

Organic Peroxide-Formers

Lab Safety Incident UTHSC – February 2018

Incident: In February 2018 a container of diethyl ether of unknown age was found during a routine lab safety inspection. Crystal formations were visible on the container indicating the presence of potentially reactive organic peroxides. Following this discovery the entire Johnson Building was closed for three days and access prohibited while awaiting the arrival of a High Hazard Response Team to neutralize the potentially explosive compound. Once neutralized the container was removed from the building and disposed of as hazardous chemical waste.

Hazard: Some organic compounds have the potential to form dangerous levels of organic peroxides. These peroxides are sensitive to shock and friction and may potentially be explosive.

Safety: The [UTHSC Chemical Hygiene Plan](#) details the institutional procedure for the storage and handling of peroxide-forming compounds (e.g. ethers, THF, dioxane, etc.). These compounds must be labeled with the date the container was received and opened. Before handling the container must be inspected for signs of crystallization, discoloration or other evidence of degradation. Containers showing signs of crystallization or degradation must remain in place and the Office of Research Safety Affairs contacted immediately. Peroxide test strips must be available in all labs where these compounds are handled and used to test the concentration of peroxides in opened containers. Any compounds with a peroxide concentration greater than 30ppm must be discarded as hazardous waste by contacting labsafety@uthsc.edu. A more complete list of peroxide-forming compounds is accessible on the [Research Safety Affairs website](#).

Contact the Office of Research Safety at ext. 8-6114 or labsafety@uthsc.edu for additional information about safety in research laboratories.

