

UNCONTROLLED IF PRINTED
LEAD EXPOSURE PLAN

1.0 Objective:

Minimize the risk of adverse health effects caused by occupational lead exposure at Waupaca Foundry, Inc. by providing for assessment of the risk for all jobs in the foundry where there is exposure, or potential exposure, to lead and to determine whether the job is a lead-risk job.

Waupaca Foundry, Inc. also ensures that employees with the potential exposure to lead used in a work activity are provided with information, induction and training on the nature of hazards and means of assessing and controlling exposure to workplace lead and that employees have access to the information.

To comply with OSHA 29CFR –Subpart Z -1910.1025 “Toxic and Hazardous Substances – Lead”.

2.0 Definitions:

Lead: means metallic lead, all inorganic lead compounds, and organic lead soaps.

Action Level: means employee exposure, without regard to the use of respirators, to an airborne concentration of lead of 30 micrograms per cubic meter of air (30 ug/m³) averaged over an 8 hour period.

Permissible Exposure Limit (PEL): Waupaca Foundry, Inc. shall assure that no employee is exposed to lead at concentrations greater than 50 ug/m³ averaged over an 8 hour period.

3.0 Air Monitoring Program:

3.1 Based on previous air monitoring from 1985-present, the presence of lead has been determined to be linked to the melting process of foundry operations. Lead levels have been detected in the Melt Department operations as well as the Vertical Molding Machine (VMM) Operations. In both cases the lead is present when the iron is in a molten form. Monitoring in all plants for lead is done in these operations on an annual basis.

3.2 If the initial determination or subsequent monitoring reveals employee exposure to be at or above the action level (30ug/m³), but below the PEL (50 ug/m³) Waupaca Foundry, Inc. will monitor at least every six months, until two (2) consecutive measurements, taken at least 7 days apart are below the action level.

3.3 If monitoring results reveal the employee exposure to be above the PEL (50 ug/m³) monitoring shall be conducted quarterly, until two (2) consecutive measurements, taken at least 7 days apart are below the action level.

UNCONTROLLED IF PRINTED
LEAD EXPOSURE PLAN

- 3.4 Whenever there has been a production, process, control or personnel change which may result in new or additional exposure to lead, or whenever there is a reason to suspect a change additional monitoring shall be conducted.

- 4.0 Employee Notification:
 - 4.1 Within 15 working days after the receipt of the results of any lead exposure air monitoring, each affected employee must be notified of the results. Notification may be either individually in writing, or by posting the results in an appropriate location that is accessible to affected employees.
 - 4.2 If the results exceed the PEL the written notification shall also include a statement that the PEL has been exceeded and a description of the corrective action taken, or to be taken to reduce exposure below the PEL.

- 5.0 Exposure Situations:
 - 5.1 A small amount of Lead is a common by-product of the foundry melting process.
 - 5.2 Lead exposure occurs when the scrap (purchased from an outside source) is contaminated with lead (for example melted lead is poured into a steel pipe for disposal). In order for the lead to enter the charge bucket it must be attached to or contained within something ferrous (magnetic), as the lead itself cannot be picked up for charge by the crane/magnet system.

- 6.0 Control of Exposure:
 - 6.1 If any employee is exposed to lead above the PEL (50 ug/m³) for more than 30 days per year, Waupaca Foundry, Inc. shall implement engineering, work practice and administrative controls to reduce the employee's exposure to lead. Historically, employees do not have this level of exposure.
 - 6.2 If any employee is exposed to lead above the PEL (50 ug/m³) for less than 30 days per year, Waupaca Foundry, Inc. shall implement engineering controls to reduce exposures to less than 200 ug/m³, and then shall use a combination of engineering, work practice, administrative, and respiratory controls to reduce and maintain employee exposure to lead to or below 50 ug/m³.

- 7.0 Control of Lead entering the Cupola/Melt system:

UNCONTROLLED IF PRINTED
LEAD EXPOSURE PLAN

- 7.1 Each scrap load is inspected by the charge yard attendant after it is dumped in the charge yard. This is done in an attempt to identify scrap which may contain lead, and prevent it from being added to the system.
- 7.2 Purchasing will limit the size of accepted scrap so that identification of Lead may be improved. Refer to DWI's on Material Standards.
- 7.3 Lead detection systems have been investigated. They will continue to be investigated. Currently they are not accurate enough to be considered feasible for Waupaca Foundry's applications.
- 7.4 Lead levels during the "lancing" operations historically are higher than normal and employees are advised to wear respiratory protection during this work procedure.
- 7.5 Sampling of iron in the furnaces is completed every 30 minutes by the Lab.
- 7.5.1 Historically, air samples completed during two (2) consecutive spectrometer lead levels which exceeded .008, have been in excess of the OSHA allowable lead levels in the area's that the melting is occurring (Melt Department Deck).
- 7.5.2 In a situation where two (2) consecutive spectrometer lead level readings exceed .008, only employees wearing the High Efficiency respirator or a Powered Air Purifying Respirator with Hepa filters, will be allowed on the cupola melt deck. Appropriate respiratory protection can be found in HSF 4-0021, "The Respirator Protection Matrix". Training stresses the Hepa filtered Powered Air Purifying Respirator (PAPR) provides the most protection.
- 8.0 High Lead Conditions:
 - 8.1 Cupola Operators - Often lead contaminant in the cupola will cause a plume of white dense smoke at the cupola. Personnel shall take precautions to protect themselves from Lead fumes by donning a Hepa filtered Powered Air Purifying Respirator (PAPR) for any work in the Melt Department area.
 - 8.2 Cupola Operators - When the iron samples taken at the cupola, show a spectrometer reading of .007% lead, or higher, all melt personnel with exposure shall wear the PAPR. This includes melt personnel, melt maintenance personnel, and the Bull Ladle operator.
 - 8.3 Furnace - When the iron samples taken at the furnace, show a spectrometer reading of .007% lead, or higher, employees of the Molding departments shall protect themselves with the use of appropriate respiratory protection as outlined in HSF 4-0021, "The Respiratory Protection Matrix".

UNCONTROLLED IF PRINTED
LEAD EXPOSURE PLAN

- 8.4 Employees using a Particulate Respirator shall be clean shaven and fit tested for the mask prior to its use. They shall also have training regarding the proper use and limitations of the respirator.
- 8.5 Personnel will be posted to keep spectators out of the melting area.
- 8.6 Two (2) consecutive Lead levels exceeding .03% lead in the cupola will require in addition to the above steps, that the cupola be melted out and drained. A Powered Air Purifying Respirator (PAPR) will be required for those people working on the melt deck if this occurs.
- 9.0 Medical Surveillance
 - 9.1 A medical surveillance program in accordance with 1910.1025(j) shall be initiated for all employees who are or may be exposed at or above the action level (30 ug/m³) for more than 30 days per year.
 - 9.2 Within 5 working days after the receipt of biological monitoring results, the employer shall notify in writing each employee whose whole blood lead level is at or about 40 [mu]g/100 g. of the results of the biological monitoring.
- 10.0 Training:
 - 10.1 OSHA requires that all employees who have potential exposure at any level be informed of Appendices A & B of the OSHA regulation.