



SAFETY ALERT

Chemical Burn Incident

RISK MANAGEMENT & SAFETY

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Category: Chemical Safety
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Description

A researcher received minor chemical acid burns to the face when a plastic acid waste bottle ruptured due to over-pressurization. The researcher inadvertently commingled nitric acid waste with waste containing ethanol which resulted in the generation of nitrogen dioxide gas.

Findings

- Shortly after adding waste to the container and capping it, the researcher heard a hiss and loud pop.
- The container launched from the cart it was on and was embedded in the metal grate of the ventilation diffuser in the ceiling.
- Lab personnel and the researcher responded extremely well and immediately started decontamination protocols.
- The researcher was transported to the ER as a precaution for observation and testing. No medical treatment was necessary and the researcher was released later that day.
- The researcher was wearing all required PPE.
- The researcher was current on lab safety training.

Root Causes

- There was no procedure to ensure incompatible waste streams are not commingled.
- Containers used for acid waste did not have a vent for potential off-gassing. Vented caps or containers with relief valves were not used.

Actions

- Develop processes to ensure that incompatible waste is not commingled.
- Use vented caps or containers that utilize a pressure relief system.

All safety communications can be found at <https://riskmanagement.nd.edu/communication/safety-communication/>.

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