

PRELIMINARY NOTIFICATION OF EVENT OR UNUSUAL OCCURRENCE PNO-III-90-24 Date April 6, 1990 DCD

This preliminary notification constitutes EARLY notice of events of POSSIBLE safety or public interest significance. The information is as initially received without verification or evaluation, and is basically all that is known by the Region III staff on this date.

Facility: Sigma Chemical Company
St. Louis, Missouri
License No. 24-16273-01

Licensee Emergency Classification:
☐ Unusual Event
☐ Alert
☐ Site Area Emergency
☐ General Emergency
☒ Not Applicable

Subject: OVEREXPOSURE

A laboratory employee received an estimated 3.7 rem whole body exposure resulting from absorption of carbon-14 through his skin in a February 14, 1990, contamination incident. The employee was conducting an experiment in a fume hood using a carbon-14 labeled substance when an unexpected chemical reaction caused about 2 curies of carbon-14 to be released. The worker was not wearing a laboratory coat, and his shirt sleeve and arm were contaminated.

Carbon-14 readily enters the body through the skin. It is a low-energy beta emitter which poses no significant external hazard. Bioassay tests performed on the individual since the incident have shown that the carbon-14 has been virtually eliminated from his body through biological elimination. The worker was examined by a physician, and no adverse medical effects are expected. He has been removed from radioisotope handling duties for the remainder of the year.

The licensee's surveys showed that the carbon-14 contamination was confined to the fume hood, and it was decontaminated.

The licensee will submit a more detailed incident report. Region III (Chicago) will conduct a special inspection into the circumstances of the incident.

The State of Missouri will be notified. The information in this Preliminary Notification has been reviewed with licensee management.

The licensee's written report was received by Region III on March 19, 1990. Additional information was obtained on April 5, 1990. This information is current as of 9 a.m., April 6, 1990.

9004200745 900406
PDR I&E
PNO-III-90-024 PNU

CONTACT: J. Lynch
FTS 388-5669

R. Caniano
FTS 388-5721

B. Mallett
FTS 388-5612

DISTRIBUTION:

HEADQUARTERS OFFICES
 Chairman Carr NMSS
 Comm. Roberts GPA:SLITP
 Comm. Rogers GPA:PA
 Comm. Curtiss GPA:CA
 Comm. Remick *OIG
 EDO *ASLAP
 Gen. Counsel Research
 NRR IRM
 AEOD ACRS
 Enforcement

REGIONS
 Region I
 Region II
 Region IV
 Region V

MAIL TO:
 DCS (Orig)
 DOT (Trans.
 Only)

FAX TO:
 INPO _____ NSAC _____ LIC _____
 NRC OPS CTR 11:35
 PDR (8/634-3343) 11:38

*Denotes a Displaywriter/PC not an IBM 5520 Terminal.

Rev. 12/05/89