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Lead-Based Paint "Everything Sheet" and References – 20100526

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*Additions or Corrections Solicited! Send these via email to Dr. James R. Tucker. Email: jim@emssales.net

LEAD EXPOSURE LIMITS

- PAINT 90ppm – CPSC (20090809)
 - 1.0mg/cm2 or 5,000ppm - HUD
- DUST 40 ug/ft2 - HUD & EPA Clearance for Floors
 - 250ug/ft2 - HUD & EPA Clearance for Window Sills
 - 400ug/ft2 – HUD & EPA Clearance for Window Wells
- DUST Lead Hazard Screens Only
 - 25 ug/ft2 - Floors
 - 125ug/ft2 - Window Sills
- SOIL 500-1000ppm EPA Superfund Limit
 - 400ppm - High Contact Play Areas {Communicate}
 - 1200ppm - Other Residential Yard Areas {Average}
 - 5000ppm - Require Permanent Abatement
- AIR Background or <400ppm - EPA Replacement Soil
 - 1.5ug/m3 - EPA National Air Quality Standard (Quarterly)
 - 30ug/m3 - OSHA Action Level (8 Hour Avg.)
 - 50ug/m3 - OSHA Exposure Limit
- BLOOD 10ug/dl (CDC) Level of Concern for children
 - 40ug/dl (OSHA) Permissible Blood Lead Level
 - 50ug/dl (OSHA) Worker Removal - Lead Level
- WATER - 15ppb (ug/liter)
- HAZARDOUS WASTE – Lead - 5ppm Leachable TCLP
- GASOLINE - 0.1 g/gallon
- CERAMIC OR POTTERY GLAZES – FDA - AOAC Method 973.32
 - 3ppm Leachate – Plates, Saucers and other Flatware
 - 2ppm Leachate – Small Hollowware – (Cereal Bowls)
 - 1ppm Leachate – Large Hollowware
 - 0.5ppm Leachate – Cups, Mugs and Pitchers
- HAZARDOUS WASTE – Other Metals – Leachable TCLP

Arsenic (As) - 5ppm	Lead (Pb) – 5ppm
Barium (Ba) – 100ppm	Mercury (Hg) – 0.2ppm
Cadmium (Cd) – 1ppm	Selenium (Se) – 1ppm
Chromium (Cr) – 5ppm	Silver (Ag) – 5ppm
- CLEARANCE TESTING (Dust Wipes)
 - Visual Examination - No Paint Chips, No Dust
 - Sample 4 Rooms
 - 1 Floor + 1 Window Sill (Stool) +
 - 1 Window Trough (Well) +
 - 1 per 2,000 sq. ft. common areas +
 - 1 Sample within 5 feet outside containment
- EPA Recognized Lead Swabs (Nationally available)
 - Lead Check@ call ems 800-293-3003

- 29 CFR 1926.62 & HUD Manual Chapter 9, Page 17
- Up to 10XPEL - ½ face Negative Pressure APR
 - Manual Demolition Manual Scraping Manual Sanding
 - Heat Gun Use, Power Tool Paint Removal + HEPA Dust Collect
- 10X up to 50XPEL - Full Face Negative Pressure APR or PAPR
 - Cleanup Dry Abrasive Blasting, Enclosure Movement
- Greater than 50XPEL - Supplied Air Respirator
 - Abrasive Blasting, Welding, Torch Burning

INTERNET REFERENCES

- 1) Environmental Monitoring Systems
 - Lead Check Swabs®, Sampling Cassettes, Pumps, Calibration Equipment, Microscopes, Air Scrubbers, HEPA Vacuums, Respirators, PPE, IAQ Disinfectants and related IAQ Supplies. 3864 Leeds Avenue, Charleston, SC 29405, TEL 800-293-3003, <http://www.emssales.net>
- 2) XRF Equipment (X-ray Tube) – <http://www.innovsys.com>
- 3) XRF Equipment (Cd109 Source) - <http://www.niton.com/>
- 4) State RAD Regulations – <http://www.crcpd.org/Map/map.asp>
- 5) Training – http://cfpub.epa.gov/flpp/search.cfm?Applicant_Type=training
- 6) Code of Federal Regulations <http://www.gpoaccess.gov/cfr/index.html>
- 7) HUD Guidelines - <http://www.hud.gov/lea/learules.html>
- 8) HUD/EPA Brochures – <http://www.epa.gov/lead/>
- 9) HUD Lead Hazard Control <http://www.hud.gov/lea/leahome.html>
- 10) HUD Office Reference Library – <http://www.hud.gov/offices/lead/healthyhomes/lead.cfm>
- 11) Evaluation of LBP Inspections <http://www.hud.gov/lea/xrfreport.html>
- 12) CDC Lead Program – <http://www.cdc.gov/lead/>
- 13) OSHA – <http://www.osha.gov>
- 14) OSHA Lead in Construction Tech Manual – http://www.osha.gov/dts/osta/otm/otm_v/otm_v_3.html
- 15) OSHA Asbestos & Lead Manuals – <http://www.ehso.com/oshaguidance.php>
- 16) National Lead Information Center – <http://www.epa.gov/lead/pubs/nlic.htm>
- 17) Global Lead Network <http://www.globalleadnet.org>
- 18) Pb Poisoning Prevention <http://www.ncsl.org/programs/pubs/4648.htm>
- 19) Alliance to End Childhood Lead Poisoning – <http://www.cehn.org/cehn/resourceguide/ateclp.html>
- 20) CLEARCorps – Community Lead Education and Reduction Corps – <http://www.clearcorps.org/>
- 21) National Paint and Coatings Association (NPCA) <http://www.paint.org>
- 22) Real Estate Disclosure – <http://www.leadhelp.com/>
- 23) Lead Smart Homes - <http://www.leadsmarthomes.com/>
- 24) LBP and Historical Preservation <http://oldhouseweb.com/oldhouse/content/npsbriefs/brief37.asp>
<http://gsa.gov/pbs/pt/call-in/tis/0176.htm>
- 25) National Institute of Building Sciences – LBP O&M and Specification <http://www.nibs.org/>
- 26) RS Means – LBP Abatement Cost Est– <http://www.rsmeans.com>
- 27) American Institute of Architects - <http://www.aialongisland.com>
- 28) ASTM Standards on Lead Hazards Associated with Buildings – <http://www.ASTM.com>
- 29) Steel Structure Painting Counsel – <http://www.sspc.org>
- 30) Lead Listing – <http://www.leadlisting.org/>
- 31) ELPAT Labs – <http://www.aiha.org/Content/LQAP/PT/ELPAT.htm>
- 32) American Lead Laboratory Accreditation Program (AL2AP) <http://www.a2la.org>
- 33) Association of Environmental Health of Soils – www.aehs.com
- 34) Lead Contamination in Soils – Impact on Public Health - <http://wonder.cdc.gov/wonder/prevguid/p0000015/p0000015.asp>
- 35) Renovation, Repair & Painting (RRP) Information – <http://www.epa.gov/lead/pubs/renovation.htm>

RESPIRATORY PROTECTION - TASK RELATED TRIGGERS

36) ANALYTICAL METHODS, etc:

PCS's –All XRF's -
<http://www.hud.gov/offices/lead/lbp/hudguidelines/allpcs.pdf>
 Method 6200 – Soil <http://www.epa.gov/epaoswer/hazwaste/test/6200.pdf>
 Method 7702 – Air <http://www.cdc.gov/niosh/nmam/pdfs/7702.pdf>
 Soil Sampling - <http://www.deq.state.mi.us/documents/deq-erd-vsr.pdf>
 Environmental Monitoring Systems
 Lead Check@ Swabs, Sampling Cassettes, Pumps, Calibration Equipment, Microscopes, Air Scrubbers, HEPA Vacuums, Respirators, PPE, IAQ Disinfectants and related IAQ Supplies.
 3864 Leeds Avenue, Charleston, SC 29405, TEL 800-293-3003,
<http://www.ems-sales.net>
 Pace Dust Wipes-Performance Products (Paper), LG Best & Associates, Inc.
 207 Rutherglen Drive, Cary, NC 27511, 919-467-9629
 Aramsco – Lead Dust Sampling Wipes (Rayon) #90085 – Lynx Products,
 Thorofare, NJ 800-767-1225
 Lead-in-Soil Analysis (LISA) Sample Cups - Chemplex
 3091 SE Waaler Street, Stuart, FL 34997-5923
 TEL 800 424-3675 FAX 561-283-2774
 XRF Sample Cup - Cat. # 1330 - 32mm OD
 XRF Film Sample Supports - Cat.# 156 - 500 pieces/box
 Mylar 0.0014";3.6um;0.14mil
 Leak Test Kits – Valley Safety Service Associates – 413-323-9571
 Shareware – CAD Software – <http://www.dcad.com>
 Pelican Cases – <http://www.casesbymasco.com> 800-772-1960
 TLD Finger Ring Radiation Badges – ICN Dosimetry –
<http://www.dosimetry.com> 800-251-3331
 Landauer Dosimetry - Landauer Corporate Office, 2 Science Road, Glenwood,
 Illinois 60425-1586, (800) 323-8830, <http://www.landauerinc.com>
<http://www.landauerinc.com/luxelosl.htm>
 S.E. International, Inc. Radiation Alert Detectors and Dosimeters –
<http://www.seintl.com> 931-964-3561

HUD/EPA Evaluation Components:

Analysis, Content or Use	Hazard Screen	Risk Assessment
Paint	Deteriorated	Deteriorated
Dust	2	6-8
Soil	No	2
Water	Optional	Optional
Air	No	No
Maintenance Status	Yes	Optional
Management Plan	No	Optional
Status of EBL's	Yes	Yes
Typical Applications	RA?	1,2,3,4
Final Report	9,13	10

Analysis, Content or Use	Inspection	EBL
Paint	Surface by Surface	Defective, Chewable, Friction Contact Areas
Dust	Optional	Contact Areas
Soil	Optional	Bare & Play Areas
Water	Optional	1 st Drawn Samples
Air	No	No
Other		Glazed Dinnerware Painted Furniture, etc.
Maintenance Status	No	Yes
Management Plan	No	Yes
Status of EBL's	Yes	Yes
Typical Applications	3,5,6,8	EBL's
Final Report	11	12
1. Interim Controls	2. Building nearing end of expected life	
3. Sale of property/turnover	4. Insurance (Document lead-safe status)	
5. Abatement	6. Renovation Work	
7. Weatherization	8. Remodeling/Repainting	
9. Determine if full RA is required		
10. Lead Hazard Control Plan or certification of LBP compliance		
11. Lead Concentrations for each surface tested.		
12. Lead Hazard Control Plan	13. Recommendations for additional testing	

REGULATORY REFERENCES:

1956 Supreme Court - Steiner V. Mitchell – “portal to portal” compensation for Battery Manufacturing workers including required showers and personal hygiene
1971 LBPPPA Funding – HUD, EPA and CPSC Research on LBP
1978 CPSC – LBP in consumer paints 600ppm = 0.06%
1989 OSHA Lead in General Industry Standard - 29 CFR 1910.1025 – PEL 50 ug/m3, Engineering Controls, Administrative Controls, Training, Work Practices, PPE and Written Compliance Plan
1993 OSHA Lead in Construction Standard - 29 CFR 1926.62 – PEL 50 ug/m3, Engineering Controls, Administrative Controls, Training, Work Practices, PPE, Written Compliance Plan, and Task Related Triggers
1992 Title X - Residential Lead-Based Paint Hazard Reduction Act of 1992 Disclosure of Known Lead Based Paint and/or Lead-Based Paint Hazards in Housing - 24 CFR 35 & 40 CFR745
1996 LBP Disclosure – Final Rule – 10 day period for inspection for all residential real estate rentals or sales. 40CFR Part 745 & 24CFR Part 35
1996 Requirements for LBP Activities – Accreditation of Training Providers, Certification and Training for LBP Professionals, Work Practice Standards. 40 CFR Part 745
19980415 RESPIRATORY PROTECTION - 29 CFR 1910.134
 Unified Respiratory Protection. New Statute that requires employers to provide annual fit testing and a medical surveillance program for individuals issued air purifying and supplied air respirators, BOTH negative and positive pressure units.
19980601 HAZARD EDUCATION BEFORE RENOVATION
40 CFR Part 745 Requires persons who perform renovations for compensation to notify owners or residents of target housing prior to commencing renovation. Requires acceptance signature for EPA Pamphlet. Renovation is the removal or modification of painted surfaces or components >2 sq. ft.
19980601 IDENTIFICATION OF DANGEROUS LEVELS OF LEAD - 40 CFR Part 745 Proposed EPA Rulemaking New lower levels for dust and soil exposure limits. A guidance document is proposed.
19981218 MANAGEMENT AND DISPOSAL OF LBP DEBRIS; PROPOSED RULE AND TEMPORARY SUSPENSION OF TOXICITY CHARACTERISTIC RULE FOR SPECIFIED LBP DEBRIS; PROPOSED RULE - 40CFR745
19990803 LOWERING OF REPORTING THRESHOLDS; COMMUNITY RIGHT TO KNOW TOXIC CHEMICAL RELEASE REPORTING: Proposed Rule 40 CFR Part 372 – Lowering of reporting limits for manufacturing of Persistent Bioaccumulative Toxins (PBT)
19990915 REQUIREMENT FOR NOTIFICATION, EVALUATION AND REDUCTION OF LBP HAZARDS IN FEDERALLY OWNED RESIDENTIAL PROPERTY AND HOUSING RECEIVING FEDERAL ASSISTANCE; Final Rule 24CFR35 HUD consolidation of LBP regulations 1012/1013. Set new levels for LBP Clearance.
19991126 UNIFORM PHYSICAL CONDITION STANDARDS AND PHYSICAL INSPECTION REQUIREMENTS FOR CERTAIN HUD HOUSING; Final Rule 24CFR Parts 5 et al. Sets uniform standards for safe, decent and sanitary Public Housing, retains LBP standards embedded in Housing Quality Standards.
20010105 EPA IDENTIFICATION OF DANGEROUS LEVELS OF LEAD; Final Rule 40CFR745 EPA is issuing the final regulation to establish standards for lead-based paint hazards.
20010117 LEAD AND LEAD COMPOUNDS; LOWERING REPORTING THRESHOLDS; COMMUNITY RIGHT-TO-KNOW TOXIC CHEMICAL RELEASE REPORTING REPORTING; Final Rule. The EPA is lowering the reporting thresholds for lead and lead compounds.
20010122 LEAD NOTIFICATION REQUIREMENTS FOR LEAD-BASED PAINT ABATEMENT ACTIVITIES AND TRAINING; Proposed Rule 40CFR745 This proposal seeks to establish procedures used to notify the Agency of Lead-based paint abatement and training activities prior to commencement as required by Title X (ten).
20040621 CONFORMING AMENDMENTS AND CORRECTIONS 24CFR35, etc.: This final rule clarifies conforming amendments and corrections to HUD's LBP regulations.
20080422 Lead; Renovation, Repair, and Painting Program 40CFR745: This final rule addresses LBP Hazards created by renovation repair and painting activities. Effective 20100422