

## SAFETY INSPECTION REPORT AND COMPLIANCE INSPECTION

1 LICENSEE/LOCATION INSPECTED  Sigma-Aldrich Company 11542 Fort Mims Drive St. Louis, Missouri 63146  REPORT NUMBER(S) 2017-001		2 NRC/REGIONAL OFFICE  Region III U. S. Nuclear Regulatory Commission 2443 Warrenville Road, Suite 210 Lisle, IL 60532-4352	
3 DOCKET NUMBER(S)  030-10716	4 LICENSE NUMBER(S)  24-16273-01	5 DATE(S) OF INSPECTION  12/12/17 thru 1/12/18	

## LICENSEE:

The inspection was an examination of the activities conducted under your license as they relate to radiation safety and to compliance with the Nuclear Regulatory Commission (NRC) rules and regulations and the conditions of your license. The inspection consisted of selective examinations of procedures and representative records, interviews with personnel, and observations by the inspector. The inspection findings are as follows:

- ☐ 1 Based on the inspection findings, no violations were identified
- ☐ 2 Previous violation(s) closed.
- ☐ 3 The violation(s), specifically described to you by the inspector as non-cited violations, are not being cited because they were self-identified, non-repetitive, and corrective action was or is being taken, and the remaining criteria in the NRC Enforcement Policy, to exercise discretion, were satisfied.

Non-cited violation(s) were discussed involving the following requirement(s)

- ☒ 4 During this inspection, certain of your activities, as described below and/or attached, were in violation of NRC requirements and are being cited in accordance with NRC Enforcement Policy. This form is a NOTICE OF VIOLATION, which may be subject to posting in accordance with 10 CFR 19.11

(Violations and Corrective Actions)

10 CFR 20.1902(e) requires that the licensee post each area or room in which certain amounts of licensed material, specified in §20.1902(e), are used or stored, with a conspicuous sign or signs bearing the radiation symbol and the words "CAUTION, RADIOACTIVE MATERIAL(S)" or "DANGER, RADIOACTIVE MATERIAL(S)."

Contrary to the above, as of December 12, 2017, an outdoor area in which approximately 85 millicuries of C-14, which exceeds 10 times the quantity of such material specified in Appendix C to Part 20 was stored, was not posted with a conspicuous sign or signs bearing the radiation symbol and the words "CAUTION, RADIOACTIVE MATERIAL(S)" or "DANGER, RADIOACTIVE MATERIAL(S)."

## Statement of Corrective Actions

I hereby state that, within 30 days, the actions described by me to the Inspector will be taken to correct the violations identified. This statement of corrective actions is made in accordance with the requirements of 10 CFR 2.201 (corrective steps already taken, corrective steps which will be taken, date when full compliance will be achieved). I understand that no further written response to NRC will be required, unless specifically requested.

TITLE	PRINTED NAME	SIGNATURE	DATE
LICENSEE'S REPRESENTATIVE	Thomas Spencer	<i>Thomas Spencer</i>	1-24-18
NRC INSPECTOR	Michael LaFranzo	<i>Michael LaFranzo</i>	1-23-18
BRANCH CHIEF	Michael Kunowski	<i>Michael Kunowski</i>	1-23-18

## SAFETY INSPECTION REPORT AND COMPLIANCE INSPECTION

1 LICENSEE/LOCATION INSPECTED

Sigma-Aldrich Company  
11542 Fort Mims Drive  
St. Louis, Missouri 63146

REPORT NUMBER(S) 2017-001

2 NRC/REGIONAL OFFICE

Region III  
U. S. Nuclear Regulatory Commission  
2443 Warrenville Road, Suite 210  
Lisle, IL 60532-4352

3 DOCKET NUMBER(S)

030-10716

4 LICENSE NUMBER(S)

24-16273-01

5 DATE(S) OF INSPECTION

12/12/17 thru 1/12/18

(Continued)

Corrective Actions: The licensee posted the area and committed to perform a site visit to ensure all required postings were present and visible at least once every three months or within several days after a storm event, which could damage or remove required NRC posting.

**Docket File Information**

**SAFETY INSPECTION REPORT AND COMPLIANCE INSPECTION**

1. LICENSEE/LOCATION INSPECTED:  Sigma-Aldrich Company 11542 Fort Mims Drive St. Louis, Missouri 63146  REPORT NUMBER(S) 2017-001		2. NRC/REGIONAL OFFICE  Region III U. S. Nuclear Regulatory Commission 2443 Warrenville Road, Suite 210 Lisle, IL 60532-4352	
3. DOCKET NUMBER(S)  030-10716	4. LICENSE NUMBER(S)  24-16273-01	5. DATE(S) OF INSPECTION  12/12/17 thru 1/12/18	
6. INSPECTION PROCEDURES USED  87104	7. INSPECTION FOCUS AREAS  Posting and Security		

**SUPPLEMENTAL INSPECTION INFORMATION**

1. PROGRAM CODE(S)  3900	2. PRIORITY  D	3. LICENSEE CONTACT  Thomas K Spencer (RSO)	4. TELEPHONE NUMBER  (314) 286-7686
<input type="checkbox"/> Main Office Inspection      Next Inspection Date: <u>NA</u>			
<input checked="" type="checkbox"/> Field Office Inspection <u>11542 Fort Mims Dr; St. Louis, Missouri</u>			
<input type="checkbox"/> Temporary Job Site Inspection    _____			

**PROGRAM SCOPE**

The inspection was conducted at the Sigma-Aldrich Company's (Sigma) site located at 11542 Fort Mims Drive, St. Louis, Missouri. Sigma did research and development and radiolabeled synthesis of compounds with C-14 and H-3, until they ceased production activities on September 30, 2008. Sigma contracted with an Agreement State licensee, Philotechnics, to perform decommissioning activities as described in their Decommissioning Plan (DP) dated October 20, 2008. The first phase of the decommissioning was the remediation of the Fort Mims two-story building to make it suitable for unrestricted use, which was completed in July 2009. The second phase was the demolition of the building down to the concrete slab (completed in October 2009) and the removal of the slab (completed in May 2010). The third phase began in November 2009 and used soil borings to locate and characterize a former septic tank area. Residual soil contamination above previously approved DP limits was found. In June 2012, the NRC accepted for technical review the licensee's amendment request, after requesting and receiving additional information on the site-specific dose model. The NRC is currently reviewing the licensee's request to release the site for unrestricted use. The current Sigma license (Amendment No. 19) has an expiration date of April 30, 2013, but continues in effect per 10 CFR 30.36(c) until the license is terminated by the NRC. The current condition of the site is contaminated soil containing approximately 85 millicuries of C-14 which is controlled by black plastic construction fencing approximately 6 feet high.

**PERFORMANCE OBSERVATIONS**

On December 12, 2017, two NRC inspectors visited the 11542 Fort Mims Drive; St. Louis, Missouri. Upon arrival, they noticed that the required posting in accordance with 10 CFR 20.1902(e) "Posting of areas or room in which licensed material is used or stored" was not present. The NRC contacted the licensee via telephone and found that it was unclear the last time a licensee representative visited the site but that several storms in the previous few months could have ripped the posting off its base. The licensee confirmed that the posting was not in the area and on December 22, 2017, replaced the required posting. The licensee committed to to perform a site visit to ensure all required postings were present and visible at least once every three months or within several days after a storm event, which could damage or remove required NRC posting.