



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4

**SAM NUNN ATLANTA FEDERAL CENTER
61 FORSYTH STREET, S.W.
ATLANTA, GEORGIA 30303**

EMERGENCY ACTION MEMORANDUM

DATE: August 07, 2023

SUBJECT: Action Memorandum for an Emergency Response Removal Action at the Applegate Lane Containers Site pursuant to the On-Scene Coordinator's delegated authority under CERCLA Section 104

FROM: Chuck Berry, OSC
Emergency Response, Removal, and Prevention Branch

THRU: James Webster, Chief
Emergency Response, Removal, and Prevention Branch

TO: Regional Emergency Operations Center, 4SD-ERRPB
Georgia Environmental Protection Division
Site File

I. PURPOSE

This memorandum documents the decision to initiate emergency response actions described herein for the Applegate Lane Containers Site (the Site) located at 6213 Applegate Lane, Jefferson County, Louisville, Kentucky, pursuant to the On-Scene Coordinator's (OSC) delegated authority under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Section 104.

II. SITE INFORMATION

A. Site Description

Site Name: Applegate Lane Containers
Superfund Site ID (SSID): C4S7
NRC Case Number: 1374856
CERCLIS Number: KYN000421021
Site Location: 6213 Applegate Lane, Jefferson County, Louisville, Kentucky, 40219
Lat/Long: 38.133007, -85.646038
Potentially Responsible Party (PRP): See Enforcement Addendum
NPL Status: No
Removal Start Date: August 14, 2023

B. Site Background

1. Removal Site Evaluation

In late July 2023, the Louisville Metro Police Department (LMPD) began investigating a suspect who claimed to have homemade explosives (HME) at his residence at 6213 Applegate Lane in Louisville, Jefferson County, KY. The daughter of the owner of the empty house next door at 6211 Applegate Lane had asked the suspect to monitor the house after the elderly owner was moved into an assisted living facility. From here, the suspect allegedly began selling furniture from the neighbor's house. This act ultimately led a couple that bought the furniture to report the suspect's claims of having chemical explosives present during the purchase. During the investigation into the owner of 6213, LMPD discovered social media posts showing him using a laser pointer to detonate a batch of nitrogen triiodide (NI₃), an explosive so unstable it can detonate under heavy air currents or with the touch of a feather. NI₃ cannot be stored in any significant quantity for a significant amount of time, as it detonates under its weight.

After the investigation, LMPD arrested the suspect for burglary and charges related to possessing picric acid, a primary explosive, on July 27. LMPD then began a search of the suspect's home. LMPD requested assistance from its bomb squad, the Fern Creek Fire Department, the 41st Civil Support Team, and the FBI bomb team. Responders described the residence and detached garage as an "extreme hoarder situation." Piles of personal belongings of every sort were spread throughout the structure, blocking access into and through the buildings. Interspersed within the debris were chemical containers of various sizes, many labeled, many not. Investigators estimate over 1,000 containers were in the building. Searches in the basement discovered a laboratory, where, as disclosed by the suspect in police interviews, he conducted experiments in homemade explosives (HMEs). Air monitoring in the building produced no Volatile Organic Compounds (VOC) except for the laboratory. There, a 17% Lower Explosive Limit (LEL) reading was detected that quickly dropped to 12% but then slowly dropped to 0% over several hours. Investigators identified at least two containers of explosives and conducted controlled detonations on both at the residence. In a previous interview, the suspect expressed there was a mercury spill outside the 6211 Applegate Lane house that could have been tracked inside.

LMPD conducted two controlled destructions of suspected HMEs, one with the picric acid recovered in the initial investigation and the second on a suspicious powder found in a "blast seat" located in the backyard; the substance was presumed to be unconsumed material the suspect attempted to explode. LMPD reported both events resulted in high-energy detonations, meaning the material involved was a confirmed explosive.

On August 4, a letter from the Mayor of Louisville requested assistance from EPA Region 4 with the potential remediation of the structure. The Louisville Emergency Management Agency implemented Unified Command at the Site using State, Federal, and local resources.

The OSC integrated into Unified Command and requested access to the building, which LMPD agreed to provide. On August 10, the OSC observed an interview conducted by LMPD with the property owner and the owner's attorney. During the interview, the owner admitted to spilling mercury outside the back door of the 6211 property but claimed to have cleaned it up by applying sulfur powder. The owner was also contradictory in declaring whether the property contained any manufactured HMEs. He adamantly refuted the claim at one point but eventually stated he wasn't sure and, if it was there, "it would be in the fridge." Additionally, he stated he had roughly two kilograms of sodium or potassium cyanide on the table beside his bed.

2. Physical Location and Site Characteristics

The Site is a one-story, 1,250-square-foot single-family house with a basement. A detached garage is present. There are no other structures on the property. Other residential properties surround the property, with the closest, 6211 Applegate Lane, only 35 feet away.

Release or Threatened Release into the Environment of a Hazardous Substance, or Pollutant or Contaminant

The documented chemicals in the home include acetone, ethanol, ethylamine, hexane, hydrogen peroxide, mercury, methanol, nitric acid, potassium dichromate, sodium azide, sodium cyanide, sodium hydroxide, sodium metal, sulfuric acid, and toluene. All are hazardous substances listed at 40 CFR § 302.4. In addition, there are 100s of labelled laboratory chemical bottles throughout the home but not positioned for a proper inventory. Also, there are likely 100s of unknown chemicals in unmarked improvised containers and used uncleaned reaction vessels. A complete inventory of all the hazardous substances within the building is impractical to obtain. There is no organized storage system, incompatible materials stored together, large amounts of debris and trash that will cause any fire to propagate extremely fast, evidence of unsecured pyrophoric compounds, and reported homemade explosives at the Site. The nature and conditions of the chemicals and compounds present at the site represent an imminent and substantial endangerment to the public and the environment.

III. THREATS TO PUBLIC HEALTH, WELFARE OR THE ENVIRONMENT

A. Nature of Actual or Threatened Release of Hazardous Substances, Pollutants or Contaminants

The documented chemicals and an estimated 500 - 1000 small-volume containers of unknown contents are dispersed throughout the debris within the building. The hoarding situation intertwines the owner's personal life and chemistry experiments. The entire house contains chemicals, reaction products, reaction vessels, and extraction equipment, much of it improvised. About a dozen crock pots, a dozen pressure cookers, refilled chemical bottles with crossed-out labels, and containers with suspicious wiring and batteries attached are in boxes stacked a meter high in some places or are lying on every horizontal surface in the building. The boxes are falling over or are damaged. There is no pathway around the

material, and navigating from one room to the next requires stepping on boxes or containers or reaction vessels, which results in movement or breakage of the containers.

The threat of fire from storing the material has resulted in the City's health department condemning the property as unfit for human habitation. The history of HME manufacture calls into question every container of unknown material. HMEs may explode upon slight disturbance, such as falling out of a box, or may simply degrade to the point they become unstable and detonate. No HMEs have been made with scientific precision in a controlled laboratory, so their composition will include highly variable impurities, which may affect their long-term stability. Additionally, many require cold storage, which isn't happening at the property as the power was shut off months ago.

Even for the labeled materials, there is no apparent planned storage system, and there is considerable risk of incompatible materials coming into contact. Similarly, with the large amounts of debris and trash, any fire will propagate extremely fast and necessitate an evacuation of nearby residences. Based on the *Emergency Response Guidebook* (US DOT, 2024), just the presence of the claimed quantity of cyanides would necessitate a ½ mile exclusion zone in case of fire.

B. Applicable factors which were considered in determining the appropriateness of a removal action (40 CFR 300.415)

300.415(b)(2)(iii) Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers, that may pose a threat of release.

The home contains an estimated 1,000 containers, many of them unknown. However, a short inventory of those accessible includes acetone, ethanol, ethylamine, hexane, hydrogen peroxide, mercury, methanol, nitric acid, potassium dichromate, sodium azide, sodium cyanide, sodium hydroxide, sodium metal, sulfuric acid and toluene; all hazardous substances listed at 40 CFR § 302.4.

300.415(b)(2)(vii) Treat of fire or explosion

The chemicals are not stored properly, and there are significant incompatibilities among many of them. The HMEs may move within the debris piles and detonate. Further, if a fire were to start, the hoarding situation would enhance the spread and complicate fire-fighting efforts. In fact, given the homemade explosives on Site, the fire department has instituted a "do not fight" order on the structure, deeming the building too unsafe to address. Any fire would necessitate a ½-mile evacuation area and lead to possible deposition of thermal decomposition products on nearby structures and lawns.

300.415(b)(2)(vii) The availability of other appropriate federal or state response mechanisms to respond to the release.

The property owner is currently in jail for wanton endangerment and burglary and is unable to make bail to conduct a removal action. The Kentucky Department of Environmental Protection and Louisville Metro requested EPA assistance with the assessment and remediation of the property.

IV. ENDANGERMENT DETERMINATION

Actual or threatened releases of hazardous substances from this Site, if not addressed by implementing the response actions selected in this Action Memorandum, may present an imminent and substantial endangerment to public health, welfare, or the environment.

V. SELECTED REMOVAL ACTIONS AND ESTIMATED COSTS

A. Situation and Removal Activities to Date

1. Current Situation

Considering the factors explained above, the FOSC initiated an emergency response removal action to assess the release or potential release of a hazardous substance to the environment and take any necessary stabilization steps. Superfund Technical Assessment and Response Team (START) contractors have been mobilized to the Site to conduct an accelerated assessment for response planning.

2. Removal Activities to Date

a. Federal Government/Private Party

On August 14, with assistance from the 41st CST, LMPD, and the Louisville Emergency Management Agency, EPA and START made multiple entries into the building to assess an appropriate response.

b. State/Local

LMPD continues to investigate the residence as a crime scene, and any future response action will accommodate law enforcement's needs. EPA has entered Unified Command with the City and the Commonwealth of Kentucky.

3. Enforcement

The owner has not signed an access agreement for EPA to take a removal action. EPA is currently assessing options for a judicial warrant. The current property owner is identified in the attached enforcement addendum.

B. Planned Removal Actions

1. Proposed Action Description

Potential removal activities for the Site may include, but will not be limited to the following:

- a. Physical removal and segregation of chemicals from the building if the process can be done with minimal risk to responders.
- b. Demolition of the building and removal of the chemicals within through mechanical means.
- c. Removal of debris and fire-impacted containers if the City decides to use its condemnation authorities to demolish the building through incineration.
- d. Coordinate disposal and transport to a TSD facility.
- e. Coordinate site restoration as necessary.
- f. Perform air, water, and soil sampling as deemed necessary by the OSC to quantify and assess impacts on the surrounding community and the property.
- g. Coordinate with State and Local Agencies

2. Contribution to Remedial Performance

The proposed actions will, to the extent practicable, contribute to the efficient performance of any long-term remedial action at the Site.

3. Applicable or Relevant and Appropriate Requirements (ARARs)

Removal actions conducted under CERCLA are required to attain ARARs to the extent practicable. In determining whether compliance with ARARs is practicable, the OSC may consider appropriate factors, including the urgency of the situation and the scope of the removal action to be conducted.

The Federal ARARs identified for the site include:

- a. RCRA Land Disposal Restrictions
- b. RCRA Treatment, Storage and Disposal
- c. DOT Transportation Regulations
- d. DOT Hazardous Materials Regulations

The State has not provided any ARARs.

4. Project Schedule

The removal action is anticipated to be completed within 12 months of the Start Date listed in Section II of this document.

C. Estimated Costs²

Contractor costs (ERRS)	\$200,000
<u>Contractor costs (START)</u>	<u>\$ 50,000</u>
Total Removal Project Ceiling	\$250,000

Although cost recoverable, EPA direct and indirect costs do not count toward the Removal Ceiling for this removal action. Liable parties may be held financially responsible for costs incurred by the EPA as set forth in Section 107 of CERCLA.

VI. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

A delay in action or no action at this Site would increase the actual or potential threats to the public health and/or environment from the uncontrolled release of hazardous substances.

VII. OUTSTANDING POLICY ISSUES

None.

VIII. APPROVALS

This decision document represents the selected removal action for this Site, developed in accordance with CERCLA as amended and not inconsistent with the National Contingency Plan. This decision is based on the administrative record for the site.

Conditions at the site meet the NCP section 300.415(b) criteria for a removal action, and through this document, I am approving the proposed removal actions. The total project ceiling is \$250,000, of which an estimated \$250,000 may be funded from the Regional Removal Allowance.



Chuck Berry
Federal On-Scene Coordinator

August 12, 2023

Date