Fact Sheet: Lead

Everyday Exposures

What is lead used for today?

Although the health risks associated with lead have been known for sometime, lead is still in use today. According to the EPA, many homes built before 1986 are likely to still contain lead pipes, fixtures and solder because of the history of lead usage in those products. Newer homes are also at risk. For example, even legally "lead-free" plumbing may contain up to 8 percent lead.[1] Lead is also used in the production of batteries and ammunition.[2]

How can you be exposed?

More than 80% of occurrences of elevated lead levels come from exposure in the workplace,[3] notably in mining operations, facilities that refine lead, and smelting industries. Construction work, paint removal jobs, and demolition projects also present the risk of lead exposure.[4]

However, the general public may also be at risk of lead exposure from the pollution caused by the industries listed above. For instance, lead smelters release lead particles into the air, threatening surrounding neighborhoods. In addition, leaking lead batteries from polluting junkyards and spent lead ammunition from shooting ranges can release lead into nearby soil and water.

Lastly, lead exposure can result from the products used in our homes. Paint chips of lead paint are a classic example, and for many people, the lead particles that can enter the air when paint chips break down continue to be the largest threat of lead exposure.[5],[6] Lead can also make its way into drinking water because of the use of older lead pipes.

Effects on Human Health

Exposure to lead can have both unpleasant short term effects and serious longer term effects. Possible short term symptoms of inhaling lead include a metallic taste and chest and abdominal pains. Lead poisoning may also include instances of nausea, vomiting, headaches, and extreme abdominal pain.[7] Lead absorbed even in tiny amounts through the skin may show immediate effects such as redness and irritation.

The longer term effects of lead are much more dangerous and can include permanent neurological damage and developmental damage, especially in children. More recent research has begun to show that increased levels of lead may cause increased blood pressure.[8] Additionally, lead may permanently impair the kidneys.[9]

As mentioned above, children are especially susceptible to elevated levels of lead. Lead exposure in children can lead to permanent brain damage. Hyperactivity is one of the most common learning disabilities associated with lead, in addition to slowed growth, hearing problems, and headaches.

Useful Resources

OSHA Fact Sheet: Protecting Workers from Lead Hazards. Available online at: http://www.osha.gov/OshDoc/data_Hurricane_Facts/LeadHazards.pdf

EPA. TRW Recommendations For Performing Human Health Risk Analysis On Small Arms Shooting Ranges. Available online at: http://www.epa.gov/superfund/lead/products/firing.pdf

EPA. Best Management Practices for Lead at Outdoor Shooting Ranges. Available online at: http://www.metalstt.com/newsreference/EPABMP.pdf

Lead Metal. Material. Data Safety Sheet. J.T. Baker. Mallinckrodt Chemicals. Available online at: http://www.jtbaker.com/msds/englishhtml/l2347.htm

Lead in Paint, Dust, and Soil. U.S. Environmental Protection Agency. Available online at: http://www.epa.gov/lead/pubs/leadinfo.htm

Lead in Drinking Water. US. Environmental Protection Agency. Available online at: http://www.epa.gov/safewater/lead/index.html

The Weight of Lead: The Effects Add up in Adults. Electronic Library of Construction Occupational Safety and Health. Available online at: http://www.elcosh.org/en/document/990/d000945/the-weight-of-lead%253A-effects-add-up-in adults.html?gclid=CJL8oqS3tZwCFdFL5Qodl2fHmA

Lead ToxFAQs. Agency for Toxic Substances and Disease Registry. August 2007. Available online at: http://www.atsdr.cdc.gov/toxfaqs/TF.asp?id=93&tid=22#bookmark04

[1] Lead in Drinking Water. US. Environmental Protection Agency. Available online at: http://www.epa.gov/safewater/lead/index.html
[2] Lead ToxFAQs. Agency for Toxic Substances and Disease Registry. August 2007. Available online at: http://www.atsdr.cdc.gov/toxfaqs/TF.asp?id=93&tid=22#bookmark04
[3] Lead in Drinking Water. US. Environmental Protection Agency. Available online at: http://www.epa.gov/safewater/lead/index.html
[4] The Weight of Lead: The Effects Add up in Adults. Electronic Library of Construction Occupational Safety and Health. Available online at: http://www.elcosh.org/en/document/990/d000945/the-weight-of-lead%253A-effects-add-up-in-adults.html?gclid=CJL8oqS3tZwCFdFL5Qodl2fHmA
[5] Lead ToxFAQs. Agency for Toxic Substances and Disease Registry. August 2007. Available online at: http://www.atsdr.cdc.gov/toxfaqs/TF.asp?id=93&tid=22#bookmark04
[6] Lead ToxFAQs. Agency for Toxic Substances and Disease Registry. August 2007. Available online at: http://www.atsdr.cdc.gov/toxfaqs/TF.asp?id=93&tid=22#bookmark04
[7] Lead Metal. Material. Data Safety Sheet. J.T. Baker. Mallinckrodt Chemicals. Available online at: http://www.jtbaker.com/msds/englishhtml/l2347.htm
[8] The Weight of Lead: The Effects Add up in Adults. Electronic Library of Construction Occupational Safety and Health. Available online at: http://www.elcosh.org/en/document/990/d000945/the-weight-of-lead%253A-effects-add-up-in-adults.html?gclid=CJL8oqS3tZwCFdFL5Qodl2fHmA
[9] The Weight of Lead: The Effects Add up in Adults. Electronic Library of Construction Occupational Safety and Health. Available online at: http://www.elcosh.org/en/document/990/d000945/the-weight-of-lead%253A-effects-add-up-in-adults.html?gclid=CJL8oqS3tZwCFdFL5Qodl2fHmA