIAL SECURITY NUMBER</u>				<u>IDENTIFICATION NUMBER</u>	
Laboratory Assistant #1		[REDACTED]					
<u>Period of Exposure</u>	<u>1/2/67-4/3/67</u>	<u>4/3/67-7/3/67</u>	<u>7/3/67-10/2/67</u>	<u>10/2/67-1/1/68</u>			
<u>Week Starting</u>	<u>1 st. quarter</u>	<u>W. S. 2nd quarter</u>	<u>W. S. 3rd quarter</u>	<u>W. S. 4th quarter</u>			
1/2		4/3	7/3	10/2		.91	
1/9		4/10	7/10	10/9		.40	
1/16		4/17	7/17	10/16		.31	
1/23		4/24	7/24	10/23		.30	
1/30		5/1	7/31	10/30			
2/6		5/8	8/7	11/6			
2/13		5/15	8/14	11/13			
2/20		5/22	8/21	11/20			
2/27		5/29	8/28	11/27			
3/6		6/5	9/4	12/4			
3/13		6/12	9/11	12/11			
3/20		6/19	9/18	12/18			
3/27		6/26	9/25	12/25			
Quarterly Average						.36	

* Fractional Permissible Throid Burden based on a permissible quarterly average thyroid burden of 0.14 microcuries of Iodine-131.

Ex 6

The individual referred to as Laboratory Assistant #1 is

[REDACTED]