

## LA-UR-18-23300

Approved for public release; distribution is unlimited.

**Title:** OPEXinACTION - Employee Michael Middlemas acts on Lessons Learned information to help prevent an incident

**Author(s):** Trujillo, Stanley  
Cote, Michael HD  
Lujan, Clarence E.  
Collier, Linda A.

**Intended for:** DOE Operating Experience Coordinators Meeting, 2018-04-26 (Aiken, South Carolina, United States)

**Issued:** 2018-04-18

---

**Disclaimer:**

Los Alamos National Laboratory, an affirmative action/equal opportunity employer, is operated by the Los Alamos National Security, LLC for the National Nuclear Security Administration of the U.S. Department of Energy under contract DE-AC52-06NA25396. By approving this article, the publisher recognizes that the U.S. Government retains nonexclusive, royalty-free license to publish or reproduce the published form of this contribution, or to allow others to do so, for U.S. Government purposes. Los Alamos National Laboratory requests that the publisher identify this article as work performed under the auspices of the U.S. Department of Energy. Los Alamos National Laboratory strongly supports academic freedom and a researcher's right to publish; as an institution, however, the Laboratory does not endorse the viewpoint of a publication or guarantee its technical correctness.

## Employee Michael Middlemas acts on Lessons Learned information to help prevent an incident

Doing your homework can really pay off. For Michael Middlemas, it certainly did.

A potential incident involving an expired chemical was averted during a cleanout at LANL in October 2017 thanks to Middlemas and his reading of an OPEXatLANL Lessons Learned from a few months earlier.

Middlemas, of MST-16, was involved in an inventory check at LANL's Materials Science Laboratory (MSL). The inventory check was part of a Labpack, which is used to dispose of unused or unspent chemical containers.

While performing the inventory, Middlemas found a bottle of tetrahydrofuran. The bottle had an expiration date of 2012 printed on it.

Upon seeing the expiration date, Middlemas remembered a Lesson Learned document he'd seen on OPEXatLANL, posted June 7, 2017, titled *Expired Time Sensitive Chemicals Not Managed According to Laboratory Policies*.

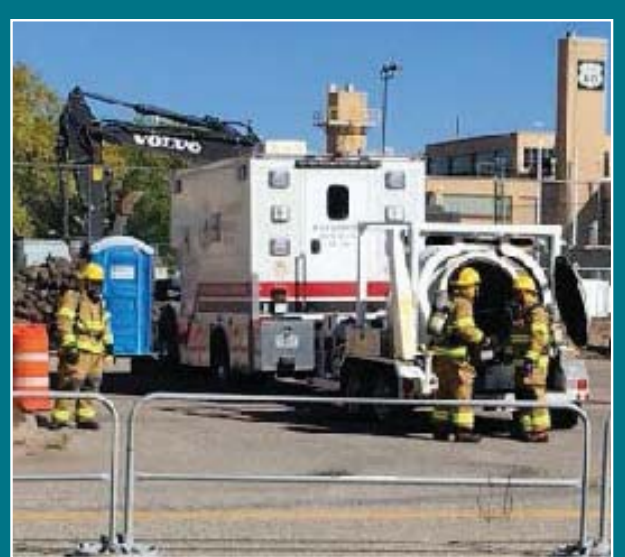
In that Lesson Learned, he read about a similar instance of expired chemicals found at LANL's Health Research Laboratory (HRL). In the previous instance, three time-sensitive chemicals (diethyl ether, hydrazine, and hydrazine acetate) that are known to form "shock-sensitive" crystals were found at HRL. "Shock-sensitive" means the crystals in the chemicals could become explosive when exposed to air or light, or simply over a period of time.

An example of a label found on the bottles at HRL, an image of which is included along with "Expired Time Sensitive Chemicals Not Managed According to Laboratory Policies," reads "If a viscous liquid or crystalline solid is found in the material, do not open or attempt to move the container! Take Special care to check around the cap. If already open, do not re-tape."

Tetrahydrofuran, another shock-sensitive chemical, could become explosive under the same conditions as the HRL chemicals.

### GOOD ACTIONS DESERVE CREDIT:

If you or one of your co-workers used Lessons Learned or Best Practices information to take action, let OPEX at LANL know about it. OPEX at LANL wants to give credit where credit is due, as well as to share it with others across the Laboratory as examples of how OPEX at LANL can create opportunities for others to improve their own safety or processes. Share your experience with your Lessons Learned coordinator or email [opex@lanl.gov](mailto:opex@lanl.gov) to start the OPEX-in-ACTION publication process.



LANL Emergency Operations responded to the site and took control of the area. HAZMAT destroyed the bottle in a total containment vessel after receiving permission from the NM Environmental Department.

Remembering the Lesson Learned, Middlemas immediately contacted the deployed industrial hygienist, who called Laboratory Emergency Operations. LANL's Hazmat Team was brought in to check out the bottle, which it deemed potentially hazardous. The Hazmat Team would destroy the chemical in a total containment vessel.

A potentially serious incident was averted. For Middlemas' attentiveness, he earned a WSST Star Award in February.

To learn more about the October 2017 cleanout and discovery of the tetrahydrofuran, visit OPEXatLANL and read "*Crystals Discovered in Peroxide Forming Chemical during Lab Cleanout.*"