

THE OSHA **FORMALDEHYDE STANDARD**

COURSE OUTLINE

- **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.
 - Cannot 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 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 SDS.
- **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!**