Healthcare: Working Safely with Glutaraldehyde

Safety Talk

What's at Stake?

Glutaraldehyde is a toxic chemical that is used in certain circumstances to disinfect and clean medical, surgical and dental equipment. It is used when equipment can't be sterilized with heat, or if something can't fit in a sterilizing unit.

Glutaraldehyde is common in hospital settings and is also used in histology and pathology laboratories to fixate tissues and as a hardening agent in the development of x-rays.

What's the Danger?

Glutaraldehyde is toxic – in both liquid and vapor form and exposure to either form can irritate the eyes, nose, and respiratory tract, causing coughing and wheezing, nausea, headaches, nosebleeds, and other symptoms. Skin exposure can also cause a chemical burn.

Over time some people can develop a sensitivity to it and can develop occupational asthma, atopic dermatitis, and skin rashes.

How to Protect Yourself

Six easy ways to keep yourself safe working with glutaraldehyde

1. Know if glutaraldehyde is in your workplace, which procedures use it, and the common brand names for glutaraldehyde including Cidex®; Sonacide®; Sporicidin®; Hospex®; Omnicide®
2. Know when the risk for exposure is greatest, including:
    - When pouring it into, or out of, a cleaning container system such as a soaking basin for manual disinfecting operations;

or the reservoir in automated processors.
- When opening the cleaning system to add or remove instruments.
- Agitating it.
- When handling soaked instruments or rinsing the instruments after soaking.
- Flushing out instrument parts with a syringe or drying instruments with compressed air.
- Disposing of “spent” glutaraldehyde solutions; and
- Performing maintenance on equipment that includes reservoirs of glutaraldehyde containing solution.

3. Avoid contact with liquid or vapor

- Wear PPE
    - splash proof goggles or face masks;
    - gloves made of Butyl Rubber, Nitrile, and Viton® – not latex or surgical gloves;
    - elbow length gloves or protective sleeves; a suitable respirator).
- Always wash your hands after working with glutaraldehyde;
- Work in a well-ventilated area.
- Don’t agitate or splash glutaraldehyde around.
- Clean up any spills immediately and correctly; and
- Use a vacuum or wet mop to clean up pure glutaraldehyde.
- Lastly, don’t eat, drink, or smoke near glutaraldehyde.

4. Work under the hood

- Work with glutaraldehyde directly under the hood canopy.
- Keep equipment you’re are using at least 6 inches under the hood canopy.

5. Monitor your exposure

- Report any signs of exposure/sensitivity to glutaraldehyde, including:
    - breathing issues, wheezing, coughing, tight chest;
    - dizziness;
    - nosebleeds; or
    - rashes/hives/eczema.

6. Know what to do in the event of exposure

   - Change affected clothing immediately. Wash area with soap and warm water.
   - Irrigate eyes with copious amounts of cool water for at least 15 minutes.
   - Go outside for fresh air and rest if you’re having breathing difficulties or dizziness; and
   - Rinse your mouth and drink lots of water if glutaraldehyde is swallowed.

In all cases of exposure get medical attention if needed.

Final Word

Glutaraldehyde is widely used in hospital and laboratory settings, but it is a dangerous chemical. Any processes needing to involve the use of glutaraldehyde should be carried out with care to reduce the risk of spillage or vapor release. Employees must be vigilant to the signs of sensitivity or acute reaction and report it.