RISK MANAGEMENT & SAFETY

SAFETY ALERT

Chemical Burn Incident

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Category: Chemical Safety

RMS Contact: Adam Kratt, akratt@nd.edu

Contact RMS:
Tel: 1-5037

Description

A researcher was exposed to an unknown chemical and received a small burn on the underside of his right wrist. The researcher sought treatment at Memorial Hospital. He was wearing a cover-all gown at the time of the incident. The chemical that caused the burn is undetermined.

Findings

- The researcher was performing regular lithography work with Photoresist (organic resin solution) and a developer (organic solvent solution) at a wet bench. He then took the wafer to an acid/caustic bench to give it a caustic rinse.
- Lab manager tested the PPE where there was discoloration and found no acid or caustic substance present.
- The researcher was current on lab safety training.
- Lab specific procedures were incomplete and did not specifiy that in the event of an after hours incident NDSP dispatch should be contacted at 911 on campus phones or (574) 631-5555 on a cell phone.
- There were several corrosive or irritating chemicals used in the lab at the time but none were determined to be the cause of the skin irritation.
- The protective gowns worn may not be adequate to protect against all chemicals used in the lab.
- A PPE hazard assessment was completed for the lab.

Root Causes

- The Personal Protective Equipment Hazard Assessment did not take into consideration chemicals used in the lab and the inadequate chemical resistance of the coverall.
- Residual hydrogen peroxide (suspected) was not properly cleaned-up and permeated through the cleanroom coverall.

Corrective Actions

- Review the Personal Protective Equipment (PPE) hazard assessment to ensure appropriate PPE is available and review with lab personnel.
- Work with manufacturer to determine chemical resistance of coverall.
- Identify and purchase additional chemical resistant PPE if necessary.
- Update lab specific safety manual to include afterhours emergency procedures.