

SPECIAL LIMITED INSPECTION

1. Name and address of licensee

Union Carbide Corp.
chemicals & Plastics Operations Div.
Tech Center
P.O. Box 8361
South Charleston, W.V. 25303

2. Date of inspection

7/29/68

3. Type of inspection

R-3

4. License number(s), docket number(s), number and date of last amendment for each license. Category and Priority of each license

47-260-6

Thru Award No. 22 dtd Apr. 28, 1967

E, III

5. Date of previous inspection

6/3-4/65

6. Is "Company Confidential", or proprietary, or classified information contained in report?

Yes _____ No /

(Specify paragraphs)

7. Scope of inspection

Special limited inspection conducted on the basis of memo from L.D. Low dtd April 3, 1968.

8.

Wm Young

Inspector

7/29/68

Date of Report

G.J. Sutherland

Reviewer

8/14/68

Date of Review

1 of 6

Bldg 770, 2nd floor, east wing, Dr. Bricker,
storage in back of room 235
garage in 237

both posted - CRM system

both restricted areas - 24 hr. control by staff.

AEC-3 posted by entrance to room 237

Surveys by Fred Williams & for R.C. Midkiff
release within limits

on inventory 5.0 mc. C-14

48.0 mc. C-14

53.0 mc. total

Labeling CRM, isotope quantities, & date

Records of receipt maintained by Dr. Bricker from Ucarbit
" of trans. to Ucarbit

Waste to Radiological Service Co. N.J.

Labelled & only waste

C-14 - 6 mc

Ra-226 - 1.7 mc

Sr 90 - 20 mc

H-3 - 12 C

Cs 137 - 1 mc

Dr. Bricker authorized by Isotope Committee (4/guarantee)

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N.C. Eastman, Project Scientist

Bldg 770, 4th floor, room 458, trace studies

85 mc C-14 received from Ucarbit

85 mc C-14 transferred to 12 in

liquid form

Inventory - none

Surveys by Fred Williams & for R.C. Midkiff

All work in hood (excludes 1200 c/L)

Used rubber gloves, no spitting

Sign CRM posted when required

Labeling CRM symbol ok, Also isotope quantities & date
No restricted areas

Licensee Union Carbide Corp.

Summary

The use of Lic 1121, has not resulted in excessive external exposures or exposures to concentrations of radioactive materials. There has been no release of effluents to unrestricted areas. The radiation level in the unrestricted area has been less than 0.6 mR/hr.

Noncompliance and Safety Items

None (clear)

Unusual Occurrences

- No loss
- No overexposures
- No malfunctions
- No ingestion
- No inhalation
- No spills

(None)

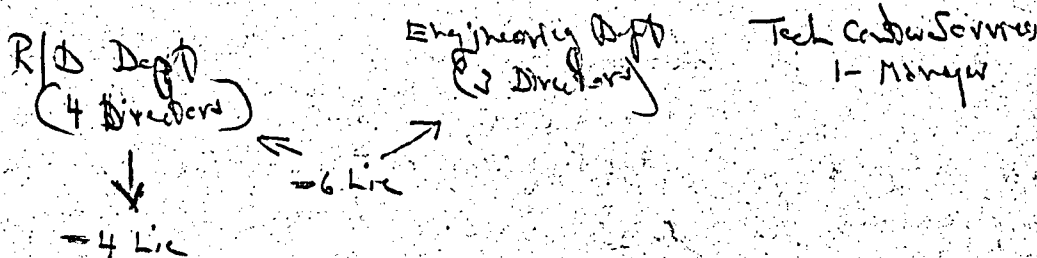
Status of Previously Reported Noncompliance or Safety Items

N/A (clear)

Management Interview

The inspection findings were discussed with ^{Mr.} R.M. Berg Asst. Director of R & D Dept.

Tech center for Group 1 of Union Carbide
 Group 1 consists of chemical & plastic production
 facilities of Union Carbide



Isotopes Committee

Mr. H.H. Ketchum - chairman, South Charleston Plant
 Mr. C.G. Corrie, Institute Plant
 Mr. V.G. Foglesong, Institute Plant
 Mr. D.L. Heywood, R&D Dept, Tech Center
 Mr. B.L. Murray, South Charleston Plant
 Mr. R.E. Peeler, Institute Plant
 Mr. C.E. Powhall, Purchasing
 Mr. R.V. Sealey, Engineering Dept
 Mr. Fred. Williams, RSO, Tech Center

Meets on infrequent basis. Last met formally 1 Oct 20, 1965. Minutes kept
 should there be a Health or Safety problem, it would be brought
 to the attention of committee.

Licensee

Union Carbide Corp

Mr. H.L. Green, Int. Engineer
Mr. R.V. Sealey, Group Leader
Dr. D.L. Kaywood, Group Leader
Mr. T. Kennell, Project Chemist
Mr. Ray Louthen, Chemist

Mr. M. Landfried, Int. Engineer

DETAILS

A. Participants

Mr. N.H. Ketchum, Chairman - Isotope Committee, RSO for - 6 license
Dr. J.H. Bricker, Project Scientist
Mr. R.G. Tuckoff, Asst RSO for - 4 and part 4 - 6 Lic
Mr. N.C. Erdman, Project Scientist
Mr. J.K. Rose, Group Leader

B. Scope of License Program

Tracer studies associated with chemical industry (study of chemical reactions)

C. Organization

Mr. Ketchum - RSO for - 6 license $\begin{cases} \text{Experience at K-25 plus ORNL. 4 years exp. at ORNL plus 19 years exp. at Union Carbide} \end{cases}$
Mr. Fred Williams - RSO for - 4 license $\begin{cases} \text{Experience at Y-12 plus ORNL. 12 years exp. at ORNL plus 5 years exp. at Union Carbide} \end{cases}$

organization (see back of page 2)

Isotope Committee " " " "

Ketchum approves of all encapsulated sources

Williams " " " encapsulated sources

D. Administrative Control

Authorized quantities of isotopes received

Authorized users selected by Isotope Committee

E. Use of Material

Tracer studies associated with R&D in the chemical field

Inventory

C-14 - 52 mc + 68 mc + 50.11 mc = 103.17 mc

Cl-36 - 20 mc

S-35 - 19.37 mc

H-3 - 100.0 mc

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Dly 770 4th floor, room 424
J.K. Rose Group leader (chemical)
Ray Douthett, chemist
Inventory

C-14 - 68 MC
storage in locked cabinet -
William & Midiff survey
rubbing, paper label
receipts from Univ. Calif
trans. to Philip Morris, Richard
to Univ. Calif.

Labeling ok
Posting on cabinet OK
No restricted area
work in hood

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Dly 770 1st floor, room 158
Mr. T. Kennell, Project chemist
None in inventory

From: Tracerlab 90 MC

" : Unlabeled 45 MC

To: 112 MC. disposed to Biological Services Division

To: 15 MC to Unlabeled stock

To: 8 MC " " "

Survey by Fred Williams & Dr. Midiff (air & wipe)

No pipetting, use rubber gloves, & absorbent paper

All in closed system

No lost ingestion, inhalation, etc.

Labeling ok

Area posted CRR symbol ok

work in hood

Licensee Union Carbide Corp.

F. Facilities

Same as reported by Ellis in report of inspection on June 3-4, 1965

G. Equipment

Same as reported by Ellis in report of inspection on June 3-4, 1965

H. Radiological Safety Procedures

Manual for use of Radioactive Materials (see folder)
follows as required.

I. Personnel Monitoring and Exposure to External Radiation

No PD or FD. Their use evaluated. ^{Determined that PD & FD would}
^{serve no useful purpose.}

J. Exposure of Employees to Concentrations of Radioactive Materials

None

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Lib 4304-316, 740

Dr. D.L. Heywood Gray Lumber

Transduction in Agricultural Studies

C-14, C-36, S-35, H-3 (solids)

MAC synthetics

From: - NEN, Volk, McIntosh Union Carbide

To: Mellon Inst. Union Carbide, Texas A&M

US Calif (Riverside & Berkeley), US Dept of Agr.
Billsville, MD
& Fargo, N.D.

Enriched synthetics
Survey - F.W. Williams, 8 yrs Y-12 (HP & Ind. Hyg), 9 yrs. here
Had test, wipe test

Threats

C-14 - 50.11 me S-35 - 19.37 me
C-36 - 20 me H-3 - 100 me

Storage

Lib 4309
refrigerator - sample

(6 of 6)

R.V. Sealey, Gray Lumber M.H. Landfried, Int. Eng.

M.L. Green, Int. Eng. Lib 2324

Int. Gray (Sealed source)
Tree can block

C-137 } ORNL
C-131 } Union Carbide
X-86 }
Z-133 }

No inventory

Disposal by Radiological Service
Sample by F. Williams

C-14 - 1.9 me

B/L 745
Int Lib - sample of C-14 Int CMB
ORNL sign
AEC-3

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Licensee Union Carbide Corp.

K. Effluents to Unrestricted Areas

calculations of effluents show all ^{fuel} hood releases to be less than Pt 20 limits

L. Disposals

All disposals to Radiological Services Inc., NST.

Records maintained

one since last inspection, 2/7/67, C-14, 61 mc; Ra 226, 1.7 mc;
Sr 90, 20 mc; Cs 137, 1 mc; H₂, 12 C.

M. Miscellaneous Surveys, Evaluations, and Records

Mr. Fred Williams surveys all areas during periods of work
Records maintained. No evidence of contamination & no
radiation levels greater than 0.6 mR/hr

N. Special License Conditions

No incineration

No sealed sources therefore no leak testing

O. Posting and Labeling

All work & storage areas posted CRT with symbol

All containers labeled " " " " Also is it generally done.

All restricted areas posted For-AEC-3, as required

Licensee

Union Carbide Corp.

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P. Independent Measurements

Eberline E 500-D.

In survey of Lab. - no evidence of contamination on floor
work benches or sinks

No radiation levels greater than 0.6 μ R/hr.

Q. Operations Observed

None

R. Incidents, Overexposures, Theft or Loss, Equipment Malfunction

None

S. Other Information or Continuation from Previous Paragraphs

None