Lead

Now that is a heavy topic!

What are all the numbers I need to know?

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Lead rules and Regulations

Before we start with all the rules and regulations it is vital to understand so terms.

- Lead – Soft Malleable metal derived from Galena.
- Lead in – This term can mean Lead in its pure form or a lead compound (examples: Lead Oxide, Lead Acetate, Lead Chromate, etc.)
- OSHA – Occupational Safety and Health Administration (Worker Protection Regulator)
- EPA – Environmental Protection Agency (Environmental Protection Regulator)
- HUD – Department of Housing and Urban Development (Provide Housing Assistance and Community Development)
- CPSC - Consumer Product Safety Commission (Provides rules on the safety of Consumer Products)
- FDA – Food and Drug Administration (Provides Rules on food safety)

Lead rules and Regulations

Why are we concerned about Lead.

- Lead is a poison
- No nutritional value for our body
- Both adults and kids effected
- Accumulative effects
- No cure available after poisoning
- Very often used material
- Still used in some materials

Lead in Numbers

Agency	Media	Level	
CDC	Blood	3.5 µg/dL	Reference range upper value for children's BLL and reference BLL for adults (NIOSH).
CPSC	Paint	90 ppm (0.009%)	Regulation; by dry weight. New standard for lead in household paint and similar surface coatings in children's products, and some furniture, for adult and children, children's toys, jewelry, etc.
EPA	Air (ambient)	0.15 µg/m^3	Regulation; NAAQS; 3-month average
EPA	Soil (residential)	400 ppm (play areas) 1200 ppm (non-play areas)	Soil screening guidance level; requirement for federally funded projects only (40 CFR Part 745, 2001]
EPA	Water (drinking)	10 µg/L (ppb) 0 µg/L;	Action level for public supplies Non-enforceable goal; MCLG (Max Contaminant Level Goal is ZERO
FDA	Food	Various	Action levels for various foods; example: lead-soldered food cans now banned
FDA	Drinking water	5 ppb	Bottled water
OSHA	Air (workplace)	50 µg/m^3 30 µg/m^3	Regulation; PEL (8-hour time weighted average) (general industry) Action level (averaged over an 8hour period)
OSHA	Blood	40 µg/dL 50 µg/dL and 60 µg/dL	Regulation; cause for written notification and medical exam, and return to work after removal Regulation; cause for medical removal from exposure
EPA	Waste	5 mg/L (ppm)	TCLP waste determination
HUD	Paint dust	Deteriorated paint	Requirements for a Risk Assessment

Lead rules and Regulations

Two major differences.

- LEAD BASED PAINT vs LEAD CONTAINING PAINT

Lead Based paint is an EPA definition

Lead Containing Paint is an OSHA definition

LBP = 1.0 mg/cm^2 or 5000ppm (0.5%)

LCP = Any detectable level

Lead rules and Regulations

Now let us look at these rules/regulations a little closer.

- **CPSC (90 ppm)**
  - This is to protect Product from being manufactured or important with Lead above specific level.
    - If elevated product can not be sold in the United States
- **EPA Drinking Water (10 ppb)**
  - This is to protect drinking water
    - Rules for water supply companies
    - Requires testing if Lead pipes are known to be used

Lead rules and Regulations

Now let us look at these rules/regulations a little closer.

- **EPA Soil (400 ppm Play areas, 1200 ppm non-play areas)**
  - This is to protect children from Lead poisoning while playing outside
    - If elevated requires clean up, interim controls (covering), abatement (removal)
    - Requires Training for Inspectors, Risk Assessors, Workers, Supervisors
- **EPA Waste (5 ppm)**
  - This is to determine where the waste needs to go
    - If TCLP fails, waste needs to go as Hazardous Waste to special landfill

Lead rules and Regulations

Now let us look at these rules/regulations a little closer.

- **HUD (Deteriorated Paint)**
  - This is to trigger full investigation of Lead Poisoning of a Child
    - Requires Risk Assessment
    - Requires Training for Risk Assessors
- **EPA LBP (1.0 mg/cm^2 or 5000ppm/0.5%)**
  - This is to determine if LBP will be impacted during abatement (permanent removal)
    - Requires Training (Worker, supervisor)
    - Safe work practices

Lead rules and Regulations

Now let us look at these rules/regulations a little closer.

- **EPA RRP (1.0 mg/cm^2 or 5000ppm/0.5%)**
  - This is to determine if LBP will be impacted during renovation or painting
    - Requires training (RRP)
    - Requires Informing Resident
    - Requires safe work practices

Lead rules and Regulations

Let us focus on two rules specifically.

- **RRP vs Abatement**
  - Both are EPA rules, and both apply to homes pre-1978 (and child occupied facilities)

RRP	Abatement
Renovation/Painting	Intent to remove Lead component
8 Hours Training	24 to 40 hours Training
Classroom exam	Federal exam
Certificate valid 5 years	Certificate valid 3 years
Testing done by RRP trained person	Testing done by Certified Inspector
Cost to comply fairly low	Cost to comply much higher

Lead rules and Regulations

Let us focus on two rules specifically.

- **RRP vs Abatement**
  - What does neither one of these rules cover:
    - OSHA requirements
      - Respiratory requirements
      - Air monitoring
      - Medical monitoring
      - Regulated areas
      - OSHA’s LCP levels

Lead rules and Regulations

Now let us look at these rules/regulations a little closer.

- **OSHA Air and Blood rules (TWA: 50 µg/m^3 AL: 30 µg/m^3 Blood: 50 µg/dL)**
  - This is to protect workers when working with or around materials containing Lead.
  - Requires Training (Lead in Construction)
  - May require:
    - Air monitoring
    - PPE
    - Containment
  - Requires removal from job site when elevated (blood)

Lead rules and Regulations

Are we going where Cal-OSHA has gone?

As of January 1, 2025:

Construction:

- **TWA: 10 µg/m^3**
- **AL: 2 µg/m^3**
- **Blood: 10 µg/dL**

General Industry:

- **TWA: 0.01 µg/m^3**

Lead rules and Regulations

Now let us look at Lead Abatement, Clearances, Hazard Screening, and other terms.

NEW NAMES:

Dust Lead Clearance Level becomes Dust Lead Reportable Level

Dust Lead Hazard Level becomes Dust Lead Action Level

In addition to the new names, the EPA has clarified the names and when they should be used.

Lead rules and Regulations

Now let us look at Lead Abatement, Clearances, Hazard Screening, and other terms.

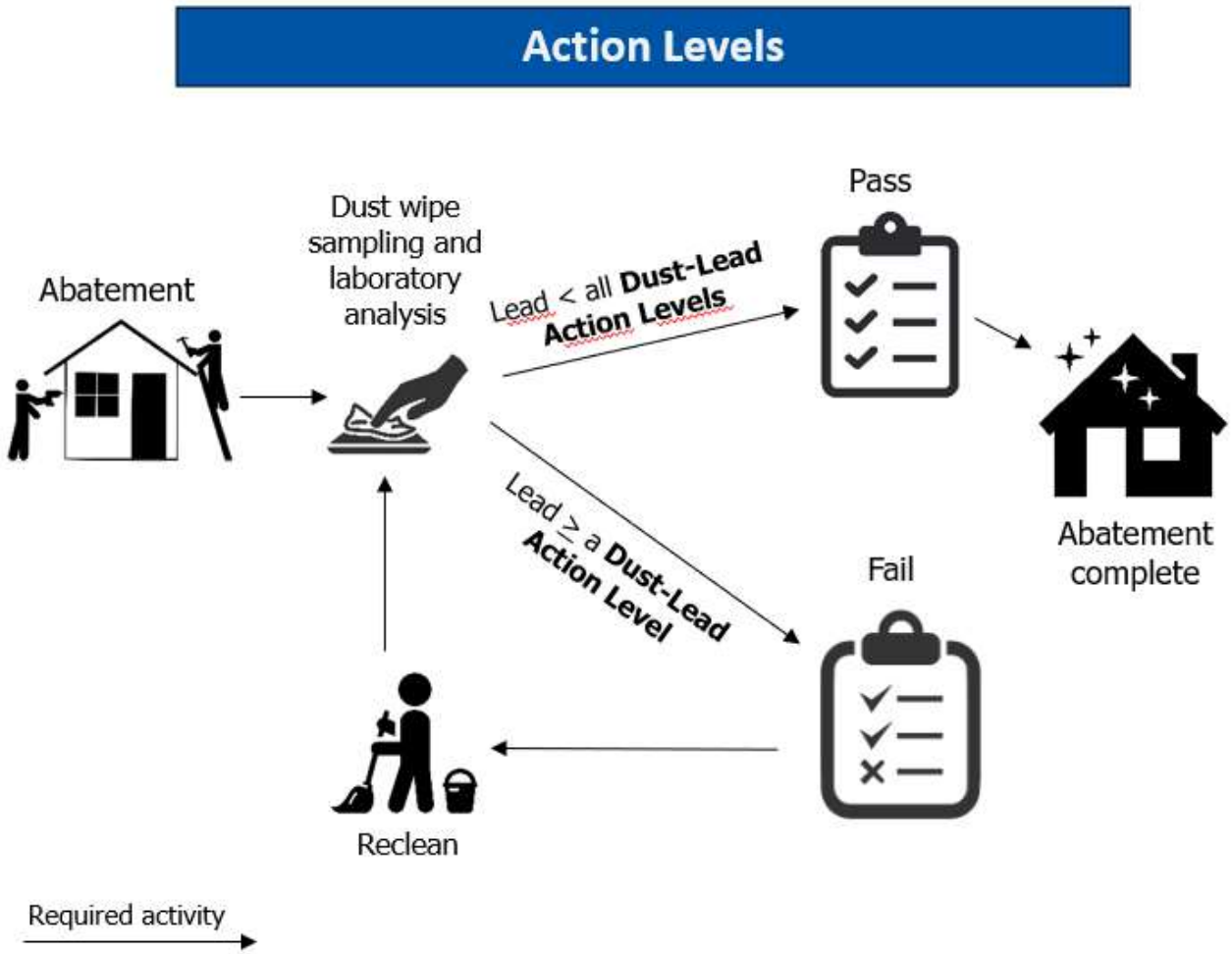
Dust Lead Action Levels:

- 10 micrograms per square foot (µg/ft^2) to 5 µg/ft^2 for floors,
- 100 µg/ft^2 to 40 µg/ft^2 for windowsills, and
- 400 µg/ft^2 to 100 µg/ft^2 for window troughs.

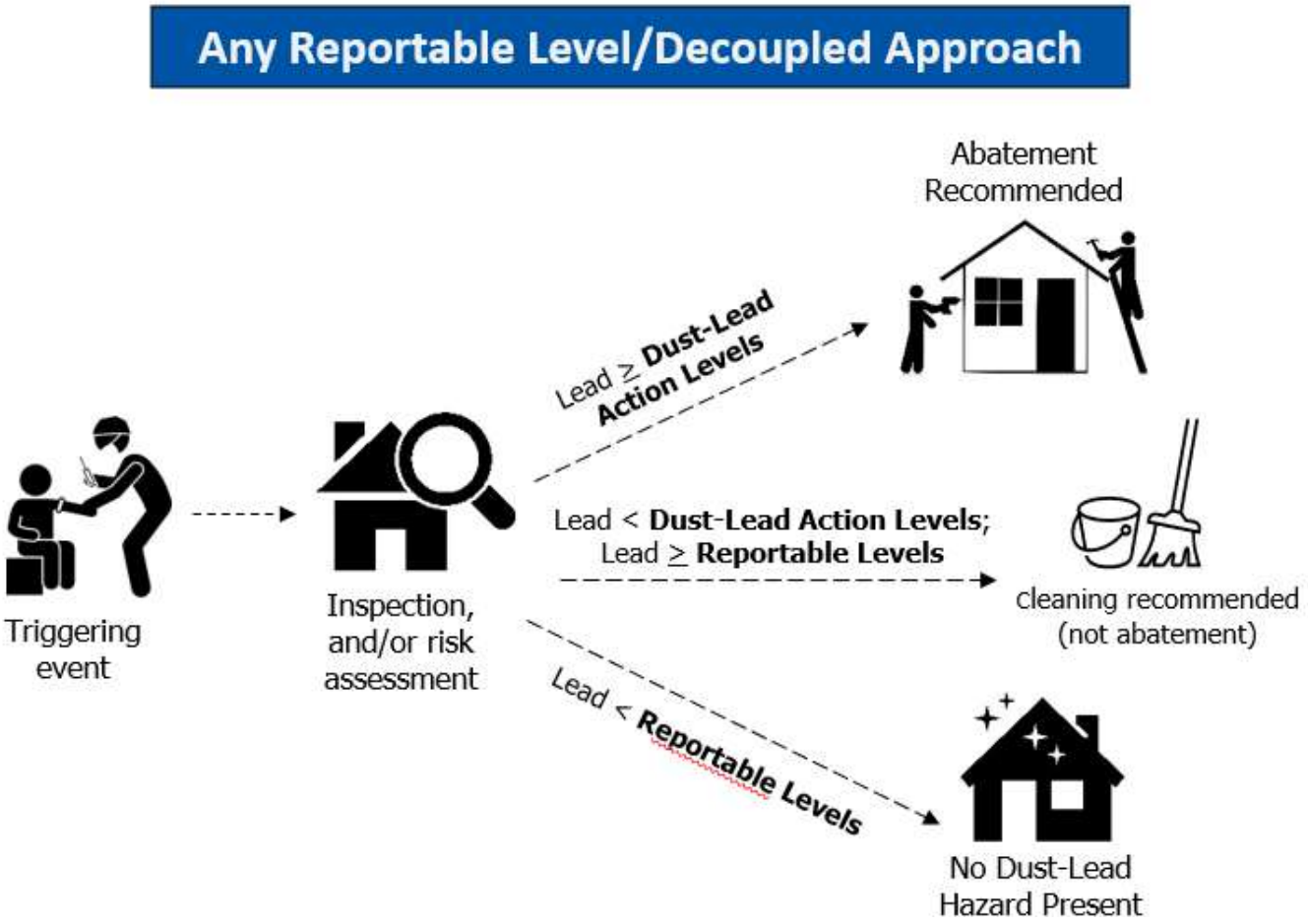
Dust Lead Reportable Levels:

Any reportable level of dust-lead analyzed by a NLLAP-recognized laboratory

Lead rules and Regulations



Lead rules and Regulations



Lead rules and Regulations

Where do you perform lead-based paint activities or abatement work?

EPA RUN PROGRAMS

- AK, AZ, FL, ID, MT, NV, NM, NY, SC, SD, WY
- American Samoa
- Guam
- Northern Mariana Islands
- U.S. Virgin Islands
- Most Tribal Lands

The effective date for all but 3 elements of the rulemaking is on **January 13, 2025**

3 significant changes (the new dust-lead reportable levels, the new action levels, and the new abatement report language) have a compliance timeframe of 1 additional year, and will be enforceable starting on **January 12, 2026**

EPA AUTHORIZED PROGRAMS

- Any state that is **not** AK, AZ, FL, ID, MT, NV, NM, NY, SC, SD, WY
- Cherokee Nation
- Upper Sioux Community
- Lower Sioux Indian Community in the State of Minnesota
- Minnesota Chippewa Tribe - Boise Forte (Nett Lake)
- Puerto Rico
- Washington, DC

Authorized programs must demonstrate that they are at least as protective as EPA's program no later than two years after the final rule's effective date (*i.e.*, January 13, 2025)

If you work in an authorized program, these changes could be incorporated any time before January 11, 2027, please monitor any changes to your authorized program as appropriate

Lead rules and Regulations

And finally some other numbers.

- Safe Drinking Water Act: Lead free = 0.25 percent calculated across the wetted surfaces of pipes, pipe fittings, plumbing fittings, and fixtures and 0.2 percent for solder and flux.
- AVGAS (Aviation Fuel): 100 Octane up to 4.24 grams per Gallon, 100 Octane LL (low lead) up to 2.12 grams per Gallon.
- FDA: Bottled water 5 ppb

And you know there must be others……

Lead rules and Regulations

What does all this mean?

- **There are so many rules, so whenever do a project, you have to find out what applies and what not.**
- **Get Training**
  - **Get the right training for the right job**
- **Know the rules**
  - **Know your rules, and know when which one applies**
- **Get Help**
  - **Ask help from trainers, consultants, and regulators**

Thank you so much for listening to me today. If you need to contact me in the future, you can do so here:

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