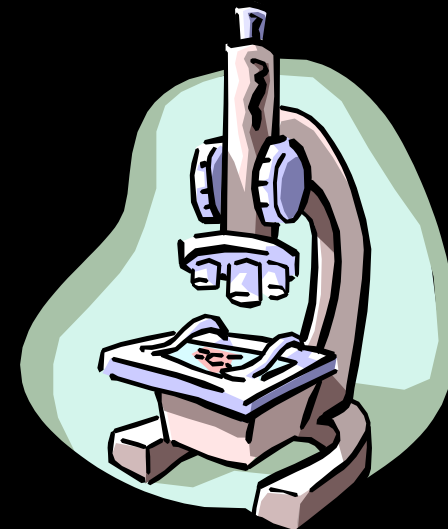


Part 306. Formaldehyde



What is Formaldehyde?

- Colorless
- Pungent Gas
- Also known as Formalin (37% Formaldehyde)
- Synonyms:
 - Formic Aldehyde, Paraform, Formol, Fyde, Formalith, Methanal, Methyl Aldehyde, Methylene Glycol, Methylene Oxide, Tetraoxymethalene, Oxomethane....

How is Formaldehyde used?

- Bactericide/Fungicide
- Production of resins
- Chemical production intermediate
- Embalming fluid
- Textile treating for wrinkle-resistance
- Biopsy sample fixation
- Hair Smoothing Products (Brazilian Blowout)

Chronic Health Effects from Exposure

- Repeated/Prolonged exposures
- Carcinogenic
 - Lungs
 - Nasopharynx
 - Oropharynx
 - Nasal passages

Acute Health Effects from Exposure

- Inhalation
 - Highly irritating to upper resp. tract & eyes
 - 20 ppm = IDLH = Death
- Severe skin irritant & sensitizer
 - Formalin causes white discoloration of skin
 - Repeated skin contact = numbness & hardening/tanning

Acute Health Effects from Exposure

- Eye Contact can cause
 - Mild discomfort
 - Severe, permanent corneal clouding
 - Loss of vision
 - Concentration dependant
- Ingestion 10 –40% concentration
 - Severe irritation, inflammation of mouth, throat, & stomach
 - Possible loss of consciousness & death

Application of the Standard

- Rules apply to ALL occupational exposures to any of the following:
 - Formaldehyde from any source
 - Formaldehyde gas
 - Formaldehyde solutions (i.e., Formalin)
 - Materials that release formaldehyde
- All employment - including G.I. & Construction

Exposure Limits

- Action Level =
 - 0.5 ppm
 - 8 hr TWA
- Permissible exposure limit =
 - 0.75 ppm
 - 8 hr. TWA
- Short Term Exposure Limit (STEL) =
 - 2ppm
 - 15 minute period



R 325.51454 Exposure Monitoring Generally

- Rule 4. (1)
- An employer SHALL monitor to determine employee exposure to formaldehyde.



R 325.51455 Initial Exposure Monitoring

- Rule 5. (1)
- An employer shall identify all employees who may be exposed at or above the action level or at or above the STEL and accurately determine the exposure of each employee so identified.



Initial Exposure monitoring (cont.)

- Rule 5. (4)
- If an employer receives reports of an employee who has sign or symptoms of respiratory or skin conditions that are associated with formaldehyde exposure, the employer SHALL PROMPTLY monitor and determine the affected employee's exposure.

How does this apply to you?!

- Whenever formaldehyde is used – need to have some exposures data.
- Hair Smoothing Products
 - Stylist during application = 0.20 ppm
 - Stylist during flat iron = 0.12 ppm
 - Customer tested = 0.007 ppm
 - Utilize the local exhaust system
 - Review MSDS's
 - Train employees



Formaldehyde Exposures - Review

- STEL (Short Term Exposure Limit) = 2 ppm
- TWA (averaged over 8 hrs.) = 0.75 ppm
- Action Level (8 hrs.) = 0.5 ppm
- Customer exp. (40 min.) = 0.007 ppm TWA
- Stylist exp. during application = 0.20 ppm
- Stylist exp. during flat iron = 0.12 ppm
- Stylist 8 hr. TWA (1 treatment) = 0.01 ppm
 - Note: Samples taken w/ local exhaust vent.

Hazard Communication R 325.51472 Rule 22(2)

- Required when formaldehyde > 0.1% composition
- Initial one-time training
- Recommended to document training
- Training to include:
 - Cancer
 - Irritations/sensitization of skin & Resp. sys.
 - Eye & throat irritations
 - Acute toxicity

Employee Info. & Train. R 325.51473 Rule 23(1)

- Annual training required when:
 - Employee exposures ≥ 0.1 ppm 8hr TWA
 - Needs to be in writing
 - Include Std's. minimum requirements
 - Recommended to document training
 - Don't forget PPE
 - Hazard Assessment
 - Training Certificate
 - SOP's for specific tasks

WEB Site Assistance Formaldehyde Standard

http://www.michigan.gov/cis/0,1607,7-154-11407_15368_23451---,00,html#gihealth

<http://www.osha.gov/SLTC/nailsalons/index.html>

http://www.osha.gov/SLTC/formaldehyde/hazard_alert.html



Thank You!
Any Questions?

