

LAB INCIDENT SUMMARY: LAH Fire

DESCRIPTION:

A researcher was weighing individual portions (~1 gram) of Lithium Aluminum Hydride (LAH) out on the laboratory bench top. When the researcher was weighing out the fifth portion the container spontaneously ignited in their hand. The researcher moved away from the bench top area where other chemicals were stored and dropped the burning container on floor. Another researcher in the lab used the fire extinguisher and put out the fire.



CAUSES:

- The researcher used a dry metal spatula to scrap out the LAH out on the open bench. Friction, moisture, and oxygen collectively caused ignition.
- LAH container was improperly stored and handled in a open environment exposing the LAH to moisture and air.
- Container was not stored in a cold place. Temperature should not exceed 30°C.
- Lab personnel didn't know exactly how long it was stored in the lab.
- Researcher was not trained in proper handling of pyrophoric chemicals. Proper PPE (FR/CP lab coat)was not available.
- None of the prerequisite trainings were completed prior to beginning work with pyrophoric chemicals.

RESPONSE:

- Lab safety contact notified EHS.
- EHS Lab Safety responded and consulted with the researchers.
- EHS consulted FPS for used fire extinguisher replacement.
- Fire extinguisher was replaced by FPS.

PREVENTION:

- Establish a protocol to train staff on chemical hazards and appropriate handling of pyrophoric materials.
- Regularly inspect and evaluate the integrity and condition of chemical containers.
- Never open pyrophoric containers in an open atmosphere exposing materials to moisture and oxygen.
- Always store LAH in a glove box, keep dry, and cold below 30°C.
- Do not allow lab personnel to handle pyrophoric chemicals without proper training and PPE.
- Date chemical containers with the date opened. Dispose of any chemical containers that are expired, degraded, or old/no longer used.
- Call EHS immediately when incidents occur or in an emergency.