



Sodium Azide Explosion Hazard

August 11, 2011

Attention Medical Laboratories:

Sodium, lead, and copper azides are highly sensitive, explosive substances.

Solutions containing sodium azide are used in certain hospital and clinical laboratory processes, such as those associated with hematology and immunology. It is used in instrument reagents and also as a preservative. If proper precautions are not taken, it can react violently with metal (e.g. drain pipes or lab instrumentation), causing serious injuries.

In April 2010, a maintenance worker was replacing a sink in a hematology lab. Laboratory staff had always kept a stream of running water in the sink to dilute and flush the sodium azide. However, the copper pipe had dried out during the replacement process. This allowed sodium azide residue to react with the pipe, forming lead and copper azides. While the maintenance worker was assembling the sink and drain pipe, the pipe exploded due to the friction and shock from the azides being disturbed. The maintenance worker sustained serious permanent injury from the incident.



Visit these resources to find out about steps you can take to prevent sodium azide-related explosions in your workplace:

[Explosive Azide Hazard \(NIOSH Current Intelligence Bulletin 13\)](#)

[Sodium Azide Solutions: Potential for Explosions from Improper Handling and Disposal \(FDA\) Prudent Practices in the Laboratory, Handling and Disposal of Chemicals](#), a book available through the [Washington State Library System](#) or [The National Academies Press](#).

Please share this bulletin with others in your industry and safety network.

For more information, contact Nichole Rose at Rose235@lni.wa.gov or (360)902-5427.

*This bulletin was developed by L&I's Division of Occupational Safety and Health (DOSH) to alert employers, labor groups, and employees to potential hazards associated with work activities. **This is not a rule and creates no new legal obligations.** The information provided includes suggested guidance on how to avoid workplace hazards and describes relevant mandatory safety and health rules. DOSH recommends you also check related rules for additional requirements.*

#8HB2011