

 COLUMBIA UNIVERSITY
Environmental Health and Safety
INCIDENT SUMMARY

The following is a summary of a recent incident at Columbia University. The information presented is intended to provide awareness and help readers plan against the occurrence of a similar situation in their laboratory or work area. For further information on this or any other safety related matter, please contact the [EH&S office](#).

WHAT: Dichloromethane Needle Stick

WHEN: June 2012

WHERE: A Columbia University Laboratory

SUMMARY:

The affected worker was in the process of filling a flask with dichloromethane when the injury occurred. While holding the flask in one hand, and the hypodermic needle in the other, the affected worker applied significant pressure to penetrate the stopper with the needle. The needle slipped, and struck the affected worker on the top of the hand, penetrating the skin and impacting bone. A few microliters of dichloromethane were injected under the skin. The affected worker immediately halted their work and washed the wound for several minutes. The affected worker then referenced the Safety Data Sheet for the product, where they learned of the potential for carboxyhemoglobinemia (carbon monoxide poisoning). As a result of the severe pain and the toxicity potential, the affected worker sought emergency care within 30 minutes of the needle stick. At the hospital, the affected worker's carboxyhemoglobin levels were monitored for several hours, and they were released the following morning when several tests revealed no elevated levels. Skin irritation and numbness continued for several days after the event.

FINDINGS:

- The same operation is routinely completed with the flask clamped to the monkey bars in a chemical fume hood, minimizing the risk of a needle stick. In this instance, the flask was held by hand as a perceived time saving measure.
- The affected worker responded to the event appropriately, by washing the wound and consulting the Safety Data Sheet to learn that further medical attention was necessary.
- The affected worker immediately notified their supervisor, who notified Environmental Health & Safety shortly after the event occurred.

PREVENTIVE MEASURES:

- Always attempt to minimize the risk for puncture injuries by keeping the body clear of the direction where force is applied.
- Use controls measures, such as clamps, to steady an item.
- Do not allow time pressure, whether academic or personal, to influence the safe completion of the work.
- Referencing a Safety Data Sheet is a key component of responding to an emergency.