Occupational Exposure to Cidex (Glutaraldehyde)

Presented by the Office of Environmental Health and Safety
Uses of CIDEX

• A disinfectant
• A tanning agent in leather
• To sterilize endoscopic instruments, thermometers, rubber or plastic equipment which cannot be heat sterilized
Chemical Description

• Synonyms-- glutaric dialdehyde chemical formula – C$_5$H$_8$O$_2$
• Poisonous, colorless liquid or powder salt
• Pungent odor
• Stable
• Non-flammable when in solution with water
• Turns green when activated
Hazardous Component

- The active ingredient is glutaraldehyde.
- CIDEX 14-day solution contains 2.4%
- CIDEX 28-day solution contains 3.2%
Routes of Exposure

• Absorption
  – Most common route of exposure for Cidex

• Inhalation

• Ingestion

• Injection
Health Effects

• Causes irritation and extreme destruction of skin, eyes, mucous membranes, upper respiratory tract, burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting.

• Causes allergic contact dermatitis and skin sensitization after prolonged exposure.

• Decomposes when heated to emit CO, CO₂, and acid smoke.
How EH&S Monitors Employee Exposure

- An Assay Technology ChemDisk Monitor for aldehydes is worn on the lapel to represent the breathing zone for no less than 15 minutes or the duration of the procedure.
- The disk is collected and sent to AIHA accredited lab for testing.
- A report of the results is distributed to the supervisor and employee.
Exposure Monitoring

- Initial monitoring
- Annual monitoring
- Periodic monitoring; where initial results are above the TLV-C or there is a change in procedure.
Employee Exposure to Glutaraldehyde

- ACGIH TLV-C 0.05 ppm, instantaneous limit
- NIOSH REL 0.2 ppm TWA for 10 hours
- OSHA does not have a PEL
ACGIH TLV-C

• Threshold Limit Value-Ceiling (TLV-C) is the concentration that should not be exceeded at any time when working with glutaraldehyde or glutaraldehyde containing products.

• EH&S compares your exposure to the TLV-C.
Protective Work Clothing and Equipment

- Nitrile rubber or butyl rubber gloves
- Splash-proof safety goggles with side shields
- Lab coat
Spills and Leaks

• Wear suitable PPE (rubber gloves, goggles, lab coat)
• Use absorbent paper to pick up all liquids
• Seal absorbent paper along with any contaminated clothing in a vapor-tight plastic bag and place in biohazardous container.
Waste Disposal

- Discard remaining solution in container down sink drain
- Flush well with large quantity of water. For every 1-qt of CIDEX use 2-gal of water.
- Rinse container well with water
- Put container in trash can
- **DO NOT** reuse empty container
Storage

• Keep in tightly closed container
• Room temperature between 59-86°F
Secondary Containers

- The name of the chemical without abbreviations and symbols
- The name of the responsible party
- The expiration date
- The hazard class

Example:
Contact Information

• For additional information please contact EH&S at (252)328-6166, visit our website at [www.ecu.edu/OEHS](http://www.ecu.edu/OEHS) or stop by our office located at 210 E. Fourth St.

• To receive credit for this training complete the linked [QUIZ](http://www.ecu.edu/OEHS).