

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. Alan 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 hood of room 235
garments 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 &/or R.C. McKiff
release within limits

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 UCarole
" of trans. to UCarole

Waste to Radiochemical 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 UCarole
85 mc C-14 transferred to 12 L + Helen Institute, Pittsburgh Pa.
liquid form

Inventory - none

Surveys by Fred Williams &/or R.C. McKiff

All work in hood (airflow 1200 CFM)
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 areas 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)

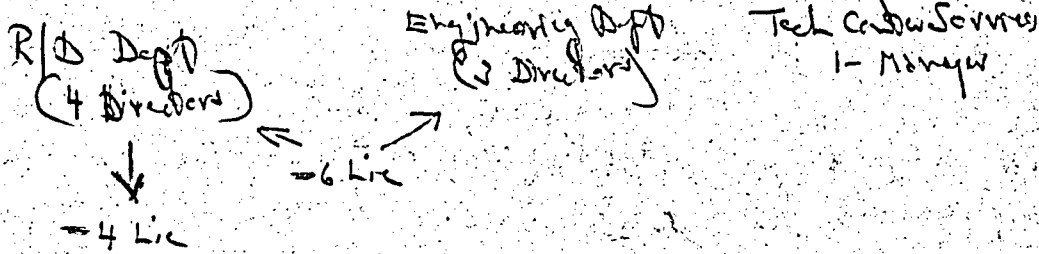
Status of Previously Reported Noncompliance or Safety Items

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.O. Foglesong, R & D Dept, Tech Center
- Mr. D.L. Heywood, South Charleston Plant
- Mr. B.L. Murray, Institute Plant
- Mr. R.E. Peelle, Purchasing
- Mr. C.E. Pownall, Engineering Dept
- Mr. R.V. Sealey, RSO, Tech Center

Meets on infrequent basis. List 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, Inst. 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, Inst. Engineer

DETAILS

A. Participants

- Mr. N.H. Ketchum, Chairman - Isotope Committee, P.S.O. for - 6 license
- Dr. J.H. Bricker, Project Scientist
- Mr. R.C. Tisdell, 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 unencapsulated 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 - 53 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 (chemist)
Ray Douthett, chemist
Library

C-14 - 68 mc
storage in locked cabinet -
William & Midiff survey
rubbing, paper label
receipt 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

" : Unitak stock 45 mc

To: 112 mc. disposed to Biological Services Division

To: 15 mc to Unitak 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. CRN symbol ok
work in hood

Licensee Union Carbide Corp.

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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. ^{They} Use evaluated. ^{Determined that PD & FD will} serve no useful purpose.

J. Exposure of Employees to Concentrations of Radioactive Materials

None

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Lib 4304 Bll, 740

Dr. D.L. Heywood Gray Leder

Transactions in Agricultural Science

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

MHC synthases

From: - NEN, Volk, McIntosh Union Carbide

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

U of Calif (Riverside & Berkeley)

US Dept of Agr
Beltsville, MD
& Fargo, ND

(2 inc)

Enclsd synth

Survey - F.W. Williams, 8 yrs 1-12 (HP & Ind. Hyg), 9 yrs. here
Acid test, wipe test

Inventory

C-14 - 50.11 mc S-35 - 19.37 mc

C-36 - 20mc H-3 - 100 mc

Storage

Lib 4309

refrigerator - sample

(6 of 6)

R.V. Sealey, Gray Leder

M.H. Landfried, Int. Eng.

M.L. Green, Bll, 740 Lib 2324

Int. Gray (Sealed source)

Trace amount

C-137

C-131

Ko-80

Zn-133

} ORNL
} Union Carbide

No inventory

Disposed by Radiological Service

Survey by F. Williams

C-14 - 1.9 mc

Bll, 745

Int Lib - storage of C-14 Int. Eng.

ORNL sign

AEC-3

Licensee Union Carbide Corp.

K. Effluents to Unrestricted Areas

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

L. Disposals

All disposed to Radiological Services Inc., N.J.
Records maintained
one since last inspection, 2/7/67, C-14, 61mc; Ra 226, 1.7mc
Sr 90, 20mc; Cs 137, 1mc; H₂, 12c.

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 isotope quantity
date.
All restricted areas posted For-AEC-3, as required

Licensee

Union Carbide Corp.

0-6-

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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