

## **MAJOR PROGRAM POINTS**

# **"THE OSHA LEAD STANDARD IN CONSTRUCTION ENVIRONMENTS... A REFRESHER PROGRAM"**

**Part of the "CONSTRUCTION SAFETY KIT" SERIES**

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

# **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.

- **Lead has many uses in industry and construction.**
  - However, it can cause serious health problems.
  - It can even prove fatal in large amounts.
  - OSHA instituted the Lead Standards for General Industry and Construction to protect workers from harmful effects.
  
- **Inhaling and swallowing are the most common ways that lead can enter the body.**
  - Lead is absorbed into the bloodstream.
  - It then circulates throughout the body.
  
- **"Chronic overexposure" develops when:**
  - Small amounts of lead are absorbed.
  - The lead accumulates over a long period of time.
  
- **"Acute overexposure" occurs when a large amount of lead is absorbed over a short period of time.**
  
- **Either type of overexposure can lead to serious damage to:**
  - Blood.
  - The kidneys.
  - The nervous system.
  - The reproductive system.
  
- **Acute overexposure can cause:**
  - Seizures.
  - Coma.
  - Even death.
  
- **If you experience any symptoms of lead overexposure:**
  - Talk to your supervisor.
  - Consult your doctor.

- **To comply with the OSHA Lead Standard, your employer has developed a written Exposure Control Plan.**
  - This explains precautions you should take to prevent exposure.
- **The plan also includes details about your company's:**
  - Air monitoring procedures.
  - Exposure controls.
  - Hygiene facilities and practices.
  - Personal protective equipment.
  - Medical Surveillance Program.
- **Your employer will provide you with necessary training and safety equipment.**
  - You must put these things to good use.
- **The Medical Surveillance Program is a very important part of the Exposure Control Plan.**
  - It is vital that you participate in this program.
- **One of the first things that you must do is give a blood sample. This:**
  - Establishes the amount of lead you already have in your blood.
  - Is used as a "baseline" for future tests.
- **You will also need to fill out detailed medical and work histories, and have a thorough examination.**
  - Doctors will evaluate this information to determine if you can work around lead.
  - For instance, a condition such as anemia could magnify harmful affects of lead exposure.
  - Asthma would make it difficult to wear a respirator.
- **Medical exams and blood tests will continue as long as you are on the job.**
  - They will take place at different intervals, depending on lead concentration and blood test results.

- **"Medical removal" is sometimes necessary to protect workers from harmful effects of lead overexposure. It can be caused by:**
  - An elevated blood lead level.
  - A medical condition which could affect the way your body reacts to lead.
- **Medical removal gives your body time to filter lead out of your system.**
- **If you are removed, for 18 months (or until your work assignment ends) your employer will maintain your:**
  - Regular earnings.
  - Benefits.
  - Job status.
  - Seniority.
- **You will be allowed to return to your work assignment when:**
  - The lead in your blood returns to acceptable levels.
  - The doctor gives you a "stamp of approval".
- **If you are planning on having children, OSHA recommends that you maintain a blood lead level significantly lower than the level that normally requires medical removal.**
  - If you have questions, talk to your supervisor or doctor.
- **The primary cause of exposure to lead is the production of airborne lead particles, which can occur as:**
  - Dust.
  - Fumes.
- **Air monitoring is usually required to determine what:**
  - Personal protective equipment may be needed.
  - Other controls should be used to limit exposure.
- **You may need to help sample the air to determine lead levels.**
  - An air pump is strapped to your waist.
  - A sampling cassette is taped to your shoulder (within 6 inches of your mouth and nose).
  - A filter in the sampling cassette collects lead particles from the air.

- **The filter can then be tested to determine the airborne lead concentration in your workplace.**
  - This is measured in micrograms per cubic meter.
- **If the amount of lead in the air equals or exceeds OSHA's "action level" (30 micrograms per cubic meter) then your employer must:**
  - Provide employee training.
  - Conduct periodic air monitoring.
  - Implement medical surveillance.
- **OSHA will not permit a worker to be exposed to a lead concentration higher than an average of 50 micrograms per cubic meter.**
  - This is the "permissible exposure limit" (PEL).
  - If concentrations of lead are higher than the PEL, controls must be implemented to limit exposure.
- **You will be notified in writing of the results of air monitoring.**
  - If they are above the PEL, your employer will explain what controls are being implemented.
- **To help protect you "engineering controls" are often used to:**
  - Reduce the amount of airborne lead in the work environment.
  - Include things such as mechanical ventilation systems.
- **"Administrative controls":**
  - Are also used to reduce the amount of lead you may be exposed to.
  - They can include job rotation and shorter work shifts.
- **"Work practice controls" can be used as well. They:**
  - Have to do with how you perform your work.
  - May include procedures such as spraying surfaces with water to keep down dust.
- **Dealing with dust and debris that may be contaminated is an important aspect of work practice controls.**
  - Excessive dust can be removed from work areas using HEPA vacuums.
  - Don't shovel or sweep up debris unless authorized (it can increase dust).

- **If work practice controls cannot reduce airborne lead to acceptable levels, respirators must be used.**
  - They must also be worn when airborne lead concentrations are unknown.
  - You must be "fit tested" for any respirator you wear.
  
- **"Qualitative fit testing":**
  - Detects "noticeable" leakage between your skin and the respirator face-piece.
  - Relies on your sense of smell.
  
- **"Quantitative testing":**
  - Uses a machine to measure the exact amount of leakage.
  
- **When wearing your respirator, remember to:**
  - "Snug up" the straps.
  - Check the seal between your skin and the face-piece.
  - Keep the face-piece clean and free of lead dust.
  - Change filters (on cartridge respirators) if they become clogged.
  
- **You also need to know what types of hazards each respirator is designed for:**
  - Cartridges designed for dust and mist won't necessarily protect from organic vapors (such as given off by a paint solvent).
  - You may need to combine cartridges to get adequate protection.
  - Some situations may require a supplied air respirator.

- **You may need other personal protective equipment and clothing if lead concentrations are above the action level.**
  - The specific clothing and PPE may vary from job to job.
  - The purpose is to prevent unnecessary exposure to lead.
- **To protect yourself adequately, you also need to use hygiene facilities and practices to reduce chances of lead exposure.**
- **If you have a "clean room" available you should use it to:**
  - Change into clean work clothing at the beginning of a shift.
  - Store personal clothing to prevent contamination.
- **When you take a break:**
  - Wash your hands and face before eating.
  - Do not enter "eating areas" wearing work clothing or PPE.
- **You also need to know how to properly remove contaminated clothing.**
  - Do it only in a designated "dirty area".
  - Use a HEPA vacuum to remove loose lead dust.
  - Never try to shake or knock off dust and debris (creates air contaminants).
  - Deposit contaminated clothing in appropriate containers.
- **Removing lead dust from hair and skin is also important.**
  - Shower at work if facilities are provided.
  - If no showers are available, wash your face and hands thoroughly.
  - Shower immediately upon arriving at home, if you haven't showered at work (you don't want to expose your family to lead contamination).

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

- **Lead is a toxic substance that can cause serious health problems.**
- **The OSHA Lead Standards require employers to provide training and equipment necessary to work safely in environments where lead may encountered.**
- **You must take an active role in protecting yourself from lead contamination.**
- **Become familiar with the lead standard for your industry.**
- **Read your company's Exposure Control Plan.**
- **Wear the appropriate PPE.**
- **Follow safe work practices.**
- **Use good hygiene practices.**