

## **MAJOR PROGRAM POINTS**

# **"THE OSHA FORMALDEHYDE STANDARD"**

**Part of the "LABORATORY SAFETY SERIES"**

**Quality Safety and Health Products, for Today...and Tomorrow**

# Outline of Major Points Covered in the "The OSHA Formaldehyde Standard" Course

The following outline summarizes the major points of information presented in the course on "The OSHA Formaldehyde Standard". The outline can be used to survey the course before taking it on a computer, as well as to review the course when a computer is not available.

- **Many of the chemicals we come into contact with can be hazardous.**
  - Formaldehyde is no exception.
- **Health problems that are caused by mishandling formaldehyde can be serious.**
  - Short-term discomfort of minor burns/skin irritation.
  - Chronic effects from a lifetime of overexposure.
- **In 1992, the Occupational Safety and Health Administration (OSHA) issued an updated standard for working with materials containing formaldehyde.**
  - It includes a list of health problems associated with overexposure.
- **External contact with formaldehyde can cause short-term irritation to:**
  - Skin.
  - Eyes.
  - Mucous membranes.
- **Inhalation of formaldehyde gas or vapors can induce:**
  - Coughing.
  - Nausea.
  - Violent vomiting.
  - Diarrhea.
  - Laryngitis.
- **Breathing in high concentrations of formaldehyde can even result in:**
  - Convulsions.
  - Coma.
  - Death.

- **There are also long-term exposure affects from high levels of formaldehyde exposure.**
  - Symptoms may not appear immediately.
  - But exposure can cause serious problems over time.
  - Formaldehyde is a suspected carcinogen, mutagen and teratogen (cancer causers).
  - Formaldehyde is also a chronic toxin.
- **If you feel you are developing symptoms of overexposure, contact your supervisor immediately.**
- **One way to protect workers from problems is to monitor formaldehyde exposure. Your company may:**
  - Test the air in your immediate work area.
  - Do "individual" sampling.
- **Test results are compared to OSHA's "permissible exposure limit" (PEL) for formaldehyde:**
  - Set at 0.75 parts per million (ppm).
  - Calculated for an 8-hour "time-weighted average".
- **To determine an area's exposure levels you:**
  - Measure the amount of formaldehyde in the area (this establishes "concentration").
  - Multiply the level of concentration by the "sample duration" in minutes.
  - Divide the result by 480 minutes (8 hours).
- **If the exposure levels exceed the PEL, you will need to take special precautions.**
- **OSHA has also set a short-term exposure limit (STEL) for formaldehyde. It:**
  - Is based on an exposure of 15 minutes.
  - Can not exceed 2 ppm.
- **It is important to pay attention to formaldehyde exposure limits for your safety.**

- **The Formaldehyde Standard also contains employee training requirements.**
  - Employees exposed to formaldehyde levels of 0.1 ppm or higher must receive annual training.
  - The training must include information about where formaldehyde is used in the workplace.
  - It also must address how to limit exposure.
  
- **Container labels provide important information on formaldehyde hazards.**
  - For mixtures/solutions with more than 0.1% formaldehyde the label must indicate that formaldehyde is "present."
  - Physical and health hazard information must be available or readers must be pointed to Material Safety Data Sheets.
  - Labeling guidelines also apply to materials capable of releasing formaldehyde at concentrations of 0.1 ppm or higher.
  
- **Special warnings must be given on labels of mixtures/ solutions with more than 0.5% formaldehyde, or that are capable of releasing 0.5 ppm. Warnings must state that the material has the potential to cause:**
  - Sensitization of the skin and respiratory system.
  - Eye and throat irritation.
  - Acute toxicity.
  - Cancer.
  - If the information cannot fit on the label, readers must be directed to other resources, such as an MSDS.
  
- **The most basic way to guard against hazardous levels of formaldehyde is by using personal protective equipment.**
  
- **Gloves are very important personal protective equipment.**
  - They must be impervious to formaldehyde solutions of 1% or more.

- **Eye and face protection is also important when working with formaldehyde.**
  - Splash-resistant goggles must be used for solutions of more than 1% formaldehyde.
  - Face shields may also be required (but cannot be used as a substitute for goggles).
- **Respiratory protection may also be necessary.**
  - This usually means an air-purifying respirator.
- **If you need a respirator your employer will put you through their respiratory protection program, which will include:**
  - Proper respirator selection.
  - Training.
  - Fit testing.
  - Use of filter cartridges.
- **Protective clothing is also important when you are working with formaldehyde.**
  - It helps shield against liquid splashes.
  - It must be impervious to water (when working with formaldehyde solutions).
  - If your clothing becomes contaminated, you must dispose of it appropriately.
- **Proper work practices are also key to working with formaldehyde safely.**
  - Use personal protective equipment as required.
  - Follow your facility's recommended procedures.
- **Maintaining proper ventilation is one of the most important safe work practices.**
  - Use lab hoods and other devices.
  - Keep formaldehyde out of your breathing zone.
- **We also should be prepared in case accidents occur involving formaldehyde.**
  - It is important to minimize the effects of any mishaps.

- **For small spills:**
  - Soak up formaldehyde with absorbent material.
  - Place waste in properly labeled and sealed containers.
- **Do not attempt to handle large formaldehyde spills.**
  - Formaldehyde is toxic and can cause unconsciousness.
  - Alert other personnel.
  - Vacate the laboratory immediately.
  - Call for assistance.
- **Quick action when coming into contact with formaldehyde is very important.**
- **For skin contact:**
  - Remove any contaminated clothing.
  - Wash the affected area with soap and large amounts of water (15 to 20 minutes).
  - Remove all clothing and use a safety shower if needed (also for 15 to 20 minutes).
  - Get medical attention.
- **If formaldehyde splashes into your eyes, flushing with water is the best treatment.**
  - Locate the closest eye wash station.
  - Wash your eyes with large amounts of water (for at least 15 minutes).
  - Get medical attention.
- **If formaldehyde is accidentally ingested, several approaches can be taken. You can:**
  - Help the body to absorb it by drinking water.
  - Dilute the formaldehyde with milk.
  - Deactivate it with "activated charcoal".
- **Always keep victims warm and calm.**
  - Get medical attention immediately.

- **If vomiting occurs after ingestion:**
  - Keep the victim's head lower than their hips (this facilitates breathing and guards against lung congestion).
- **If formaldehyde gas is inhaled:**
  - Remove the victim from the exposure area and get them fresh air.
  - Call for an ambulance.
  - Keep the victim warm and calm.
- **Be careful when responding to any formaldehyde-related accident.**
  - Don't enter areas with high concentrations of formaldehyde.
  - Wait for rescuers with appropriate respiratory protection.
- **Part of the Formaldehyde Standard sets up a "medical surveillance plan".**
  - It is designed to insure safety of employees who have contact with formaldehyde.
  - Workers adversely affected by formaldehyde are given temporary work assignments (with reduced potential exposure).
  - An evaluation is then performed as to whether the affected employee can return to their old position.
  - Other work assignment options may also be considered.
- **If you have questions about formaldehyde exposure be sure to see your supervisor.**

**\*\*\* SUMMARY \*\*\***

- **You can work safely with formaldehyde by following the appropriate work practices.**
- **Be aware of materials that contain formaldehyde.**
- **Use personal protective equipment.**

- **Be prepared in case of a spill or accident.**
- **Participating in required training and complying with the formaldehyde standard will make work safer and easier for everyone!**