OUTLINE OF MAJOR PROGRAM POINTS

The following outline summarizes the major points of information presented in the program. The outline can be used to review the program before conducting a classroom session, as well as in preparing to lead a class discussion about the program.

- **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 <u>out</u> 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!