

**SAFETY INSPECTION REPORT AND COMPLIANCE INSPECTION**

1. LICENSEE/LOCATION INSPECTED:

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

2. NRC/REGIONAL OFFICE

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

REPORT NUMBER(S) 03010716/2014001

3. DOCKET NUMBER(S)

030-10716

4. LICENSE NUMBER(S)

24-16273-01

5. DATE(S) OF INSPECTION

4/21/2014-7/7/2014 (in-office)

**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:

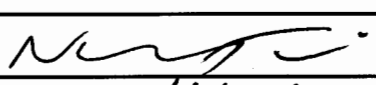
- 1. Based on the inspection findings, no violations were identified.
- 2. Previous violation(s) closed.
- 3. The violation(s), specifically described to you by the inspector as non-cited violations, are not being cited because they were self-identified, non-repetitive, and corrective action was or is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

**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			
NRC INSPECTOR	Navid Tehrani		6/17/14
BRANCH CHIEF	Robert Orlikowski	Wayne Ald. for Orlikowski	7/12/14

**Docket File Information**

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6. INSPECTION PROCEDURES USED  87104	7. INSPECTION FOCUS AREAS  Security and Control of Contaminated Material
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**SUPPLEMENTAL INSPECTION INFORMATION**

1. PROGRAM CODE(S)  3900	2. PRIORITY  D	3. LICENSEE CONTACT  Thomas K Spencer (RSO)	4. TELEPHONE NUMBER  (314) 286-7686
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Main Office Inspection      Next Inspection Date: \_\_\_\_\_

Field Office Inspection      \_\_\_\_\_

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 February 2011, Sigma submitted a license amendment request to release the site for unrestricted use as supported by a December 2010 site-specific dose model. 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. DDES describes in a memo dated February 12, 2014, that DDES has been contracted by Sigma-Aldrich to provide radiological oversight and clearance surveys of the parking lot removal.

**PERFORMANCE OBSERVATIONS**

The inspector conducted on in-office inspection. During this inspection the inspector reviewed the following documents: Sigma-Aldrich Company Materials License (24-16273-01), the licensee's Decommissioning Plan (DP), a letter from DDES (licensee's decommissioning contractor) dated February 28, 2014, "Health Physics Support - Fort Mims Facility Parking Lot Removal," and a letter from Sigma-Aldrich dated April 9, 2014, Form Mims Parking Lot Removal, and a DDES procedure dated March 2010, "Unrestricted Release of Material: Procedure No:HP-MA-14 rev. 0."

The inspector verified that the asphalt removal release criteria (Regulatory Guide 1.86) was adequate and was in compliance with NRC requirements. The inspector did not identify any violations of NRC requirements.