

ANTELOPE VALLEY AIR QUALITY MANAGEMENT DISTRICT

**RULE 1420 -- EMISSIONS STANDARD FOR LEAD**

*(Adopted: 09/11/92)*

(a) Purpose

The purpose of this rule is to reduce emissions of lead from nonvehicular sources.

(b) Applicability

This rule applies to all persons who own or operate facilities that use or process lead-containing materials including, but not limited to primary or secondary lead smelters, foundries, lead-acid battery manufacturers or recyclers, and lead-oxide, brass and bronze producers. Applicability of subdivisions (e), (f), (g), (h), (j) and (k) of this rule shall be based on the greatest amount of lead processed in any one of the three years dating back from the adoption of this rule, and the amount processed annually thereafter.

(c) Definitions

For the purpose of this rule, the following definitions shall apply:

- (1) DUST-FORMING MATERIAL is any material containing more than 15 percent by weight of particulate matter less than 0.84 millimeter (mm) equivalent diameter as determined by ASTM C136-84a, *Standard Method for Sieve Analysis of Fine and Coarse Aggregates*, using a number 20 U.S. Bureau of Standards sieve with a 0.84-mm square opening, or an alternative EPA-approved procedure.
- (2) EMISSION COLLECTION SYSTEM is any equipment installed for the purpose of directing, taking in, confining, and conveying an air contaminant, and which at minimum conforms to design and operation specifications given in the most current edition of *Industrial Ventilation, Guidelines and Recommended Practices*, published by the American Conference of Government and Industrial Hygienists, at the time a complete permit application is on file with the District.
- (3) EMISSION POINT is any location where lead is emitted into the atmosphere from equipment or processes.
- (4) ENCLOSED STORAGE AREA is any space, container, and/or structure used to contain material that prevents its contents from being emitted into the atmosphere.

- (5) FUGITIVE LEAD-DUST EMISSIONS are emissions of lead-containing material from locations other than emission points including, but not limited to, foot and vehicular traffic, and storage piles, where the dust-forming material at the emission source has a lead content of 0.5 percent by weight or more as determined by EPA-approved methods.
- (6) FOUNDRY is any facility, operation, or process where metal or a metal alloy is melted and cast.
- (7) LEAD means elemental lead, alloys containing elemental lead, or lead compounds, calculated as elemental lead.
- (8) LEAD-ACID BATTERY MANUFACTURER is any facility, operation, or process that produces storage batteries or battery components using lead or lead compounds.
- (9) LEAD-ACID BATTERY RECYCLER is any facility, operation, or process in which lead-containing batteries are disassembled and/or the lead battery components are melted.
- (10) LEAD-OXIDE PRODUCER is any facility, operation, or process intended to produce lead oxide from materials containing lead, including, but not limited to, lead melting and/or oxidizing furnaces, lead oxide conveying systems, associated air pollution control systems, and equipment used for product recovery, storage, and dispensing.
- (11) LEAD-PROCESSING FACILITY is any company, business, facility, process or operation which uses or processes lead-containing materials, located on one or more contiguous or adjacent properties in actual contact or separated only by a public roadway or other public right-of-way, and owned or operated by the same person or by persons under common control.
- (12) MOLTEN METAL is a metal or metal alloy in the semi-solid or liquid state.
- (13) PERSON is any firm, business establishment, association, partnership, corporation or individual, whether acting as principal, agent, employee, or other capacity, including any governmental entity or charitable organization.
- (14) PRIMARY LEAD SMELTER is any facility, operation, or process engaged in the production of lead, lead alloys, and/or lead compounds from lead ore and/or lead ore concentrates through the use of pyrometallurgical techniques.
- (15) PROCESSES means using lead or lead-containing material in any operation.
- (16) RINGELMANN OPACITY refers to an opacity shade as given in a chart published by the United States Bureau of Mines.

(17) SECONDARY LEAD SMELTER is any facility, operation, or process engaged in the production of lead, lead alloys, and/or lead compounds from lead-bearing scrap material through the use of pyrometallurgical techniques.

(d) Standard

On or after July 1, 1994, no person who owns or operates a lead-processing facility shall discharge into the atmosphere:

- (1) emissions which cause ambient concentrations of lead to exceed 1.5 microgram per cubic meter, averaged over 30 days, beyond the property line of a facility; or,
- (2) fugitive lead dust emissions that exceed Ringelmann 0.5, or 10 percent opacity, for more than three minutes aggregate in any 60-minute period.

(e) Requirements

On and after July 1, 1994, the following requirements shall apply to any person who owns or operates a lead-processing facility.

- (1) All emission points shall be vented to an emission collection system.
- (2) The gas stream from any emission collection system shall be ducted to a lead control device which shall reduce lead emissions by 98 percent or more, as determined by a source test conducted in accordance with SCAQMD Method 12.1 - *Determination of Inorganic Lead Emissions from Stationary Sources Using a Wet Impingement Train*, or particulate matter emissions by 99 percent or more as determined by a source test using SCAQMD Method 5.1 - *Determination of Particulate Matter Emissions from Stationary Sources Using a Wet Impingement Train*. When the particulate matter captured by the lead control device is hygroscopic, or SO<sub>x</sub> is present in concentrations greater than 10 ppm, or ammonia is present, SCAQMD Method 5.1 shall be replaced by SCAQMD Method 5.2 - *Determination of Particulate Matter Emissions from Stationary Sources Using Heated Probe and Filter*. Source tests shall be conducted by persons approved by the Executive Officer. Lead or particulate matter emissions reduction shall be calculated as follows:

$$\frac{C_{in} - C_{out}}{C_{in}} \times 100 = \% \text{ emissions reduction}$$

Where: C<sub>in</sub> = mass at the inlet of the control device  
C<sub>out</sub> = mass at the outlet of the control device

- (3) Each emission collection system and lead control device shall, at minimum, be maintained and operated in accordance with the manufacturer's specifications.
- (4) Fugitive lead-dust emissions shall be controlled by the following housekeeping practices:
  - (A) Dust-forming material which may contain lead including, but not limited to, baghouse dust, dross, ash, or feed material shall be stored in an enclosed storage area;
  - (B) Surfaces that accumulate lead-containing dust subject to vehicular or foot traffic shall be washed down, vacuumed, or wet-mopped at least once a week, or shall be maintained with the use of non-toxic chemical dust suppressants; and,
  - (C) Lead or lead-containing wastes generated from housekeeping activities shall be stored, disposed of, recovered, or recycled using practices that do not lead to fugitive lead-dust emissions.
- (5) A facility that processes more than 10 tons of lead per year shall install, maintain and operate ambient air quality monitoring equipment as specified in subdivision (g).
- (6) A facility that processes more than 2 tons, but less than or equal to 10 tons of lead per year shall determine ambient lead concentrations by monitoring as specified in subdivision (g), or by air dispersion modeling calculations as specified in subdivision (h). The Executive Officer may require ambient air monitoring as specified in subdivision (g) for any facility when air dispersion modeling calculations indicate that ambient lead concentrations may exceed 0.75 microgram per cubic meter, averaged over 30 days.
- (7) Ambient air quality monitoring may be discontinued upon the submittal of a written request and determination by the Executive Officer that lead emissions will remain below a level at which a potential for exceedance of the lead standard of subdivision (d) exists.

(f) **Compliance Plan**

No later than July 1, 1993, any person who owns or operates a lead-processing facility that processes more than 2 tons of lead per year shall submit a Compliance Plan to the Executive Officer for approval, with the following, including all supporting information, data, and calculations:

- (1) For each of the previous three calendar years dating from the date of the adoption of this rule;
  - (A) quantities of each lead-containing material processed;

- (B) the amount of lead in each material processed;
- (2) For the previous 12 calendar months;
  - (A) the maximum and average daily process rates and monthly process rates for all equipment and processes;
  - (B) the maximum and average daily and annual emissions of lead from all emission points and average daily and annual emission estimates from all sources of fugitive lead-dust;
- (3) The approximate date of intended source tests for lead control devices, as required by paragraph (e)(2), and an application for a Permit to Construct any required lead control devices and associated emission collection systems, if applicable;
- (4) Engineering drawings, calculations or other methodology to demonstrate compliance with paragraphs (e)(1) and (e)(4);
- (5) Air dispersion modeling calculations using procedures approved by the Executive Officer to determine the location of sampling sites as required by subdivision (g) or to estimate ambient concentrations of lead as required by subdivision (h);
- (6) All information necessary to demonstrate means of compliance with subdivision (g).

**(g) Requirements for Ambient Air Monitoring**

No later than 6 months after approval of the Compliance Plan, all facilities that are required or elect to employ ambient air monitoring shall conduct ambient air monitoring as follows:

- (1) Collect samples from a minimum of two sampling sites approved by the Executive Officer located at or beyond the property line of the facility where maximum ground level lead concentrations are indicated by Executive Officer approved air dispersion modeling calculations and based on Executive Officer approved emission estimates from all emission points and fugitive lead-dust sources;
- (2) Collect samples from a minimum of one Executive Officer approved sampling site to determine background ambient lead concentration;
- (3) Collect 24-hour samples at all sites for 30 consecutive days from the date of initial sampling, followed by one 24-hour sample collected every 6 days, on a schedule approved by the Executive Officer;

- (4) Submit samples collected pursuant to paragraphs (g)(1), (g)(2), and (g)(3) to a Executive Officer approved laboratory for analysis within three (3) calendar days of collection and calculate ambient lead concentrations for individual 24 hour samples within 15 calendar days of the end of the calendar month in which the samples were collected;
- (5) Sample collection shall be conducted using Title 40, CFR 50 Appendix B - *Reference Method for the Determination of Suspended Particulate Matter in the Atmosphere (High Volume Method)*, and sample analysis shall be conducted using Title 40, CFR 50 Appendix G - *Reference Method for the Determination of Lead in Suspended Particulate Matter Collected from Ambient Air*, or U.S. EPA-approved equivalent methods;
- (6) Continuously record wind speed and direction data during sampling periods using equipment approved by the Executive Officer at location and placement approved by the Executive Officer;
- (7) Ambient air quality monitoring shall be conducted by persons approved by the Executive Officer and sampling equipment shall be operated and maintained in accordance with EPA-referenced methods.

(h) Requirements for Air Dispersion Modeling

- (1) Facilities that process more than 2 tons, but less than or equal to 10 tons of lead per year shall submit to the Executive Officer, with the Compliance Plan, the results and input data of air dispersion modeling calculations, as applicable. Air dispersion modeling shall be conducted using modeling approaches and emission estimates approved by the Executive Officer.

(i) Recordkeeping

Effective January 1, 1994, any person who owns or operates a lead-processing facility subject to this rule shall maintain two years of the following records at the facility and make them available to the Executive Officer upon request:

- (1) Information on quantities of each lead-containing material processed, and the lead content of the material, including purchase records, usage records, results of analysis or other verification to indicate lead content and lead usage, updated annually;
- (2) Results of all ambient air lead monitoring, including data specified by subdivision (g), and air dispersion modeling as specified in subdivision (h), as applicable;

- (3) Records of housekeeping activities completed as required by paragraph (e)(4), and inspection and maintenance of emission collection systems and control devices, including the name of the person performing the activity, and the dates on which specific activities were completed.

(j) Reporting

Any lead-processing facility that is required or elects to do ambient air monitoring shall report to the District the results of all ambient air lead and wind monitoring each calendar quarter. Results of individual 24-hour samples shall be reported and averaged each calendar month. Any exceedances of ambient air quality standards identified within that period shall be reported to the District within 24 hours of receipt of the completed sample analysis required in paragraph (g)(4).

(k) Exemptions

- (1) Lead-processing facilities processing 2 tons or less of lead per year shall be exempt from subdivisions (e), (f), (g) and (h), and paragraphs (i)(2) and (i)(3) of this rule, provided the owner or operator demonstrates eligibility for this exemption to the satisfaction of the Executive Officer.
- (2) Lead-processing facilities processing more than 2 tons of lead per year and with maximum daily lead emissions of less than 0.5 pound per day from all emission points and fugitive dust sources, as determined by a compliance plan approved by the Executive Officer and submitted pursuant to subdivision (f), recordkeeping pursuant to subdivision (i), and all other District reporting requirements, shall be exempt from paragraphs (e)(1), (e)(2), (e)(5), (e)(6), and subdivisions (g) and (h) of this rule.

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