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 – $C_5H_8O_2$
- 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, CO_2, 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

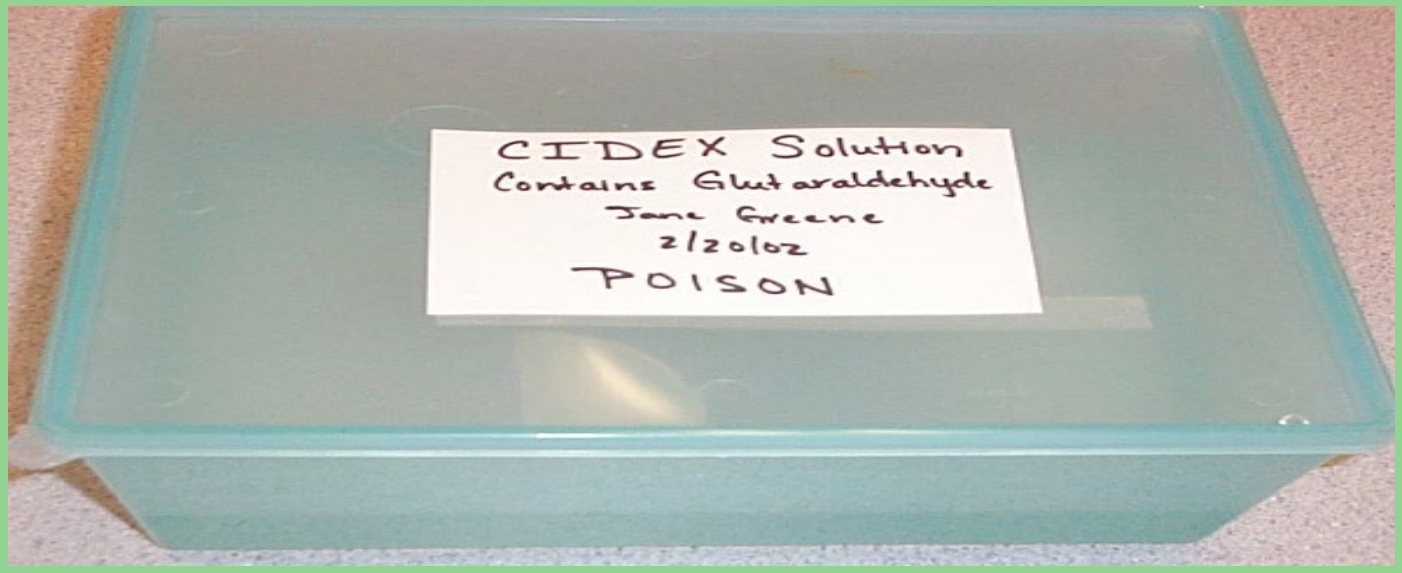
Storage

- Keep in tightly closed container
- Room temperature between 59-86^{o}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 or stop by our office located at 210 E. Fourth St.
- To receive credit for this training complete the linked QUIZ.