



EI ALERT

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EPA issues new lead standards

Under the new standards, lead is considered a hazard if there are greater than:

- 40 micrograms of lead in dust per square foot on floors
- 250 micrograms of lead in dust per square foot on interior window sills
- 400 parts per million (ppm) of lead in bare soil in children's play areas, or 1,200 ppm average for bare soil in the rest of the yard

The U.S. Environmental Protection Agency (EPA) has promulgated a final rule under the Toxic Substances Control Act, as amended by the Residential Lead-Based Paint Hazard Reduction Act.

These new standards identify dangerous levels of lead in paint, dust, and soil in most pre-1978 housing and child-occupied facilities. They also are more protective than previous EPA guidance and will, for the first time, provide home owners, school and playground administrators, childcare providers, and others with standards to protect children from hazards posed by lead, including those in federally-owned housing.

Under these new standards, federal agencies, including Housing and Urban Development, as well as state, local, and tribal governments will have new uniform benchmarks on which to base remedial actions taken. These standards will also apply to other federal lead provisions, such as EPA's real estate disclosure

"Lead" continued on page 2.

IN THIS ISSUE

2 EPA proceeds with Toxics Release Inventory rule

3 The hazards of latex gloves

Guidelines for a good audiometric program

4 Overhead and gantry crane safety Q&A

5 OSHA's needlestick requirements in effect

NIOSH compendium summarizes recommendations from lead investigations

OSHA issues revised record keeping regulations

Secretary of Labor Elaine L. Chao announced June 29 that the Occupational Safety and Health Administration (OSHA) rule on record keeping would largely go into effect as scheduled on Jan. 1, 2002.

The final recordkeeping rule is the culmination of an effort that began in the 1980s to improve how the government tracks occupational injuries and illnesses. The rule increases employee involvement, creates simpler forms and gives employers more flexibility to use computers to meet OSHA regulatory requirements. The revised rule will produce better information about occupational injuries while simplifying the overall record keeping system for employers. The rule will also better protect employee's privacy.

The rule had been returned to the Office of Management and Budget for further review earlier this year.

Written in plain language, the revised rule includes a provision for recording needlestick and sharps

injuries that is consistent with recently-passed legislation requiring OSHA to revise its bloodborne pathogens standard to address such injuries. This provision is expected to result in a significant increase in recordable cases annually.

One of the least understood concepts of record keeping has been restricted work; the new rule clarifies the definition of restricted work or light duty and makes it easier to record those cases. Work-related injuries are also better defined to ensure the recording of only appropriate cases while excluding cases clearly unrelated to work. The revised rule also promotes improved employee awareness and involvement in the record keeping process, providing workers and their representatives access to the information on record keeping forms and increasing awareness of potential hazards in the workplace. Privacy concerns of employees have also been addressed; the former rule had no privacy protections covering the log used to record work-related injuries and illnesses.

"Record keeping" continued on page 2.

EPA proceeds with Toxics Release Inventory rule

The U.S. Environmental Protection Agency (EPA) will proceed with its Toxics Release Inventory (TRI) rule to significantly expand the information available to the public about lead emissions in their towns and communities. The final TRI lead rule, issued Jan. 17, 2001, had been under review by the administration as part of its broad-based review of new regulations. *The first reports under the new rule must be submitted by July 1, 2002, for the 2001 reporting year.*

This action will ensure that information on hundreds of thousands of pounds of lead emissions never previously reported will become publicly available. The new rule requires more companies to report on the lead they use and release into the air, water, or land. Previously, the rule required facilities to report lead and lead compound emissions if they manufactured or processed more than 25,000 pounds annually or used more than 10,000 pounds annually. Under the new rule, the reporting threshold will be lowered to 100 pounds annually for each facility because lead and lead compounds are persistent bioaccumulative toxic (PBT) chemicals. Facilities required to report TRI data must submit a TRI Form R.

PBT chemicals, such as lead and lead compounds, are of concern not only because they are toxic, but also because they remain in the environment for long periods of time, are not readily destroyed, and

Lead, *continued from page 1*

requirements presently in place for people selling or renting a home or apartment. These hazard standards will also serve as general guidance for other EPA programs engaged in toxic waste cleanups. In addition, these standards will provide landlords, parents, and childcare providers with specific levels on which to make informed decisions regarding lead found in their homes, yards, or play areas.

Health problems from exposure to lead can include profound developmental and neurological impairment in children. Lead poisoning has been linked to mental retardation, poor academic performance, and juvenile delinquency. Nearly one million children in America today have dangerously elevated levels of lead in their blood. Because of the potential dangers, any exposure to deteriorated lead-based paint presents a hazard.

Identifying lead hazards through these standards will allow inspectors and risk assessors to assist property owners in deciding how to address problems. Solutions may include lead paint abatement, covering, or removing soil, along with professional cleaning of lead dust within affected homes.

For other information about EPA's new lead-based paint rule, refer to EI Alert Vol. 10, No. 4, online at www.ei1.com — click on the "Regulatory Updates" link. Also see related articles: "EPA proceeds with Toxics Release Inventory rule," this page, and "NIOSH compendium summarizes recommendations from lead investigations," page 5.

EI's Industrial Hygiene Department provides lead-based paint program management services. For more information about this or other EI services, call (800) 717-3472.

build up or accumulate in body tissue. Lead cannot be destroyed and may remain in the environment indefinitely. In addition to bioaccumulating in aquatic organisms such as mussels, oysters, and snails, lead and lead compounds are known to bioaccumulate in humans.

Lead and lead compounds are of particular concern because of their toxicity in children. Children and developing fetuses are known to absorb lead more readily than adults, and, once in the body, lead is distributed to the blood, soft tissue, and bone. Children exposed to lead can suffer from damage to the brain and central nervous system, slow growth, hyperactivity, and behavior and learning problems. Adults exposed to lead can suffer difficulties during pregnancy, high blood pressure, nervous disorders, and memory and concentration problems.

Toxic chemical emissions data reports are required under the Emergency Planning and Community Right-to-Know Act of 1986. EPA issues an annual report on the collected toxics data as part of its continuing effort to provide access to toxic chemical release information. Since EPA began collecting the information, toxic releases have been going down substantially and are expected to do so again this year.

In addition to TRI rule compliance, call EI's Environmental Department at (800) 717-3472 for other air, water, or hazardous waste permitting and compliance assistance your organization may need.

Record keeping, *continued from page 1*

The Department will seek comment on two proposed modifications to the rule's record keeping requirements. First, the Department will propose that the criteria for recording work-related hearing loss not be implemented for one year pending further investigation into the level of hearing loss that should be recorded as a "significant" health condition. OSHA had received comments pointing out that the medical community and State worker compensation systems do not support the current rule's hearing loss standard.

Second, OSHA will propose to delay for one year the record keeping rule's definition of "musculoskeletal disorder" (MSD) and the requirement that employers check the MSD column on the OSHA Log. OSHA has announced its intention to develop a comprehensive plan to address ergonomic hazards and has scheduled a series of public forums on ergonomics. The issues to be decided as a result of these forums include the appropriate definitions of the terms "ergonomic injury" and MSD. Chao said, "Until a definition is agreed upon, the data collected will not help us target the injuries that need to be eliminated."

Full text of the final rule and copies of the new forms can be accessed at <http://www.osha-slc.gov/recordkeeping/index.html>.

EI's Occupational Safety and Health Departments provide consultation and / or training on OSHA's record keeping regulations. Upcoming training courses are scheduled for Aug. 7 and Oct. 2, Durham, N.C.; Aug. 21, Charlotte, N.C.; Sept. 20, Richmond, Va.; and Sept. 25, Greenville, S.C. To register for this course or for more information, call EI at (800) 717-3472.

The hazards of latex gloves

By Charles C. Goodno, MD, MPH

Implementation of the OSHA Bloodborne Pathogens Standard produced a major increase in the use of latex gloves in the workplace. Within a few years, reports of allergic reactions to latex gloves began to rise dramatically, and these reactions continue to be a significant concern. Consider the case of a medical laboratory worker who wore latex gloves eight hours a day for many years without problems. Over a one-year period she developed recurrent, progressively worsening asthma attacks that occurred while she was at work. She had multiple emergency room visits culminating in an intensive-care unit admission. Eventually she was diagnosed with a latex allergy, but by this point she was unable to work in any situation where either she or co-workers wore latex gloves.



Prevalence of latex sensitivity	
General population	0.5 - 1.0%
Healthcare workers	5 - 15%
Clinical lab workers	10 - 20%
Spina bifida patients	35 - 65%

This case illustrates some key points about latex glove allergy. First, allergic reactions can begin at any time in those who are exposed to latex. A history of tolerance to latex does not predict lower risk. Occupations that make extensive use of latex gloves are at increased risk. Such occupations include healthcare, dentistry, food handling, greenhouse work, funeral work, packaging, and manufacturing.

Second, microscopic particles containing antigenic proteins shear off from latex gloves and remain suspended in the air of work areas where latex gloves are used. These particles can represent a significant

exposure for sensitized individuals and an effective mechanism for sensitizing those who are not yet allergic. Powdered latex gloves generate much higher levels of airborne latex antigens than do non-powdered ones.

Third, the onset of latex allergy symptoms is usually gradual. If symptoms of itchy eyes, runny nose, sneezing, skin rash, hives, or wheezing are recognized early, it may be possible to prevent the progression of symptoms to the point of disability.

The National Institute of Occupational Safety and Health (NIOSH) has published an **Alert** on latex safety (<http://www.cdc.gov/niosh/latexalt.html>) that recommends preventive measures including:

- Use of non-latex gloves, where appropriate.
- Substitution of low-protein powder-free latex gloves for ordinary powdered latex gloves.
- Education of workers exposed to latex gloves.
- Periodic screening of high-risk workers for early signs of latex allergy.

El's staff of certified occupational health nurses and physicians can assist your organization in the investigation of occupational dermal and other allergic responses. For more information, call El at (800) 717-3472.

Guidelines for a good audiometric program

By Andrew P. Stewart, CCC-A, El's Manager — Hearing Conservation Programs

Audiometric evaluation is crucial to the success of the Hearing Conservation Program (HCP) in that it is the only means of determining whether noise-induced hearing loss is being prevented. Without the corroborating proof of sequential monitoring of audiograms performed on a yearly basis, there is no sure way to know whether workers' hearing protectors are doing their job. Results of the audiometric program can signal potential hearing changes before they become serious. This can result in the initiation of more protective measures to ensure the success of the HCP.

How can testing be accomplished?

- Contract for audiometric services with an outside source such as a mobile testing company or a local audiologist or medical clinic.
- Purchase audiometric equipment and have a suitable company employee trained to test in the plant under the supervision of an audiologist.
- A combination of both approaches may be preferable, based on considerations of economics, size, corporate policies, and geographic location of the plant.

Guidelines for effectiveness

- Responsibility for overseeing the program must be delegated to a motivated individual on the management staff.
- Audiograms must be administered using properly-calibrated audiometers in a sound-treated room with acceptable background sound levels.
- The same *type* of audiometer (preferably the same instrument) must be used from year to year. Measurement variation may occur because of differences among audiometer models or types (manual, self-recording, or microprocessor). This rule cannot always be observed, e.g. when it is time to upgrade testing equipment, but it is vital that it be observed whenever possible.
- Audiometric technician training must, as a minimum, follow current requirements set by the Council for Accreditation in Occupational Hearing Conservation (CAOHC). A CAOHC-certified (or any other) technician may not train another person in audiometry.
- All testing must be supervised by an audiologist or a physician with expertise and experience in the practice of

Continued on page 4.

OVERHEAD AND GANTRY CRANE Safety Q&A



By Barry Maxwell, MS, EI's Senior Project Manager — Safety Programs

Question

"Do OSHA regulations require periodic inspections of overhead hoists to be done by an outside contractor / vendor, or can it be performed internally by maintenance engineers who use the equipment?"

Answer

Under the OSHA regulation *Overhead and Gantry Cranes - 1910.179*, it is not necessary to have an outside contractor / vendor perform the periodic inspections of cranes. Several standards, such as scaffolding and trenching, have specific guidelines that have requirements for "competent," "qualified," or "authorized" persons to perform tasks like inspections. OSHA checks to make sure the person is familiar with the maintenance and upkeep of a crane. This standard does require that personnel who operate, adjust or repair a crane be a "designated" person. Therefore, any unsafe conditions discovered during the inspection must be corrected by the "designated" person(s) before the crane may be operated.

Cranes in regular service have inspection procedure intervals designated as either "frequent" or "periodic." OSHA defines frequent as a daily to monthly interval and periodic as a monthly to annual interval. The periodic inspection interval should be determined by considering the crane's activity, severity of service, and environment. "Regular" service means the crane is used at least once every month. Cranes that are idle for a period of one month or more have additional inspection requirements.

The periodic inspection must be a complete inspection of the crane. This complete inspection includes everything required by OSHA in the daily to monthly inspection process, plus the following items:

- Deformed, cracked, or corroded members
- Loose bolts or rivets
- Cracked or worn sheaves and drums
- Worn, cracked, or distorted parts such as pins, bearings, shafts, gears, rollers, locking and clamping devices
- Excessive wear on brake system parts, linings, pawls, and ratchets
- Load, wind and other indicators over their full range, or any significant inaccuracies
- Powerplants (gasoline, diesel, electric or other) for improper performance
- Excessive wear of chain drive sprockets and excessive chain stretch
- Electrical apparatus, for signs of pitting or any deterioration of controller contractors, limit switches and push-button stations.

If any of the above deficiencies are discovered, the designated person must determine whether they constitute a safety hazard. Furthermore, this key individual must ensure the crane remains within the manufacturer's guidelines for wear limits.

This article, originally prepared by Barry Maxwell at EI, originally appeared in Compliance Magazine, Copyright 2001, Douglas Publications, Inc.

EI's Occupational Safety Department provides consultation and training on a variety of safety issues. For a complete listing of training courses, visit EI's Web site at www.ei1.com or call EI at (800) 717-3472, ext. 236.

Audiometric testing, *continued from page 3*

hearing assessment and protection. Ideally, the supervisor will visit the plant site annually to monitor the quality of the testing program, as well as of the entire HCP.

- All *annual* tests (not baselines) should be scheduled well into the workshift so that comparisons with baselines will reveal early indications of temporary threshold shifts (TTS) caused by failure to properly wear hearing protectors. A subsequent noise-free retest when TTS occurs will document accurate hearing levels. Steps can then be taken to prevent permanent hearing loss from occurring.
- In addition, it is vital that management allow the audiometric technician to allocate enough time to the testing program to perform the tests accurately and to pay proper attention to employees in the HCP. The audiometric session provides the best time (often the only time) each year for the technician to interact with the goals of the HCP. To rush workers into and out of the test booth, with barely time to instruct, much less counsel and encourage them and to check their hearing protectors, is to miss the ideal opportunity to demonstrate to

them the importance of this program and remind them of management's commitment to it. Employees are well aware when audiometric testing is being provided only to comply with regulatory requirements and not because management is really concerned about their hearing health.

Review of audiogram results

It is vital that all audiograms be reviewed by a qualified professional with specific expertise and experience in occupational hearing conservation. Such review protects a company from later allegations by employees that accepted codes of medical supervision were not followed, and ensures employees are provided with the highest quality of care. All employees should receive prompt, written summaries of their current hearing status from the professional reviewer.

EI now has available a mobile audiometric van to assist with your testing program. For further information about how EI can help, contact our Occupational Health Department at (800) 717-3472.

OSHA's needlestick requirements in effect

**By Emily M. Wallace, RN, BS, COHN-S,
EI's Director — Occupational Health
Services**

Changes in OSHA's Bloodborne Pathogens Standard (29 CFR Part 1910.1030) intended to reduce needlesticks among healthcare workers and others who handle medical sharps are now in effect.

Revisions to the Bloodborne Pathogens Standard can be categorized into the following four areas:

- Modification and additions of the definitions relating to engineering controls.
- Review and update of the Exposure Control Plan
- Solicitation of employee input
- Record keeping

Two terms and a modification of a term were added to paragraph (b) of the standard. The revised definitions do not reflect any new requirements being placed on the employer with regard to protecting workers from sharps injuries, but are meant only to clarify the



original standard, and to reflect the development of new, safer medical devices since that time.

The following new terms were added:

- Sharps with engineered sharps injury protections
- Needleless systems
- Inclusion of changes in technology

Paragraph (c)(1)(v) of the standard is revised to add the following performance-oriented requirement: An employer who is required to establish an Exposure Control Plan shall

solicit input from nonmanagerial employees responsible for direct patient care who are potentially exposed to injuries from contaminated sharps in the identification, evaluation, and selection of effective engineering and work practice controls and shall document the solicitation in the plan. Also, the employer's Exposure Control Plan should include a description of the method used for soliciting employee input.

The record keeping requirements of paragraph (h) have been amended by adding paragraph (h)(5) to require that employers maintain a sharps injury log to serve as a tool for identifying high-risk areas and evaluating devices.

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EI offers onsite bloodborne pathogens training and program review and development consultation. For more information, contact EI's at (800) 717-3472.

NIOSH compendium summarizes recommendations from lead investigations

A new publication from the U.S. Centers for Disease Control and Prevention's (CDC) National Institute for Occupational Safety and Health (NIOSH) summarizes 31 investigations in which NIOSH made recommendations to protect workers from potentially harmful job-related exposures to lead. Work settings ranged from bridges and shipyards where lead particles were generated by abrasive blasting, to an Army depot where employees were exposed to lead from solder in repairing night goggles and laser range finders.

The investigations were reported from 1994 to 1999 under NIOSH's health hazard evaluation program, in which NIOSH responds to requests from workers, worker representatives, or management to evaluate occupational health concerns at individual work sites. The new compendium, "Health Hazard Evaluations: Issues Related to Occupational Exposure to Lead, 1994 to 1999," provides an overview of NIOSH's findings and recommendations from the individual case reports. It also includes a list of key studies, textbooks, and standards for preventing job-related lead exposure.

Results from health hazard evaluations provide employers and workers with practical suggestions for addressing concerns at those individual sites. Results also provide new information for assessing and solving similar concerns at other workplaces.

Findings from the 31 investigations illustrate that:

- Workers may be at risk of potentially hazardous exposures anywhere lead is present on the job, not just in traditional settings like shipyards and battery manufacturing plants. For example, the NIOSH investigations confirmed worker lead exposures in a remodeling project where old paint was sanded from a historic house and at a hospital radiation laboratory where radiation-shielding molds were made.
- Workers' families may also be at risk from lead dust or particles inadvertently carried home on the worker's clothing or skin, or from lead materials that are used in some home-based businesses such as electronic component repair.
- Often, lead exposures can be significantly reduced through simple, inexpensive measures, such as basic improvements in ventilation and use of good work practices.

Copies of the compendium are available at www.cdc.gov/niosh.

EI's Industrial Hygiene and Occupational Health Departments provide lead-based paint and asbestos abatement program management services. For more information about EI services, call (800) 717-3472.

