



SAFETY ALERT

Incident Type: Chemical Burn

Date: December 6, 2013

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Incident Description:

The lab manager unpacked and placed nine bottles of glacial acetic acid (500 mL poly-coated glass bottles) onto the top shelf of a cart in order to move them into the lab for storage. The bottles were placed along one side of the cart. The cart was moved approximately 30 feet from the unpacking area to the storage area. After moving the cart into the lab storage area, the lab manager began to unload the bottles when the cart tipped over. Nine bottles fell to the floor (See Photo 1 of spill area). Five bottles spilled acid due to the bottle caps breaking or the glass bottle cracking. The other four bottles were cracked.

A graduate student was in the area completing paperwork unrelated to the storing of the Acetic Acid (See Photo 2). The acid splashed and contacted her ankle. She was wearing long pants. Both the lab manager and graduate student went to the Wellness Center for examination. Both employees were observed and released back to work with no required treatment.

Photo 1:



Photo 2:



Findings:

- 150 bottles X 500 ml of glacial acetic acid were purchased and received. Extra material was ordered due to the lab manager taking extended personnel time off.
- Acid bottles were poly-coated.
- 9 bottles placed on one side of cart.
- 9 bottles fell when cart tipped.
- 5 bottles were broken or caps came off spilling acid.
- Graduate student splashed with acid on ankle while sitting at bench near cart. (See Photo #2)
- PPE (eye protection or gloves) were not worn by lab manager.
- Emergency process was followed properly:
 - Contaminated clothing removed
 - Evacuated the room
 - Sought medical treatment
 - Called RMS for spill clean-up assistance

Root Causes:

The graduate student was contacted by acetic acid because the cart that was used to transport the acid bottles tipped over resulting in the bottles striking the floor, breaking open, and splashing the student. The cart tipped over because the load was placed on the top shelf and to one side of the cart. It was determined that the unbalanced cart may have been bumped or moved during unloading causing it to tip over.

The management system cause was:

Training – Lab personnel were unaware of hazards of improperly loading the cart resulting in the cart becoming unbalanced.

Recommended Actions:

1. Communicate this event to this PI's lab personnel and provide instruction to distribute the load when transporting material on carts.
2. Conduct PPE training for this PI's lab personnel, instructing them in the requirements when PPE is necessary.
3. Communicate to lab personnel that it is recommended to keep chemicals in their original shipping container until at the final storage point if practical e.g., place shipping box on cart.
4. Develop back-up ordering process to eliminate stockpiling of chemicals.
5. Develop safe chemical transport procedure that includes proper loading of carts and secondary containment.

Safety Alert Actions:

1. Communicate this Alert as appropriate.