

Occupational Health and Safety Advisory



Lead Exposure in the Firearm Industry

Lead and the Health Effects of lead exposure

Lead is a bluish-grey metal that is naturally present in the earth's crust. Lead is used in the manufacturing of many consumer and industrial products and can be found in a variety of workplaces.

Workers can be exposed to lead mainly through breathing in lead dust, fumes and vapour, or by ingestion. Ingestion usually occurs by eating, drinking or smoking in areas where lead contamination exists or hand to mouth transfer of lead including nail biting, licking one's finger or touching one's face. The health effects from lead exposure are the same regardless of how a worker is exposed. Most of the lead will leave the body when we go to the bathroom, lose skin cells, etc. The lead that remains in the body tends to accumulate through ongoing exposures and can be released into the blood at a later time long after the original exposure happened.

Exposure to lead may cause a number of health effects, such as but not limited to headaches, tiredness, irritability, constipation, nausea, stomach pains, anemia and weight loss. Since many other conditions cause similar symptoms, health effects can be overlooked or undetected for a long time, so it is important to discuss them with a qualified medical professional.

Alberta  Government

What to do if you suspect you're exposed to lead in the workplace

An employer must ensure blood lead level testing is available to a worker if the worker at a work site could be exposed to lead. Medical monitoring itself does not ensure that worker health is not adversely affected. Medical monitoring allows assessment of incorporation of lead into the body from all routes as reflected by blood lead level. The blood lead level references established levels associated with adverse health effects and limits where actions to lower the levels are required.

It is recommended that employers have new workers and those newly assigned to work in an area with lead undergo a medical assessment prior to lead exposure. This provides a baseline measure of the worker's health prior to any workplace exposures. The medical assessment should include a health history, physical examination and blood lead testing.



Where can you be exposed to lead at work?

The following products in the workplace may contain lead:

- Ammunition
- Primers
- Surface dust
- Casings from ammunition
- Residue on ventilation ducts and filters
- Firearm surfaces
- Retrieval systems and bullet traps
- Gunsmithing tools

Workers may be exposed to lead during the following activities

- Handling of ammunition and firearms
- Shooting
- Cleaning of ranges and equipment
- Sorting casings
- Ventilation and range maintenance
- Reloading of ammunition
- Repair and maintenance of firearms
- Range officer duties
- Eating and smoking in the workplace

How can exposure be controlled?

Engineering

- Use of non-lead containing ammunition
- Full metal jacket ammunition
- Ventilation exhaust systems (local and general)
- Automated processes for cleaning firearms, reloading ammunition, bullet traps, sorting casings
- Decontamination facilities (i.e. showers, sinks, adhesive mats)

Administrative

- Educating workers about lead in the workplace
- Good housekeeping practices such as regular cleaning of dusty surfaces, regular ventilation system maintenance, and avoiding activities that create airborne dust (dry sweeping, use of compressed air)
- Use of proper decontamination practices for workers and equipment
- Use of good personal hygiene practices (washing the face and hands before smoking, eating or drinking)
- No eating or smoking where lead dust may be present

Personal protective equipment

- Respiratory protective equipment should be used to control lead exposures where airborne dusts or fumes may be created. Workers must be fit tested on the respiratory protective equipment they use.
- Workers should be provided with protective outer wear such as washable or disposable coveralls and gloves when handling materials that contain lead or cleaning. Contaminated protective clothing and equipment must be cleaned or disposed of at the work site.
- Equipment should be cleaned or disposed of when contaminated by lead.

More Information

- Alberta Occupational Health and Safety Contact Centre (toll free): 1-866-415-8690 or [email](mailto:info@work.alberta.ca)
- Lead at the Work Site
<http://work.alberta.ca/documents/OHS-Bulletin-CH071.pdf>

Contact us:

Province-Wide Contact Centre



Edmonton
780-415-8690



Other locations
1-866-415-8690
(Toll Free)



Deaf or hearing impaired

- Edmonton 780-427-9999
- Other locations 1-800-232-7215
(Toll Free)

Web Site



www.work.alberta.ca

Getting copies of *OHS Act*, Regulation & Code:

Queen's Printer



www.qp.alberta.ca

Occupational Health and Safety



<http://work.alberta.ca/occupational-health-safety/295.html>



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