

Ordinance on Prevention of Lead Poisoning

(Special Ordinance of September 30, 1972)
(Ministry of Labour Ordinance No. 37)

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Chapter I. General Provisions

(Definition of Terms)

Article 1. Terms used in this Ordinance shall comply with the definitions in the following items:

- (1) Lead, etc., shall be defined as lead, lead alloys, lead compounds and mixtures of these substances with others (exclusive of sintered ore, flue cinder, electrolytic slime and slag).
- (2) Sintered ore, etc., shall be defined as sintered ore, flue cinder, electrolytic slime and slag produced in the processes of smelting or refining lead, and flue cinder and electrolytic slime produced in the processes of smelting or refining copper or zinc.
- (3) Lead alloys shall be defined as alloys of lead with other metals which contain lead of 10% or more by weight.
- (4) Lead compounds shall be defined as those which are listed as lead compounds in item 6 of Attached Table 4 of the Enforcement Order of the Industrial Safety and Health Law (hereinafter referred to as "the Enforcement Order").
- (5) Lead work shall be defined as those which are listed below and those which are listed in items 8 through 11 and item 17 of Attached Table 4 of the Enforcement Order.
 - a) Work to calcinate, sinter or melt ore, or to handle lead, etc., or sintered ore, etc. in the processes of smelting or refining lead
 - b) Work to melt ore in the processes of smelting or refining copper or zinc (restricted to work handling raw materials which contain lead of 3% or more by weight), to handle molten ore in converters following the ore-melting, or to handle flue cinders or electrolytic slime (restricted to those which are produced in the smelting or refining processes of copper or zinc.)
 - c) Work to melt, cast, pulverize, mix, sieve, knead, fill, dry, process, assemble, weld, cut, shear or carry lead, etc., or to put in or take out powdered lead, etc., to or from a hopper or container in the processes of manufacturing lead batteries or their parts or repairing or disassembling them.
 - d) Work to melt lead in the processes of manufacturing electric wires, or work to coat or peel wires, or to vulcanize or process coated wires or cables in those processes.
 - e) Work to melt, cast, weld, cut, shear or process lead or lead alloys in the processes of manufacturing lead alloys, or manufacturing, repairing or disassembling products of lead or lead alloys (exclusive of lead batteries and their parts) , or work to cast lead in the processes of manufacturing lead free-cutting steel.
 - f) Work to melt, cast, pulverize, mix, agitate for air-cooling, sieve, calcinate, bake, dry or carry lead, etc., or to put in or take out powdered lead, etc., to or from a hopper or container in the processes of manufacturing lead compounds.
 - g) Work to line with lead (inclusive of finishing).

h) Work to melt, cast, pulverize, mix, or sieve lead, etc. or to coat with lead or to peel coated lead in the processes of manufacturing products of rubber or synthetic resin, paint lead-containing paint, or colors, glaze, agricultural chemicals, glass, adhesives, etc., which contain lead compounds.

i) Work to solder in places where natural ventilation is insufficient.

j) Work to glaze with a glaze which contains lead compounds or to bake objects glazed with the said glaze.

k) Work to picture with colors which contain lead compounds on objects, or to bake objects pictured with the said colors.

l) Work to harden or anneal metals using molten lead, or to sand-bathe the said metals.

m) Work to clean the workshops where the work provided for in items 8, 10, 11 or 17 in Attached Table 4 of the Enforcement Order, or (a) through (l) listed above are carried out.

(Exempted Work)

Article 2 The work designated under item 15 in Attached Table 4 of the Enforcement Order shall be the picture painting work using painting brushes or stamps, which is recognized by the Chief of the Labour Standards Inspection Office who governs the location of the workshop (hereinafter referred to as "Chief of the competent Labour Standards Inspection Office") to be not so hazardous as to endanger the health of the workers engaging in such work, from contamination by the lead or the baking work using the firing furnace equipped with a local exhaust ventilation system or exhaust dust with the structure and capacity conforming to the provisions of Articles 24 through 25, paragraph 1 of Article 28, and Article 29 through 30.

(Exemption of Application)

Article 3 This ministerial ordinance (exclusive of the provisions of Articles 22, 32, 35 through 39 of Chapter 1; Article 46 (restricted to the provisions relating to item (5) of paragraph 2 of Article 58), Section 3 of Chapter 4); paragraphs 2, 4 and 5 (restricted to the provisions of item (5) of paragraph 2 and the conditional clause of Article 39); Article 56; and Article 57) shall not apply where the employer is to have his/her employees engage in lead work which falls under any one of the types of work designated in the following items:

(1) Work to melt or cast lead or lead alloys at temperatures of 450 or less at workshops where the total volume of pots, crucibles, and like to melt lead alloys does not exceed 50 liters.

(2) Temporary work stated in (i) through (1) of item (5) of Article 1 or cleaning work in the workshops wherein the said work is to be carried out.

(3) Work in isolated chambers to be conducted by remote control system.

(4) Work designated by the provision of the preceding Article.

(Procedures of Petition for Recognition)

Article 4. The employer who wants to be recognized as provided for in Article 2 (hereinafter referred to as "recognition") shall file with the Chief of the competent Labour Standards Inspection Office the Petition for Recognition for Partial Exemption of Applying Lead Work (Form 1) attached with a sketch of the workplace.

2. The Chief of the competent Labour Standards Inspection Office, who received such petition, shall notify the said employer whether or not the exemption has been recognized in writing as soon as the decision is made.

3. The employer who has received such recognition, when the facts stated in the petition or the sketch have changed, shall report the fact in writing to the Chief of the competent Labour Standards Inspection Office as soon as possible.

4. The Chief of the competent Labour Standards Inspection Office shall revoke the recognition as soon as workers who are engaged in the said work are found to be not free from lead contamination.

Chapter II. Facilities

(Facilities Pertaining to Lead Smelting, etc.)

Article 5. The employer who has workers engage in lead work stated in a) of item (5) of Article 1, shall take the following measures:

(1) Install a local exhaust ventilation system in a workshop where calcination, sintering, and melting of ore, or melting, casting or baking of lead, etc., or sintered ore, etc., are conducted.

(2) Install equipment either to seal up the emitting source of dust of lead, etc., or sintered ore, etc., or locally exhaust them in an indoor workshop where lead, etc., or sintered ore, etc., are crushed, pulverized, mixed or sieved using techniques other than the wetmethod.

(3) Install a local exhaust ventilation system and equipment to receive powdered lead, etc., or sintered ore, etc., (exclusive of slag hereinafter the same, in this item) which spills out of containers in an indoor workshop where powdered lead, etc., or sintered ore, etc., are fed to and/or taken out of a hopper, pulverizer or container using techniques other than the wetmethod.

(4) When flue cinders, electrolytic slime or slag are stored temporarily, secure places for them or install containers for them.

(5) Install containers for floating slag in workshops where lead, etc., or sintered ore, etc., are melted or cast.

(Facilities Pertaining to Copper Smelting)

Article 6. The employer who has workers engage in lead work provided for in b) of item (5) of Article 1, shall take the following measures:

- (1) Install a local exhaust ventilation system in workshops where smelting, melting (restricted to that which is conducted in a converter or melting furnace for electrolytic slime) or baking of flue cinders is conducted.
- (2) Install either equipment to seal up the emitting source of dust of flue cinders or electrolytic slime or a local exhaust ventilation system in an indoor workshop where flue cinders or electrolytic slime are crushed, mixed or sieved using techniques other than the wetmethod.
- (3) Install a local exhaust ventilation system and equipment to receive flue cinders or electrolytic slime which spill out of containers, etc., in an indoor workshop where flue cinders or electrolytic slime is put in or taken out of a hopper, pulverizer or container using techniques other than the wetmethod.
- (4) When flue cinders or electrolytic slime are stored temporarily, secure places for them or install containers for them.
- (5) Install containers for floating slag in workshops where melting (restricted to melting by melting furnace for electrolytic slime) is conducted.

(Facilities Pertaining to Manufacturing Lead Batteries)

Article 7. The employer who has workers engage in lead work provided for in c) of item (5) of Article 1, shall take the following measures:

- (1) Install a local exhaust ventilation system in an indoor workshop where lead, etc., is melted, cast, processed, assembled, welded or cut, or battery plates are cut.
- (2) Install either equipment to seal up the emitting source of dust of lead, etc. or a local exhaust ventilation system in an indoor workshop where lead, etc., are pulverized, mixed, sieved or kneaded using techniques other than the wet method.
- (3) Install a local exhaust ventilation system and equipment to receive powdered lead, etc., which spill out of a container or the like in an indoor workshop where powdered lead, etc., is put in or taken out of a hopper or container and the like using techniques other than the wetmethod.
- (4) Isolate a workshop where lead, etc. is pulverized for manufacturing lead powder from indoor workshops for any work (exclusive of melting and casting of lead, etc., for manufacturing lead powder) other than the said work.
- (5) Install covers, etc., for preventing molten lead or lead alloys from splashing on an automatic casting machine which might splash them.

(6) Install conduits, receivers, etc., for kneaded powder of lead, etc., so that it does not spill on the floor, on worktables to fill kneaded powder of lead, etc., or equipment which carries hung battery plates filled with kneaded powder of lead, etc.

(7) For containers of powdered lead, etc., to be manually carried, install carrying handles or wheels on the said containers, or provide trucks which carry such containers so that workers will not be contaminated by lead, etc.

(8) Make the floor structure of an indoor workshop easy to clean with either a vacuum cleaner or flushing water.

(9) Measures provided for in item (5) of Article 5.

(Facilities Pertaining to Manufacturing Electric Wires, etc.)

Article 8. The employer who has workers engage in melting lead as provided for in d) of item (5) of Article 1, shall take the following measures:

(1) Install a local exhaust ventilation system and containers for floating slag in an indoor workshop where lead work is conducted.

(2) Measures provided for in item (8) of the preceding Article.

(Facilities Pertaining to Manufacturing Lead Alloys, etc.)

Article 9. The employer who has workers engage in lead work provided for in e) of item (5) of Article 1, shall take the following measures:

(1) Install a local exhaust ventilation system in an indoor workshop where lead or lead alloys are melted, cast, welded, cut, sheared or processed with power tools (exclusive of shearing and processing which are unlikely to emit dust of lead alloys) or lead free-cutting steel is cast.

(2) When cutting dust of lead or lead alloys are stored temporarily, secure places for them or provide containers for them.

(3) Measures provided for in item (5) of Article 5, and in items (5) and (8) of Article 7.

(Facilities Pertaining to Manufacturing Lead Compounds)

Article 10. The employer who has workers engage in lead work provided for in f) of item (5) of Article 1, shall take the following measures:

(1) Install a local exhaust ventilation system in an indoor workshop where lead is melted, cast, calcinated or baked.

(2) Install either equipment to seal up the emitting source of dust of lead, etc., or a local exhaust ventilation system in an indoor workshop where agitation of lead, etc., is conducted for air-cooling.

(3) Measures provided for in item (5) of Article 5 and items (2), (3), (7) and (8) of Article 7.

(Facilities Pertaining to Lead Lining)

Article 11. The employer who has workers engage in lead work provided for in g) of item (5) of Article 1, shall take the following measures:

(1) Install a local exhaust ventilation system in an indoor workshop where lead, etc., is melted, welded, cut, deposited, melt-injected, or objects evaporized with lead, or lined with lead are finished.

(2) Install containers for floating slag in a workshop where lead, etc., is melted.

(Facilities Pertaining to Welding of Objects Lined with Lead, etc.)

Article 12. The employer who has workers engage in lead work provided for in item 8 of Attached Table 4 of the Enforcement Order, shall take the following measures:

(1) Install a local exhaust ventilation system in an indoor workshop where objects lined with lead or applied with paints which contain lead compounds (hereinafter referred to as lead-containing paints) are welded, cut, heated or rolled.

(2) Install either equipment to seal up the emitting source of dust of lead, etc., or a local exhaust ventilation system in an indoor workshop where objects lined with lead or applied with lead-containing paints are crushed using techniques other than the wetmethod.

(Facilities Pertaining to Demolishing of Lead Equipment, etc.)

Article 13. When the employer has workers engage in work to demolish, weld or cut lead equipment (equipment which are covered with or accumulated with powdered lead, etc., or sintered ore, etc., such as furnace, chimney, pulverizer, dryer and dust exclusion device) or concerning the work provided for in item 10 of Attached Table 4 of the Enforcement Order, in an indoor workshop, he/she shall install a local exhaust ventilation system in the workshop where such work is conducted.

(Facilities Pertaining to Manufacturing of Transfer Paper)

Article 14. The employer who has workers engage in lead work provided for in item 11 of Attached Table 4 of the Enforcement Order shall install a local exhaust ventilation system in the said workshop.

(Facilities Pertaining to Manufacturing of Lead-containing Paints, etc.)

Article 15. The employer who has workers engage in lead work provided for in h) of item (5) of Article 1, shall take the following measures:

- (1) Install a local exhaust ventilation system and provide containers for floating slag in an indoor workshop where lead, etc., is melted or cast.
- (2) Isolate a workshop for pulverizing lead, etc., from other indoor workshops.
- (3) Measures provided for in item (2) of Article 7.

(Facilities Pertaining to Soldering)

Article 16. The employer who has workers engage in lead work provided for in i) of item (5) of Article 1, shall install either a local exhaust ventilation system or a general ventilation system in the said indoor workshop.

(Facilities Pertaining to Glazing)

Article 17. The employer who has workers engage in glazing work provided for in j) of item (5) of Article 1 in an indoor workshop (restricted to the processes of either spraying or blasting), shall install a local exhaust ventilation system in the said workshop.

(Facilities Pertaining to Stamping of Pictures)

Article 18. The employer, who has workers engage in picture-stamping work provided for in k) of item (5) of Article 1 (restricted to the work by spraying or lacquering by using silver and gold powder) in an indoor workshop, shall install a local exhaust ventilation system in the said workshop.

(Facilities Pertaining to Hardening)

Article 19. The employer, who has workers engage in hardening or tempering work provided for in l) of item (5) of Article 1, shall take the measures provided for in item (1) of Article 8.

(Conveyor)

Article 20. The employer, who uses a conveyor in an indoor workshop for carrying powdered lead, etc., or sintered ore, etc., shall take the following measures:

- (1) Install equipment to seal up the emitting source of dust of lead, etc., or sintered ore, etc., or a local exhaust ventilation system at places where dust of lead, etc., or sintered ore, etc., is fed to a conveyor and at places where conveyors are connected.
- (2) Put covers on a bucket conveyor on its top, bottom and sides.

(Facilities for Drying)

Article 21. The employer shall take the following measures for drying rooms or industrial dryers used for lead work of drying powdered lead, etc.:

- (1) Prevent the dust of lead, etc., from leaking to indoor workshops out of such room or equipment.
- (2) Make the structure of the floor, surrounding walls and shelves easy to clean with a vacuum cleaner or flushing water.

(Dust Collector with Filter)

Article 22. The employer shall take the following measures for dust collectors with filters (inclusive of dust removers with filters), except those installed in places separated from the workshop where the workers need not always to enter.

- (1) Install covers on the filtering material.
- (2) Install exhaust outlets open to the outdoors.
- (3) Install a dust remover capable of removing the powdered lead, etc., or sintered ore, etc., sticking to the filtering material without removing the cover.

(Exemption for Installing Local Exhaust Ventilation System, etc.)

Article 23. The employer, who has workers engage in the lead work listed in the following items, may choose not to install a local exhaust ventilation system or a general ventilation system in connection with the work regardless of the provisions of Article 5 through 20:

- (1) Work in an indoor workshop in which workers do not always need to enter (restricted to those which are isolated from other indoor workshops).
- (2) Work to be conducted on a visiting basis or temporary basis (restricted to the work to be completed in a short period).
- (3) Work to melt or cast lead, etc., or sintered ore, etc., in an indoor workshop where half or more of the area of the side is open.
- (4) Work to melt or cast lead or lead alloys conducted at temperatures of 450°
- (5) Work to melt lead or lead alloys with their surfaces covered with lime, etc., or in a workshop equipped with exhaust ducts.

Chapter III. Structure, Performance and the like of Ventilation Systems

(Hood)

Article 24. The employer shall have hoods of the local exhaust ventilation system or the exhaust duct (meaning those to be installed conforming to the provision of the preceding chapter, and hereinafter the same for this chapter (exclusive of the case provided for by provision of Article 32 and Article 34 meet the following requirements:

- (1) Install the hood at each emitting source of vapour or dust of lead, etc., or sintered ore, etc.
- (2) Select the type and capacity of the hood being best for collecting the vapor or dust of lead, etc., or sintered ore, etc., depending on work methods and the condition in which such vapor or dust is emitted.
- (3) Install the hood as close to the source of the vapor or dust of the lead, etc., or sintered ore, etc., as possible when the outside type or receiver type is used.
- (4) Install the surrounding type hood where the local ventilation system is installed conforming to the provisions of items (2) and (3) of Article 5, items (2) and (3) of Article 6, items (2) and (3) of Article 7, items (2) and (3) of Article 10 and item (3) of Article 15, except the case where using such type of hood is extremely difficult due to the work method to be carried out.

(Duct)

Article 25. The employer shall satisfy the following requirements for the ducts of a local exhaust ventilation system (exclusive of a portable one):

- (1) The length shall be as short as possible and the number of bends shall be as few as possible.
- (2) Inside surface of joints shall be free from any protruding matters.
- (3) The structure shall be easy to clean with appropriate location of cleaning openings.

(DustExclusion Device)

Article 26. The employer shall install a dust exclusion device with filter or the equivalent to each of the equipment units listed in the right column of the following table to be used for the work listed in the left column of the same table.

Lead Work	Equipment
Lead work provided for in a) of item (5) of Article 1.	1. Equipment directly connected to calcination, sintering, melting or baking furnaces to discharge exhaust gas containing lead from the said furnace. 2. Local exhaust ventilation system stated in items (1) through (3) of Article 5.

Lead work provided for in b) of item (5) of Article 1.	<ol style="list-style-type: none"> 1. Equipment directly connected to blasting, converting, melting or baking furnaces to discharge exhausts gas containing lead from the said furnace. 2. Local exhaust ventilation systems listed in items (1) through (3) of Article 6.
Lead work provided for in c) of item (5) of Article 1.	<ol style="list-style-type: none"> 1. Local exhaust ventilation systems listed in item (1) of Article 7 (restricted to those installed at workshops for melting or casting of lead, etc., in the processes of manufacturing) 2. Local exhaust ventilation systems listed in items (2) and (3) of Article 7.
Lead work provided for in e) of item (5) of Article 1.	Local exhaust ventilation systems listed in item (1) of Article 9 (restricted to those installed at workshops for melting or casting of lead or lead alloy in the processes of manufacturing.
Lead work provided for in f) of item (5) of Article 1.	<ol style="list-style-type: none"> 1. Equipment directly connected to calcination or baking furnaces to discharge exhaust gas containing lead from the said furnace. 2. Local exhaust ventilation systems installed in compliance with the provisions of Article 10.
Lead work provided for in g) of item (5) of Article 1.	Local exhaust ventilation systems listed in paragraph 1 of Article 11 (restricted to those installed at workplaces where lead-lined objects are finished in the manufacturing process of automobile bodies.)
Lead work provided for in item 11 of Attached Table 4 of the Enforcement Order	Local exhaust ventilation systems listed in Article 14.
Lead work provided for in h) of item (5) of Article 1.	<ol style="list-style-type: none"> 1. Equipment directly connected to melting furnaces for manufacturing glass by mixing with lead oxide to discharge exhaust gas containing lead from the said furnace. 2. Local exhaust ventilation systems listed in item (1) of Article 15 (restricted to those installed at workshops where melting of lead and the like is carried out in the manufacturing process of glass by mixing with lead oxide.) 3. Local exhaust ventilation systems installed in compliance with the provisions of item (3) of Article 15.
Lead work provided for in l) of item (5) of Article 1.	Local exhaust ventilation systems installed in compliance with the provisions of Article 19 (restricted to workshops where melting of lead, etc., is carried out in the manufacturing process of steel wires.)

2. The dust collector provided for in the preceding paragraph shall be equipped with a preliminary dust collector for filtering larger granular dust.

3. The employer shall effectively operate the dust collectors installed in compliance with the preceding two paragraphs.

(Exemption for Installing Dust Exclusion Devices)

Article 27. The employer may not install dust exclusion devices when the work comes under any of the following items, regardless of the provisions of the preceding Article:

(1) When the employer has workers engage in work to melt or cast lead or lead alloys in a workshop where the total volume of crucibles, melting pots or the like for the lead work does not exceed 50 liters.

(2) When the concentration of lead exhausted in the equipment stated in the right column of paragraph 1 of the preceding Article does not exceed 0.15 mg per m³.

(Fans)

Article 28. The employer shall install the fans of a local exhaust ventilation system with a dust exclusion device at the locations where dust-filtered air is supplied.

2. As for a general ventilation system (meaning those to be installed in compliance with the provision of Article 16, and hereinafter the same for this Chapter and the following Chapter), the employer shall install fans (and duct openings for a general ventilation system with ducts) at locations as close to the emitting source of vapour or dust of lead and the like as possible.

(Exhaust Outlets)

Article 29. The employer shall install the outlets of a local exhaust ventilation system, general ventilation system or exhaust duct at the outside of a building.

(Performance of the Local Exhaust Ventilation System)

Article 30. The employer shall use a local exhaust ventilation system or exhaust duct with a capacity that can maintain the lead concentration outside of the hood at 0.15 mg per liter or less.

(Performance of the General Ventilation System)

Article 31. The employer shall use a general ventilation system which has the capacity to ventilate the air at the hourly rate of 100 m³ or more per worker who is engaged in lead work provided for in i) of item (5) of Article 1 in an indoor workshop where the said general ventilation system is installed.

(Operation of the Ventilation System)

Article 32. Where the local exhaust ventilation system (meaning the local exhaust ventilation system provided for by Article 2 and the local exhaust ventilation system to be installed conforming to the provision of the preceding chapter here and in the next paragraph), general ventilation system or ventilating duct (meaning the ventilating duct provided for by Article 2 and the exhaust duct to be installed conforming to the provision of the preceding chapter here and in the next paragraph) is installed, the employer shall keep operating such ventilation system while the workers are engaging in the lead work.

2. In operating the local exhaust ventilation system, general ventilation system or ventilating duct, the employer shall take the measures necessary for the efficient operation of the system such as providing a baffle to prevent the occurrence of an air flow that disturbs smooth ventilation.

Chapter IV. Management

Section 1. Operations Chief of Lead Work, etc.

(Appointment of Operations Chief)

Article 33. The employer shall appoint an operations chief of lead work from among those who have completed the skill training course for operations chiefs of lead work provided for in item (19) of Article 6 of the Enforcement Order.

(Duties of Operations Chief of Lead Work)

Article 34. The employer shall have the operations chief of lead work carry out the following matters:

- (1) Supervise the workers so that they are not contaminated by lead, etc., or sintered ore, etc., as much as possible.
- (2) When the workers are found to be seriously contaminated by lead, etc., or sintered ore, etc., have them wash off the contaminated substances immediately.
- (3) Inspect the local exhaust ventilation system, general ventilation system, ventilating duct and dust exclusion device at least once a week.
- (4) Observe the use of occupational health protective equipment, etc.
- (5) When the workers are engaged in work as prescribed in item 9 of Attached Table 4 of the Enforcement Order, confirm that the measures provided for in each item of Article 42 are taken.

(Periodical Voluntary Inspection for Local Exhaust Ventilation System, etc.)

Article 35. The local exhaust ventilation system and dust exclusion device (restricted to those to be used for lead work) established by the Ministry of Labour Ordinance in compliance

with item 8 paragraph 1 of Article 15 of the Enforcement Order shall be the local exhaust ventilation system designated in Article 2, the local exhaust ventilation system designated in the provisions of Articles 5 through 20 and the dust exclusion device to be installed conforming to the provision of Article 26.

2. For the local exhaust ventilation system and the dust exclusion device designated in the preceding paragraph, the employer shall voluntarily conduct a periodic inspection at least once a year on the following items, except in a period of one year or longer during which such systems have not been used.

(1) For a local exhaust ventilation system, check the following items:

- a) Hoods, ducts and fans for wear, corrosion, dents and other damages
- b) Dust and air exhauster for accumulation of dust
- c) Joints of duct for looseness
- d) Belt to connect the motor and fan for performance
- e) Air intake and exhaust capacity
- f) Besides the above items a) through e), those items necessary for maintaining required performance.

(2) For a dust exclusion device, check the following items:

- a) Structural parts for wear, corrosion and other damages
- b) Inside of dust exclusion device for accumulation of dust
- c) Dust exclusion device with filter for damage of filter and looseness at the attached part of filter
- d) Processing capacity
- e) Besides the above items a) through d), those items necessary for maintaining the required performance.

3. The employer, before operating the equipment stated in the provisory clause of the preceding paragraph, shall make a voluntary inspection on items stated in the same paragraph.

(Records)

Article 36. The employer, upon making the voluntary inspection provided for in paragraph 2 and 3 of the preceding Article, shall make records of the following points and keep the records for three years:

- (1) Date of the inspection.
- (2) Method of the inspection.
- (3) Parts of the equipment inspected.
- (4) Results of the inspection.
- (5) Name of the person who made the inspection.
- (6) Description of repair or adjustment steps, if such steps were taken, as the result of inspection.

(Inspection)

Article 37. Before operating the new local exhaust ventilation system or dust exclusion device designated in the provision of paragraph 1 of Article 35 for the first time, or before operating such system/device after modifying or repairing them by disassembling, the employer shall inspect such system as to the following items:

- (1) For a local exhaust ventilation system, check the following items:
 - a) Duct and air exhauster for accumulation of dust
 - b) Joints of duct for looseness
 - c) Air intake and exhaust capacities
 - d) Besides the above items a) through c), those items necessary for maintaining required performance.
- (2) For a dust exclusion device, check the following items:
 - a) Inside of dust exclusion device for accumulation of dust
 - b) Dust exclusion device with filter for damage of filter
 - c) Processing capacity.
 - d) Besides above items a) through c), those items necessary for maintaining required performance.

(Repair)

Article 38. The employer, upon conducting the voluntary inspection as provided for in paragraph 2 or 3 of Article 35 or the inspection stated in the preceding paragraph and finds any abnormality, shall repair immediately.

Section 2. Supervision of Work

(Work Beneath Hopper)

Article 39. The employer shall not have workers engage in work at locations beneath hoppers which might spill powdered lead, etc., or sintered ore, etc., being loaded to the said hoppers. Whereas, this provision shall not be applied when workers who work temporarily in such locations are supplied with effective respiratory protective equipment.

(Scraping Off Lead-Containing Paints)

Article 40. The employer shall take the following measures when he/she has workers engage in work to scrape off lead-containing paints from objects as provided for in item 8 of Attached Table 4 of the Enforcement Order:

- (1) The said lead work shall be conducted in a wet method unless it is extremely difficult.
- (2) Scraped-off lead-containing paints shall be promptly removed.

(Raking Out Lead Compounds)

Article 41. The employer shall take the following measures when he/she has workers engage in work to rake lead compounds out of baking furnace:

- (1) Set the hopper or container to receive lead compounds as close as possible to the raking outlet of the furnace.
- (2) Use a rake with long handle.

(Work Inside Lead Facilities)

Article 42. The employer shall take the following measures when he/she has workers engage in the work listed in item 9 of Attached Table 4 of the Enforcement Order:

- (1) Be certain to shut off the joint between the said lead facilities and the other facilities which are to be kept in operation prior to the commencement of the work.
- (2) Sufficiently ventilate the inside of the said lead facilities prior to the commencement of the work.

(3) Prevent the diffusion of the lead dust, etc., or sintered ore, etc., by means of wetting those substances either sticking to or accumulating in the said lead facilities prior to the commencement of the work.

(4) Have the workers wash their bodies as soon as the work is completed.

Section 3. Storage, etc.

(Storage)

Article 43. The employer shall take the following measures when he/she stores powdered lead in an indoor storage facility:

(1) Store powdered lead in containers or the like, which will not spill the dust of lead, etc., or which do not allow it to diffuse.

(2) clean spills of dust of lead as soon as possible with a vacuum cleaner or by flushing with water.

(Disposal of Empty Containers)

Article 44. The employer shall take measures to prevent dust of lead, etc., from diffusing over a workplace by means of sealing up the mouth of a container or sufficiently wetting the inside of a container and placing the containers at a specified outdoor site if the empty containers, etc., which previously held powdered lead, etc., have the risk of diffusing the dust.

Section 4. Preservation of Cleanliness, etc.

(Rest Room)

Article 45. The employer who has workers engage in lead work shall install a rest room at a location other than the lead workshop.

2. The employer shall take the following measures for the rest room stated in the preceding paragraph:

(1) Install equipment such as flushing with water and wet mats at the entrance so that dust of lead, etc., or sintered ore, etc., sticking to the feet of the workers can be removed before entering the room.

(2) Install brushes for clothes at the entrance.

(3) Make the floor structure easy to clean with a vacuum cleaner or flushing with water.

3. Workers who were engaged in the lead work shall remove dust of lead, etc., or sintered ore, etc., sticking to their clothes before entering the rest room stated in paragraph 1.

(Storage of Work Clothes)

Article 46. The employer shall set up facilities for storing respiratory protective equipment, occupational health protective clothes or work clothes which the employer has the workers use or wear in compliance with the provisions of Article 58 or Article 59, in conditions separated from other clothes, and shall have the said workers use the facilities.

(Body Washing Facilities)

Article 47. The employer who has workers engage in handling powdered lead, etc., or sintered ore, etc., (except the lead work stated in i) through m) of item (5) of Article 1 and item 17 of Attached Table 4 of the Enforcement Order) shall install facilities for workers to wash their bodies and allow the workers to use them whenever necessary.

(Cleaning)

Article 48. The employer shall clean at least once a day with a vacuum cleaner or water flushing an indoor workshop for lead work, rest rooms for the workers, and the floor and the like of cafeteria used by the workers for removing contamination due to lead, etc., or sintered ore, etc.

(Detergent Solutions for Hand Washing)

Article 49. The employer who has workers engage in lead work shall install the aqueous solution of nitric acid or other detergent solution for washing hands, nail brushes, soaps and gargling preparations at each workplace and shall allow the workers to use them as soon as the work is over and/or whenever necessary.

2. Workers at the end of lead work or whenever necessary shall use the aqueous solution of nitric acid or other detergent solution for washing hands, nail brushes, soaps, and gargling preparations stated in the preceding paragraph.

(Washing Out Contamination of Work Clothes, etc.)

Article 50. The employer who has workers engage in lead work shall install washing facilities so that contaminants such as lead, etc., or sintered ore, etc., can be washed out of work clothes, etc.

(Prohibition of Smoking, etc.)

Article 51. The employer shall prohibit his/her workers to smoke, eat or drink in an indoor workshop where lead work is carried out and shall post such notice at locations easily visible to the said workers.

2. Workers shall not smoke, eat, or drink at workshop stated in the preceding paragraph.

Chapter V. Measurement

(Measurement)

Article 52. The employer shall measure the concentrations of lead in air periodically once within a year in an indoor workshop provided for in item (8) of Article 21 of the Enforcement Order.

2. The employer, upon the measurement as provided for in the preceding paragraph, shall keep records of the following items and maintain these for three years:

- (1) Date and time of the measurement.
- (2) Method of the measurement.
- (3) Places of the measurement.
- (4) Conditions of the measurement.
- (5) Results of the measurement.
- (6) Name of the person who conducted the measurement.
- (7) When protective measures are taken against the lead poisoning based on the results of the measurement, outline of the said measures.

(Evaluation of Measurement Results)

Article 52-2. Each time when the measurement conforming to the provision of paragraph 1 of the preceding article or the provision of paragraph 5, Article 65 of the Industrial safety and Health Law (hereinafter referred to as "the Law") has been made as to the work place designated in paragraph 1 of the preceding article, the employer shall promptly rate the work place as first-grade section, second-grade section or third-grade section depending on the environmental condition of the work place based on the working environment evaluation standards designated by the Minister of Labour.

2. Each time when the measurement results have been evaluated conforming to the provision of the preceding paragraph, the employer shall keep the record of the following matters and file such records for at least three years:

- (1) Time and date of evaluation
- (2) Places of evaluation
- (3) Results of evaluation

(4) Name of evaluator.

(Measures Based on Results of Evaluation)

Article 52-3. Should the working environment of any section of the work place be rated as a third-grade section based on the results of the measurement conforming to the provision of paragraph 1 of the preceding article, the employer shall immediately review the facilities, equipment, work processes and work methods so that the measures necessary for installation or improvement of necessary facilities or equipment, improvement of the work process or procedure and others for improvement of working condition can be taken based on the result of the review in order to raise the rating of the concerned work place to the first grade or the second grade.

2. The employer who has taken the measures designated in the preceding paragraph shall measure the concentration of the lead in the work place designated in the preceding paragraph and rate the result of the measurement in order to evaluate the effect of the measures.

3. Besides conforming to what is provided for in the preceding two paragraphs, the employer shall have the workers use effective respiratory protective equipment in the work place designated in paragraph 1, and also carry out medical examination and take other necessary measures for maintaining the health of the workers.

Article 52-4. For the work place rated as a second-grade workplace based on the result of the evaluation conforming to the provision of paragraph 1 of Article 52-2, the employer shall review the existing facilities , equipment, work processes or work procedures, and install or improve necessary facilities or equipment, improve work processes or work procedures, or take other necessary measures for improving the existing working environment.

Chapter VI. Health Management

(Medical Examination)

Article 53 The employer shall have each of its workers who are regularly to be engaged in the work designated in item (4) of paragraph 1, Article 22 of the Enforcement Order undergo the medical examination by a medical doctor as to the checkup items listed hereunder at the time of employment, at the time of transfer to the said work and every six months thereafter (annually for those workers who are engaged in the lead work designated in item 17 of Attached Table 4 of the Enforcement Order and in i) through h) of item (5) of Article 1 and those workers who are engaged in the cleaning work in the said lead work place).

(1) Contents of the jobs in which the worker has been engaged in the past.

(2) History of subjective and objective symptoms caused by lead and the result of previous medical examinations concerning the matters listed in items (4) and (5).

(3) Examination of the presence of subjective or objective symptoms normally considered to have been caused by lead.

(4) Lead content level in blood.

(5) Delta amino-levulinic acid level in urine.

2. Notwithstanding the provisions of the preceding paragraph for medical examinations (restricted to those carried out regularly at least once every six months), those who received an examination concerning the checkup items designated in items (4) and (5) of the preceding paragraph in the previous medical examination may be exempted from receiving an examination concerning the said checkup items if deemed unnecessary by the physician.

3. Where workers are regularly engaged in work specified by item (4) of paragraph 1 of Article 22 of the Enforcement Order and it is deemed necessary by the physician, the employer shall have the workers undergo a medical examination by a physician which covers all or some of the checkup items listed below in addition to the medical examination designated under the provision of paragraph 1.

(1) Examination of working conditions.

(2) Anemia.

(3) Protoporphyrin level in the red blood cells.

(4) Neurological examinations.

(Results of Medical Examinations)

Article 54. The employer shall make up individual medical examination cards (Form 2) for his/her workers, and store them for at least five years, based on the results of the medical examination based on the provision of paragraph 1 or 3 of the preceding Article (including the results of the medical examination conforming to the conditional clause of paragraph 5, Article 66 of the Law, called "lead medical examination" in the following Article).

(Hearing of Views of the Physician Concerning the Results of Medical Examinations)

Article 54-2. Under the provision of Article 66-2 of the Law, the hearing of the views of the physician based on the results of the lead medical examination shall be carried out with the following stipulations:

(1) Within three months of the date when the lead medical examination was carried out (where the conditional clause of paragraph 5 of Article 66 of the Law applies, the date when the said worker submitted the document showing the results of the medical examination)

(2) The views of the physician are to be recorded on the individual lead medical examination cards.

(Reporting of the Results of Lead Medical Examinations)

Article 55. The employer who has conducted the medical examination for his/her workers conforming to the provision of paragraph 1 or 3 of Article 53 shall submit the report on the result of lead medical examination (Form 3) to the chief of the competent local Labour Standards Inspection Office without delay.

(Diagnosis)

Article 56. If a worker, during the period of being engaged in lead work or within 4 weeks after discontinuing the lead work, is found to have abdominal colic pain, paralysis of extensor muscle or paraesthesia of extremities, to be pale looking, or to have ache in joints or muscles, or complains of these symptoms, the employer shall promptly have the worker checked by a medical doctor.

(Prohibition of Lead-Poisoned Workers, etc. from Working)

Article 57. The employer shall prohibit from working for the period deemed to be necessary by the medical doctor lead-poisoned workers and those workers who are diagnosed by the medical doctor as not being appropriate to be engaged in lead work to sustain their health based on the results of the medical examination conducted conforming to paragraph 1 or 3 of Article 53 or the results of the medical examination conforming to the preceding paragraph.

Chapter VII. Personal Protective Equipment and the like

(Respiratory Protective Equipment, etc.)

Article 58. The employer who has workers engage in lead work provided for in item 9 of Attached Table 4 of the Enforcement Order shall have them wear effective respiratory protective equipment and occupational health protective clothes.

2. The employer who has to have workers engage in any one of the work listed hereunder other than the work designated in the preceding paragraph shall have such workers wear effective respiratory protective equipment.

(1) Lead work stated in a), b) or f) of item (5) of Article 1 or cleaning work in a workshop where the above-mentioned lead work is carried out.

(2) Of the lead work stated in item 8 of Attached Table 4 of the Enforcement Order, and that is done other than using the wet method the work to scrape off lead-containing paints from objects.

(3) Sand raking or sand changing work as part of the sand-bath work designated in 1) of item (5) of Article 1.

(4) Work to be carried out in the drying room designated in Article 21.

(5) Work to change the filter of the dust collector with the filter designated in Article 22.

3. The employer who has workers engage in the work coming under any of the following items other than the work provided for in the preceding two paragraphs, shall have them wear effective respiratory protective equipment. Whereas, this provision shall not be applied when effective local exhaust ventilation systems, general ventilation systems or exhaust ducts (restricted to those which are installed at workplaces where lead, etc., or sintered ore, etc., is being melted) are installed and set in operation.

(1) Lead work to crush, weld, cut, deposit or melt-inject in workshops other than an indoor workshop.

(2) Lead work coming under any of item (1), (2) or (3) of Article 23.

(3) Lead work in workshops where natural ventilation is insufficient, such as inside of a ship or tank.

4. The employer who has workers wear hose-masks in compliance with the provision of the preceding three paragraphs or the proviso of Article 39, shall set the inlets of the said hose-masks at places where air is free from contamination.

5. Workers who are engaged in the work provided for in paragraph 1 through paragraph 3, or proviso of Article 39, shall wear respiratory protective equipment and occupational health protective clothes in compliance with those provisions during the work.

(Work Clothes)

Article 59. The employer who has workers engage in lead work (except those which are stated in m) of item (5) of Article 1 and item 9 of Attached Table 4 of the Enforcement Order) which requires them to handle powdered lead, etc., shall have them wear appropriate work clothes; whereas, this provision shall not be applied when he/she has them wear occupational health protective clothes.

2. Workers who are engaged in the work provided for in the preceding paragraph shall wear work clothes or occupational health protective clothes during the said work.

Chapter VIII. Skill Training Course for Operations Chief of Lead Work

Article 60. Skill training course for operations chiefs of lead work shall be conducted by theoretical seminar.

2. Theoretical seminars shall be offered on the following subjects concerning lead:

(1) Knowledge about health problems and preventative measures thereof.

- (2) Knowledge about methods to improve working environments.
- (3) Knowledge about personal protective equipment.
- (4) Related laws and ordinances.

3. The Minister of Labour shall stipulate the items necessary for conducting the skill training course for operations chiefs of lead work in addition to those which are provided for in the preceding two paragraphs and in Articles 80 through 82 of the Ordinance on Industrial Safety and Health (Ministry of Labour Ordinance No. 32 of 1972)

Supplementary Provisions

(Date of Enforcement)

Article 1. This Ministry of Labour Ordinance shall come into effect on October 1, 1972. (The other provisions are all omitted because the interim measures are not valid as their effective periods have all expired.)

- (1) The provisions of e) (restricted to the part concerning the lead casting process in the manufacturing process of the lead cutting steel), g) (restricted to the part concerning the finishing work) and h) (restricted to the part concerning the casting of the lead, etc.), item (5), Article 1 are to be enforced on April 1, 1973.
- (2) The provisions of item (4) (restricted to the part concerning the melting or casting of lead or lead alloys from among the types of work relating to the processing of lead designated in a), c), e) and f), item (5) of Article 1) and Article 26 (exclusive of the parts concerning the local exhaust ventilation system designated in items (2) and (3) of Article 5, the local exhaust ventilation system designated in items (2) and (3) of Article 7, the local exhaust ventilation system designated in items (2) and (3) of Article 10 and the local exhaust ventilation system designated in item (3) of Article 15) are to be enforced from October 1, 1973.

(Abrogation)

Article 2. The Ordinance on Prevention of Lead Poisoning (Ministry of Labour Ordinance No. 2 of 1967) shall be abrogated.

(Interim Measures)

Article 3. The provisions of Articles 9, 11, 15, 35, 45, 47 and Chapter III concerning any one of the jobs using lead listed hereunder shall not be enforced until September 30, 1973.

- (1) Lead casting work in the manufacturing process of lead cutting steel from among those lead processing jobs designated in e), item (5) of Article 1.
- (2) Finishing work from among the lead processing jobs designated in g), item (5) of Article 1.

(3) Lead casting work from among the lead processing jobs designated in h), item (5) of Article 1.

Article 4. Notwithstanding the provision of Article 33, the employer shall designate a lead work supervisor from among those workers who have passed the license examination of the health supervisor until September 30, 1974.

Supplementary Provision

(Ministry of Labour Ordinance No. 33, August 16, 1978)

This ministerial ordinance shall be enforced from September 1, 1978.

Supplementary Provisions

(Ministry of Labour Ordinance No. 3, February 27, 1984)

1. This ministerial ordinance shall be enforced from March 1, 1984.
2. The work designated in the provision of Article 2 of the old Ordinance on Prevention of Lead Poisoning from among those jobs to be carried out using a baking furnace provided with a local exhaust ventilation system or air exhauster shall be treated according to precedent.

Supplementary Provisions

(Ministry of Labour Ordinance No.26, September 1, 1988)

(Excerpts)

(Date of Enforcement)

Article 1. This ministerial ordinance shall be enforced from October 1, 1988. (The rest is omitted.)

(Interim Measures)

Article 2. 1. (Omitted)

2. The provisions of Articles 52-2 through 52-4 of the amended Ordinance on Prevention of Lead Poisoning shall not be applicable to the measurement conducted prior to the enforcement of this ministerial ordinance, conforming to the provision of paragraphs 1 or 5, Article 65 of the Industrial Safety and Health Law concerning the indoor workplace designated in paragraph 1, Article 52 of the Ordinance on Prevention of Lead Poisoning.

3. and 4. (Omitted). Supplementary Provisions

(Ministry of Labour Ordinance No. 24, June 30, 1989)

1. This ministerial ordinance shall be enforced from October 1, 1989.
2. The penal provisions related to acts committed before the enforcement of this ministerial ordinance shall be applied according to precedent.

Supplementary Provisions

(Ministry of Labour Ordinance No. 30 of December 18, 1990)

This Ordinance shall be enforced from January 1, 1991.

Supplementary Provisions

(Ministry of Labour Ordinance No. 20 of March 30, 1994)

(Excerpts)

(Date of Enforcement)

Article 1. This Ordinance shall be enforced from July 1, 1994.

(Interim Measures for Notification of Plans)

Article 2. (Omitted) Notifications based on paragraph 1 (omitted) of Article 61 of the Ordinance on Prevention of Lead Poisoning before amendment by this Ordinance (called the "old Lead Ordinance" below) concerning construction to commence after the date of enforcement of this Ordinance (called the "enforcement date" below) shall be treated as valid notifications under paragraph 1 of Article 88 of the Industrial Safety and Health Law (called the "Law" below) after the enforcement of this Ordinance.

2. (Omitted) Notifications based on paragraph 3 (omitted) of Article 61 of the old Lead Ordinance concerning construction to commence after the enforcement date shall, where the provisions of paragraph 2 of Article 88 of the Law apply, be treated as valid notification under paragraph 1 of the same Article after the enforcement of this Ordinance.

3. Omitted

4. Omitted

(Interim Measures for Penal Provisions)

Article 5. The application of penal provisions to acts committed before the enforcement of this Ordinance and to acts committed after the enforcement of this Ordinance that are to be treated according to precedent under the provisions of Article 3 of the Supplementary Provisions shall be according to precedent.

Supplementary Provisions

(Ministry of Labour Ordinance No. 35 of September 13, 1996)

(Excerpt)

(Date of Enforcement)

Article 1. This Ordinance shall be enforced from October 1, 1996.

Supplementary Provisions

(Ministry of Labour Ordinance No. 4 of January 11, 1999)

(Date of Enforcement)

1. This Ordinance shall be enforced from the date of promulgation.

(Interim Measures)

2. Pre-amendment forms in existence at the time of the enforcement of this Ordinance may be adjusted and used during the interim period.