

# Lead Background Information

Resources for lead background information, fact sheets and regulatory thresholds from key public health and environmental agencies are presented below.

## **Key Unit of Measure Described:**

- The regulatory standards and guidance presented in the paragraphs below use micrograms when identifying a threshold. A microgram is 1/1000<sup>th</sup> of a milligram (or one millionth of a gram). To put this into unit into perspective, a penny weighs 2 grams. To get a microgram, you would need to divide the penny into 2 million pieces. A microgram is one of these two million pieces. Reference U.S. Department of Housing and Urban Development, Compliance Toolkit, page 11; [https://portalapps.hud.gov/CORVID/HUDBLPAdvisor/info/documents/hcvpleadtoolkit\\_20aug07.pdf](https://portalapps.hud.gov/CORVID/HUDBLPAdvisor/info/documents/hcvpleadtoolkit_20aug07.pdf)

## **National Guard Bureau (NGB):**

- Applies a lead dust threshold of 40 micrograms per square foot to all publicly accessible areas in armories where Soldier's families and the general public are welcome. A threshold of 200 micrograms per square foot applies for all other areas for protection of our Soldiers and workforce in an occupational setting. Reference National Guard Bureau, Memorandum, Subject: Possible Lead Dust Hazard in Army National Guard (ARNG) Readiness Centers, 23 September 2015; <http://www.oregon.gov/OMD/Documents/NGBIFRLeadDustMemo.pdf>
- Applies an airborne lead threshold of 50 micrograms per cubic meter of air (U.S. Occupational Safety and Health Administration Permissible Exposure Level). Reference National Guard Bureau, Memorandum, Subject: Possible Lead Dust Hazard in Army National Guard (ARNG) Readiness Centers, 23 September 2015; <http://www.oregon.gov/OMD/Documents/NGBIFRLeadDustMemo.pdf>; Department of the Army Pamphlet 40-503, Industrial Hygiene Program, Section 1-8 Standards, 30 October 2000; [https://safety.army.mil/Portals/0/Documents/ON-DUTY/WORKPLACE/TOXICANDHAZARDOUSSUBSTANCES/Standard/DA\\_Pam\\_40-503\\_Industrial\\_Hygiene.pdf](https://safety.army.mil/Portals/0/Documents/ON-DUTY/WORKPLACE/TOXICANDHAZARDOUSSUBSTANCES/Standard/DA_Pam_40-503_Industrial_Hygiene.pdf)

## **U.S. Environmental Protection Agency (EPA):**

- Learn About Lead and Fact Sheets: <https://www.epa.gov/lead/learn-about-lead>
- Determines a lead dust hazard is present in a residential dwelling or child occupied facility (day care, preschools and kindergarten classrooms) when the weighted arithmetic mean for floor samples is equal to or greater than 40 micrograms per square foot and for interior window sill samples is equal to or greater than 250 micrograms per square foot. Reference 40 CFR 745.227, Determinations, (h)(3)(i); [http://www.ecfr.gov/cgi-bin/text-idx?SID=d97315452c92a774d81f2bfe54a237fb&mc=true&node=se40.34.745\\_1227&rqn=div8](http://www.ecfr.gov/cgi-bin/text-idx?SID=d97315452c92a774d81f2bfe54a237fb&mc=true&node=se40.34.745_1227&rqn=div8)

## **U.S. Department of Housing and Urban Development (HUD):**

- Learn About Lead and Fact Sheets: [https://portal.hud.gov/hudportal/HUD?src=/program\\_offices/healthy\\_homes/leadinfo](https://portal.hud.gov/hudportal/HUD?src=/program_offices/healthy_homes/leadinfo)
- Determines a lead dust hazard is present in family housing when the weighted

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arithmetic mean for samples exceeds a threshold of 40 micrograms per square foot for floors, 250 micrograms per square foot for interior window sills or 400 micrograms per square foot for window troughs. Reference 24 CFR 35.1320, Subpart R;

<http://www.ecfr.gov/cgi-bin/text-idx?SID=426c445eb6704c93416b53d8d16f6d36&mc=true&node=pt24.1.35&rqn=div5>

## **U.S. Occupational Safety and Health Administration (OSHA):**

- Learn About Lead and Fact Sheets: <https://www.osha.gov/SLTC/lead/>
- Recommends a lead dust threshold of 200 micrograms per square foot for surfaces in work environments. Reference Instruction CPL 2-2.58, page A-21; [https://www.osha.gov/OshDoc/Directive\\_pdf/CPL\\_02-02-058.pdf](https://www.osha.gov/OshDoc/Directive_pdf/CPL_02-02-058.pdf)
- Requires employers to protect workers from airborne lead. If lead is present at a worksite, employers must conduct air monitoring to determine if an employee is exposed at or above the Action Level of 30 micrograms per cubic meter of air. If lead is not present at or above this threshold, operations may continue until processes change. Lead above the Action Level for greater than 30 days triggers medical monitoring (blood testing). In addition, employers must ensure no employee is exposed above the Permissible Exposure Level of 50 micrograms per cubic meter of air averaged over an 8-hour period. Exceeding this threshold requires an employer to establish engineering controls (ventilation) or administrative controls (shift changes). If exposure cannot be reduced, employees must wear a respirator. The Occupational Safety and Health Administration also limits the amount of lead carried in a lead worker's bloodstream to 40 micrograms per deciliter of blood. Employees with blood lead levels above 50 micrograms per deciliter of blood must be removed from lead contact until blood lead levels drop below 40 micrograms per deciliter. References OSHA, 29 CFR 1910.1025 Lead, Subpart Z; [http://www.ecfr.gov/cgi-bin/text-idx?SID=d97315452c92a774d81f2bfe54a237fb&mc=true&node=se29.6.1910\\_11025&rqn=div8](http://www.ecfr.gov/cgi-bin/text-idx?SID=d97315452c92a774d81f2bfe54a237fb&mc=true&node=se29.6.1910_11025&rqn=div8) and OSHA, 29 CFR 1926.62, Lead; [http://www.ecfr.gov/cgi-bin/text-idx?SID=6a2694f96c37ab443f1cf7838543bf64&mc=true&node=se29.8.1926\\_162&rqn=div8](http://www.ecfr.gov/cgi-bin/text-idx?SID=6a2694f96c37ab443f1cf7838543bf64&mc=true&node=se29.8.1926_162&rqn=div8)

## **Oregon Health Authority (OHA):**

- Learn About Lead and Fact Sheets: <https://public.health.oregon.gov/HealthyEnvironments/HealthyNeighborhoods/LeadPoisoning/Pages/index.aspx>
- Applies the same threshold as the U.S. Environmental Protection Agency, and determines a lead dust hazard is present in a residential dwelling or child occupied facility (day care, preschools and kindergarten classrooms) when the weighted arithmetic mean for floor samples is equal to or greater than 40 micrograms per square foot and for interior window sill samples is equal to or greater than 250 micrograms per square foot. Reference 40 CFR 745.227, Determinations, (h)(3)(i); [http://www.ecfr.gov/cgi-bin/text-idx?SID=d97315452c92a774d81f2bfe54a237fb&mc=true&node=se40.34.745\\_1227&rqn=div8](http://www.ecfr.gov/cgi-bin/text-idx?SID=d97315452c92a774d81f2bfe54a237fb&mc=true&node=se40.34.745_1227&rqn=div8)