

Ordinance on Prevention of Hazards Due to Specified Chemical Substances

Ministry of Labour Ordinance No. 39 of September 30, 1972

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Chapter I. General Provisions

(Responsibilities of the Employer)

Article 1. For prevention of occurrence of cancers, dermatitis, neurological disorders, and other health impairments in workers resulting from chemical substances, etc., the employer shall

confirm the toxicity of substances used by workers, use substitutes for these substances, establish work methods, improve facilities concerned, promote betterment of the working environment and control the health of workers thoroughly, as well as take other necessary measures, thereby to make efforts to bring the number of workers who are exposed to the substances, periods of time for which they are exposed to the substances, and extents to which they are exposed to the substances to the minimum level which is not contrary to the aim of preventing dangerous conditions for workers.

(Definition, etc.)

Article 2. In this Ordinance, the terms listed in the following items shall have the meanings set forth in the corresponding items.

(1) Group-1 Substances shall be defined as the substances as specified in item 1 of Attached Table 3 of the Enforcement Order of the Industrial Safety and Health Law (hereinafter referred to as the "Enforcement Order").

(2) Group-2 Substances shall be defined as the substances as specified in item 2 of Attached Table 3 of the Enforcement Order.

(3) The Specified Group-2 Substances shall be defined as follows: of group-2 Substances, the Specified Group-2 Substances are comprised of those falling under the substances listed in (1), (2), (5) to (7), (12), (17), (19), (20), (23), (24), (26) to (30), and (34) to (36) of item 2 of Attached Table 3 of the Enforcement Order, and as described in items (1), (2), (5) to (7), (12), (17), (19), (20), (23), (24), (26) to (30), and (34) to (36) of Attached Table 1 of this Ordinance.

(4) Auramine, etc.: Auramine, etc., falls under the substances as specified in (8) and (32) of item 2 of Attached Table 3 of the Enforcement Order, and also in items (8) and (32) of Attached Table 1 of this Ordinance.

(5) Group-2 Substances under Supervision shall be defined as follows: of group-2 Substances, group-2 Substances under Supervision correspond to substances other than the Specified Group-2 Substances and Auramine, etc.

(6) Group-3 Substances shall be defined as follows: the Group-3 Substances are comprised of those falling under the substances specified in item 3 of Attached Table 3 of the Enforcement Order.

(7) Specified Chemical Substance, etc., shall be defined as follows: Specified Chemical Substances, etc., correspond to the said Group1, Group-2 and Group-3 Substances.

2. Substances as specified in the Ministry of Labour Ordinance as referred to in (37) of item 2 in Attached Table 3 of the Enforcement Order are comprised of those falling under the substances listed in Attached Table 1 of this Ordinance.

3. Substances as specified in the Ministry of Labour Ordinance as referred to in (10) of item 3 in Attached Table 3 of the Enforcement Order are comprised of those falling under the substances listed in Attached Table 2 of this Ordinance.

Chapter II. Measures concerning Manufacturing, etc.

(Facilities concerned with Handling of group-1 Substances)

Article 3. The employer shall install vapour or dust source sealing systems or local exhaust ventilation systems with enclosure-type hoods in workplaces where the work for putting group-1 substances into containers or taking them out of containers or feeding them into reactors (not including similar work in the manufacturing process of group-1 substances) is conducted, excluding the case where the work for putting in and taking out of containers the substances designated in (3) or (8) but relating to that of (3) (hereinafter referred to as "chlorobiphenyl, etc."), in item 1 of Attached Table 3 of the Enforcement Order is conducted and where a local exhaust ventilation system is installed. .

2. The employer shall install a system for sealing the source of beryllium dust, etc., or a local exhaust ventilation system in workplaces where processing work for the substance designated in (6) or the substance designated in (8) but relating to that of (6) (hereinafter referred to as "beryllium, etc."), of item 1 of Attached Table 3 of the Enforcement Order, is conducted (except in the case of workplaces where the work for putting in and taking out the beryllium, etc., from containers or feeding them into reactors, etc., is to be carried out).

(Facilities for Manufacturing, etc., of Group-2 Substances)

Article 4. The employer shall provide facilities thereby to manufacture specified group-2 substances or auramine, etc. (hereinafter referred to as "the specified group-2 substances, etc."), using the method of hermetical sealing.

2. When the employer has workers engage in dealing with specified group-2 substances, etc., as products manufactured by him/her, he/she shall provide facilities with which to enable the workers to deal with the substances, etc., in a remote controlling system in separated rooms, provided that this does not apply in respect to dealing with specified group-2 substances, etc., in powder under humid conditions.

3. Where it is found extremely difficult for the employer to conform to the provisions of the preceding two paragraphs in carrying out such work as weighing, putting into containers or packing the products designated as group-2 substances, such employer shall establish a work procedure to prevent workers from coming into direct contact with group-2 substances and install a local exhaust ventilation system with an enclosure-type hood in the workplace where the said work is to be carried out.

Article 5. When the employer engages in indoor work in which dispersion of gases, vapours or dusts of specified group-2 substances takes place (exception is made for workplaces where gases, vapour or dusts of specified group-2 substances disperse where he/she manufactures

specified group-2 substances, where he/she deals with specified group-2 substances in the workshop therein to manufacture the said group-2 substances, where he/she engages in fumigation therein to deal with the substances listed in (17) or (20) of the item 2 in Attached Table 3 of the Enforcement Order or to deal with the substances described in item (17) or (20) in Attached Table 1 of this Ordinance, (hereinafter called "methyl bromide, etc.") and where he/she deals with the substances listed in (30) of item 2 in Attached Table 3 of the Enforcement Order or the substances as described in item (30) of Attached Table 1 (hereinafter referred to as "benzene, etc."), as solvents (inclusive of dilutants, same as in the Article 38-12), , or when the employer has workers engage in indoor work from which dispersion of gases, vapours of dusts resulting from group-2 substances under Supervision, he/she shall provide the workshop concerned with devices thereby to tightly close the sources of gases, vapours or dusts of said specified group-2 substances or said group-2 substances under supervision, or with local exhaust ventilation systems, provided that this does not apply to the case in which it is very difficult to provide the said workshop with the devices thereby to tightly close the sources of gases, vapours, or dusts resulting from said specified group-2 substances or said group-2 substances under supervision or with local exhaust ventilation systems, or to the case where temporary work is done for said specified group-2 substances or said group-2 substances under supervision.

2. When the employer does not provide the said workshop with devices thereby to seal hermetically the sources of dispersion of gases, vapours or dusts of specified group-2 substances or group-2 substances under supervision, or with local exhaust ventilation systems covering the sources, in virtue of the proviso as described in the preceding paragraph, he/she shall provide the said workshop with general ventilation systems or make the specified group-2 substances or group-2 substances under supervision humid or take measures necessary for prevention of health impairment of workers working for the manufacturing or handling of said substances.

Article 6. The provisions as set forth in the preceding two articles are not applied when acknowledgement is made that there is no fear of the presence of atmospheric levels of gases, vapours or dusts of said group-2 substances at which they become harmful to workers in usual conditions in the workshop by the Chief of the Labour Standards Inspection Office who governs the location of the said workshop (hereinafter referred to as the Chief of the competent Labour Standards Inspection Office).

2. The employer who wishes to be considered as set forth in the preceding paragraph shall submit to the Chief of the competent Labour Standards Inspection Office the Application for Acknowledgement of Partial Exclusion of the Application of the Ordinance on Prevention of Hazards Due to Specified Chemical Substances, etc. (Form 1), with a sketch of the workshop concerned.

3. When the Chief of the competent Labour Standards Inspection Office who has received the said application from the employer has made a decision regarding his/her acknowledgement, to approve the application or reject the application, he/she shall inform the applicant without delay of the approval or rejection of the said application.

4. The employer who has been granted the approval in accordance with paragraph 1 shall inform without delay the Chief of the competent Labour Standards Inspection Office of changes,

when made by him/her, in the content of the said application or in the sketch of his/her workshop.

5. The Chief of the competent Labour Standards Inspection Office shall cancel the former approval granted to the said employer without delay when the Chief comes to understand that the concentration of gases, vapours, or dusts of group-2 substances in the air of the workshop concerned which has been approved conforming to the provision of paragraph 1 the said employer does not comply with the provision as set forth in the said paragraph. regarding

(Requirements concerning Local Exhaust Ventilation Systems)

Article 7. When the employer provides the local exhaust ventilation systems in accordance with the provisions of Article 3, paragraph 3 of Article 4, or paragraph 1 of Article 5 (inclusive of the local exhaust ventilation systems described in the proviso of paragraph 1 of Article 3, same as in paragraph 1 of the following Article), the system shall comply with the provisions as provided below.

(1) The hood shall be installed at each source of gases, vapours or dusts of group-1 or group-2 substances, and an exterior-type hood or a receiving-type hood shall be installed at a location as near as possible to the source of gases, vapour or dusts of the said substances.

(2) The duct shall be made as short as possible, and also the number of bends as small as possible. In addition, it shall be provided with a cleaning orifice at a proper location so that cleaning can be easily done.

(3) The fans of the local exhaust ventilation systems to which the dust exclusion devices or exhaust gas-disposing devices are attached shall be installed at a location at which the air passes after the dust exclusion or exhaust gas-disposition, provided that this does not apply to the case in which there is no fear of explosion due to gases, vapours or dust after they are sucked in, and also there is no fear of the corrosion of the fan.

(4) The exhaust outlet shall be located outdoors.

(5) The performance as designated by the Minister of Labour shall be maintained.

(Operation of Local Exhaust Ventilation Systems)

Article 8. With reference to the local exhaust ventilation systems provided in accordance with the provisions of Article 3, paragraph 3 of Article 4 or paragraph 1 of Article 5, the employer shall operate them during periods of time for which work is being carried out, concerning group-1 or group-2 substances.

2. The employer shall take measures necessary for effective operation of the said systems by elimination of atmospheric current which disturbs ventilation using baffles, etc.

Chapter III. After-Use Disposition

(Dust Exclusion)

Article 9. With reference to the exhaust ducts of the manufacturing facilities by which gases containing dust of group-2 substances are exhausted or local exhaust ventilation systems by which gases containing dust of group-1 or group-2 substances are exhausted in accordance with provisions of Article 3, paragraph 3 of Article 4 or paragraph 1 of Article 5, the employer shall provide dust exclusion devices in any one of the systems with performance of dust exclusion as set forth in the right column of the Table given below, according to the diameters of dust granules as shown in the left column of the same Table, or also with dust exclusion devices with the same or better performance as or than that mentioned above.

2. The employer shall provide the said dust-exclusion devices, as set forth in the preceding paragraph, with pre-set dust removers for elimination of dust granules in large diameter, if necessary.

3. The employer shall make the said dust-exclusion devices as set forth in the preceding two paragraphs operate effectively.

Diameter of dust granule (in unit of microns)	Dust exclusion method
Less than 5	Dust filtration Electrostatic precipitation
5 or more but less than 20	Liquid scrubbing Dust filtration Electrostatic precipitation
20 or more	Multi-cyclone dust shields (which correspond to those in which one cyclone is installed for disposition of gas in quantity of less than 20m ³ per minute) Liquid scrubbing Dust filtration Electrostatic Precipitation
Remarks: Diameters of dust granules listed in the Table correspond to those which are noted at the maximum frequency in the distribution of diameters of dust as measured according to the weight method.	

(Exhaust Gas Disposition)

Article 10. With reference to the exhaust ducts of the manufacturing facilities which emit gases or vapours of the substances listed in the left column in the Table given below or local exhaust ventilation systems installed in accordance with provisions of paragraph 3 of Article 4 or paragraph 1 of Article 5, the employer shall provide exhaust gas disposition devices in the method of disposition as described in the right column of the same Table, or exhaust gas disposition devices with the same or better performance as or than the said devices.

Substance	Disposition method
Acrolein	Absorption method Direct combustion method
Hydrogen fluoride	Absorption method Absorption method
Hydrogen sulfide	Absorption method Oxidation and reduction method
Dimethyl Sulfate	Absorption method Direct combustion method

2. The employer shall effectively operate effectively the said exhaust gas disposition devices as set forth in the preceding paragraph.

(Discharged Fluid Disposition)

Article 11. In terms of discharged fluid (exclusive of fluid discharged from the facilities thereby to manufacture group-1 substances), containing substances listed in the left column of the following Table, the employer shall provide discharged fluid disposition devices in any one of the styles for disposition of discharged fluid as described in the right column of the same Table, or ones with the same or more effective performance as or than the said devices.

Substance	Disposition method
Alkyl mercury compounds (restricted to the substances in which the alkyl radicals are methyl or ethyl radicals, hereinafter the same)	Oxidation-reduction method
Hydrochloric acid	Neutralization method
Nitric acid	Neutralization method
Potassium cyanide	Oxidation-reduction method Activated sludge method
Sodium cyanide	Oxidation-reduction method Activated sludge method
Pentachlorophenol (otherwise known as PCP) and its sodium salts	Aggregation-precipitation method
Sulfuric acid	Neutralization method
Sodium sulfide	Oxidation-reduction method

2. In terms of discharged fluid disposition devices prescribed in the preceding paragraph, or drainage or pits leading to those devices, the employer shall provide them in the structure thereby to prevent the mixture of the following types of discharged fluids when it is feared that the generation of hydrogen cyanide or hydrogen sulfide may occur by mixing of discharged fluid containing hydrochloric acid, nitric acid, or sulfuric acid with discharged fluid containing potassium cyanide, sodium cyanide, or sodium sulfide.

3. The employer shall effectively operate effectively the discharged fluid disposition devices as described in paragraph 1.

(Remnants Disposition)

Article 12. As for remnants that contain alkyl mercury compounds, the employer shall not discharge them until he/she has detoxified them.

(Rag Disposition)

Article 12-2. In terms of rags, paper scraps, etc., contaminated with said specified chemical substances, etc., the employer shall take measures such as putting the rags, paper scraps, etc., into impermeable containers coupled with their covers or stoppers in place thereby to prevent workers from being contaminated with the said specified chemical substances, etc.

Chapter IV. Leakage Prevention

(Corrosion Prevention Measures)

Article 13. With reference to the portions in contact with specified group-2 substances or group-3 substances (hereinafter referred to as group-3 substances, etc., in this chapter), of specified chemical facilities (corresponding to those described in item 9 of Article 15 of the Enforcement Order, hereinafter the same) (exclusive of valves or cocks used in specified chemical facilities), the employer shall take measures such as making the facilities of material resistant to corrosion and attaching linings according to types, temperature and concentrations of the said substances.

(Measures for Prevention of Leakage of Substances from Joints)

Article 14. In terms of joints in which cover plates, flanges, valves, cocks, etc., are used in specified chemical facilities, the employer shall take measures such as using gaskets and closely connecting the jointing faces in order to prevent group-3 substances, etc., from leaking from the said joints.

(Indication of Direction in which to Open or Close Valves etc.)

Article 15. In respect of valves or cocks used in specified chemical facilities or switches, push buttons, etc., thereby to operate them, the employer shall take the following measures in order to prevent the leakage of group-3 substances, etc., from the facilities resulting from mis-operation of the valves, cocks, switches, push buttons, etc.

- (1) Indicate the direction in which to open or close the valves, cocks, etc.
- (2) Classify these devices or equipment using colour or shape, etc.

(Material of Valves, etc.)

Article 16. In terms of valves or cocks used in specified chemical facilities, the employer shall comply with the provisions given below.

(1) Durable material is to be used for the valves or cocks, according to opening or closing frequencies, and kinds, temperature, concentrations, etc., of group-3 substances, etc., involved in their manufacturing or handling.

(2) The valves or cocks are to be installed in duplicate between strainers, etc., which are frequently opened or removed and the specified chemical facilities nearest to the said strainers, etc. (exclusive of pipings, hereinafter the same in this chapter excepting Article 20), provided that this does not apply in respect to a case in which a device is installed by which it can be confirmed that the valves or cocks which are installed between the said strainers, etc., and the said chemical facilities are surely closed.

(Indication of Supplied Raw Materials, etc., Supplied)

Article 17. In order to prevent the leakage of group-3 substances, etc., resulting from mis-supply of the substances by workers who are engaged in supply of raw materials or other substances to specified chemical facilities, the employer shall indicate the kinds of said raw materials or other substances, facilities to which the materials or substances are supplied, and the other necessary items at locations easily visible to workers.

(Entrances and Exits)

Article 18. The employer shall provide indoor workshops where specified chemical facilities are installed and an evacuation floor (corresponding to a floor having entrances and exits directly leading to the ground, hereinafter the same) of buildings which have the said workshops with two or more entrances and exits thereby to enable workers to evacuate easily to safe ground places if group-3 substances, etc. leak from said specified chemical facilities.

2. In terms of floors other than the evacuation floor of the building having the workshops as described in the preceding paragraph, the employer shall provide two or more direct stairways or ramps leading to the evacuation floor or the ground from the floors. In this case, any one of the stairways or ramps is allowed to be evacuation apparatuses such as a slide, evacuation ladder, accommodation ladder, etc.

3. One of the direct stairways or ramps as specified in the preceding paragraph shall be installed outdoors, provided that this does not apply in respect to a case in which evacuation apparatuses such as a slide, evacuation ladder, accommodation ladder are installed.

(Installation of Measurement Instruments)

Article 18-2. Of specified chemical facilities in terms of reaction baths for heat reactions from which a large amount of group-3 substances, etc., may leak resulting from abnormal chemical reactions, etc., (hereinafter referred to as "specified chemical facilities under supervision"), the employer shall provide the said facilities with measurement instruments, like thermometers, flow meters, pressure gauges, etc., in order to grasp the occurrence of abnormal chemical reactions, etc., as early as possible.

(Warning Apparatuses, etc.)

Article 19. With reference to the workshops where specified chemical facilities are installed or the workshops other than those where group-3 chemical substances, etc. of 100 liters or more (in the case of substances in gaseous form, a cubic quantity of 1 m³ is regarded as a volume of 2 liters, the same in the following paragraph and also in item (2) of Article 24) are handled, the employer shall provide these workshops with warning apparatuses or other apparatuses in order to inform persons concerned of leakage of group-3 substances, etc. if occurring.

2. In respect of specified chemical facilities under supervision (thereby restricted to 100 liters or more in total in quantity of group-3 substances, etc., to be manufactured or disposed), the employer shall provide the said facilities with automatic warning apparatuses for early grasp of the occurrence of abnormal chemical reactions, etc.

3. When it is extremely difficult for the employer to provide the said facilities with automatic warning apparatuses, etc., he/she shall place watchmen, and take measures such as having the watchmen keep watch over the facilities when operating.

4. With reference to the workshops specified in paragraph 1, the employer shall provide the said facilities with chemicals or apparatuses, etc., thereby to remove group-3 substances, etc., if leaking.

(Installation of Emergency Blocking Apparatuses)

Article 19-2. In order to prevent a large amount of group-3 substances, etc., from leaking resulting from abnormal chemical reactions, etc., in specified chemical facilities under supervision, the employer shall provide the said facilities with apparatuses for coping with abnormal chemical reactions, etc., such as apparatuses thereby to stop the supply of raw materials, or to release the products, or to supply non-active gases, cooling water, etc.

2. In respect of valves or cocks provided in the facilities as described in the preceding paragraph, the employer shall comply with the provisions given below.

(1) The valves or cocks shall have guaranteed functionality.

(2) The valves or cocks shall be maintained in a condition in which they are always ready to operate smoothly.

(3) The valves or cocks shall be of types which accurately and safely enable them to operate.

3. In respect to the apparatuses thereby to release the products, etc., as described in paragraph 1, the employer shall provide the apparatuses in a structure of a tightly closed system or in a structure thereby to enable the products, etc., as released from the facilities, to be taken to safe locations or to be safely disposed, in order to protect workers from being contaminated with specified chemical substances, etc.

(Reserve Power Sources, etc.)

Article 19-3. The employer shall provide reserve power sources in compliance with the provisions given below for use in specified chemical facilities under supervision, pipings, or additional facilities for the said facilities.

(1) The employer shall provide reserve power sources which are always and easily ready to use, in order to prevent group-3 substances, etc., from leaking as a result of abnormalities of the said power sources.

(2) The employer shall classify valves, cocks, switches, etc., using colour and shape, etc., or provide keys for valves, cocks, switches, etc., in order to prevent mis-operation of the said valves, cocks, switches, etc.

(Operation Rules)

Article 20. When work is done using specified chemical facilities or their additional facilities, the employer shall provide for rules concerning items, as given below, necessary for prevention of leakage of group-3 substances, etc., in terms of the said specified chemical facilities or their additional chemical facilities in which the said work is performed.

(1) Operation of valves, cocks, etc. (herein, valves, cocks, etc., are restricted to those for use in supplying raw materials to the said specified chemical facilities or for use in taking out products, etc., from the said specified chemical facilities).

(2) Operation of apparatuses for cooling, heating, stirring and compressing.

(3) Monitoring and adjustment of measuring and controlling instruments.

(4) Adjustment of safety valves, emergency blocking apparatuses, other safety apparatuses and automatic warning devices.

(5) Checkup on whether there occurs any leakage of group-3 substances, etc., from the joints in which coverplates, flanges, valves, cocks, etc. are used.

(6) Collection of samples.

(7) In the case of specified chemical facilities under supervision, work methods during the suspension of operation and at the time of resumption of operation when specified chemical facilities under supervision are temporary or partially suspended during operations.

(8) Emergency measures in a case of abnormalities.

(9) Measures necessary for prevention of the leakage of group-3 substances, etc., in addition to the items listed above.

(Floors)

Article 21. The employer shall provide workshops handling group-1 substances (exclusive of the workshops handling group-1 substances in workshops manufacturing those substances), the workshops manufacturing or handling auramine, etc., or group-2 substances under supervision, and indoor workshops where specified chemical facilities are installed, with floors made of impermeable materials.

(Work for Improvement of Facilities, etc.)

Article 22. In executing modifying, repairing or cleaning work for the equipment to manufacture, handle or store the specified chemical substances, etc., or tanks, etc., to contain the substances which generate the specified chemical substance, etc., which may remain in them, where the workers are required to engage in the work to break up such equipment or to enter the inside of such equipment (exclusive of the class-2 oxygen-deficiency-danger work designated in item (8) of Article 2 of the Ordinance for Prevention of Anoxia (Ministry of Labour Ordinance No. 42 of 1972), (hereinafter referred to as the "Anoxia Ordinance") and the work designated in Article 25-2 of the Anoxia Ordinance), the employer shall take the following measures:

- (1) Determine the method and procedure of the work and make them known to the workers who will carry out the work in advance.
- (2) Appoint a supervisor from among those with the necessary knowledge concerning the prevention of health impairment due to specified chemical substances, etc., and have that person supervise the said work.
- (3) Remove the specified chemical substance, etc., completely from the equipment to be worked on and doubly close all valves, cocks, etc., of pipes leading to the equipment concerned to prevent the specified chemical substance, etc., from flowing into the said equipment, or close all valves, cocks, etc., of pipes and provide shutoff plates to the said pipes.
- (4) Lock the closed valves, cocks, etc., or the provided shutoff plates conforming to the provision of the preceding item and post signs warning not to open them, or station a guard.
- (5) Open all the openings of the facility on which work is done and which has no danger of the influx of the specified chemical substances, etc.
- (6) Adequately ventilate the interior of the facility where work is carried out, using ventilation equipment.
- (7) Examine the inside of the equipment to be worked on using measuring equipment or other appropriate means to ensure that the workers will not suffer from health impairment due to the effects of the specified chemical substance, etc.
- (8) Check if the specified chemical substances, etc., are left in the section of the pipe between the shutoff plate and the closest valve, cock, etc., before removing the shutoff plate conforming

to the provision of item (3) where there is the fear of the outflow of the specified chemical substances, etc., so that appropriate measures can be taken beforehand.

(9) Provide tools and other equipment to allow for the immediate evacuation of workers carrying out work inside a facility in an emergency.

(10) Have workers carrying out the work use the necessary protective equipment including impermeable protective clothing, protective gloves, protective boots and respiratory protective equipment.

2. In respect of facilities about which no confirmation has been made as provided in item (7) of the preceding paragraph, information in advance shall be given by the employer to the said workers, which says that the workers must not put their heads inside of the said facilities.

3. When the said workers are directed to wear protective equipment as set forth in the item (10) of paragraph 1, they must wear the protective equipment.

Article 22-2. When carrying out modification, repairs or cleaning, etc., of facilities, etc. (exclusive of the facilities and tanks, etc., covered by paragraph 1 of the preceding Article, same as in this Article) for manufacturing, handling or storing specified chemical substances, etc., that involves the dismantling of said facilities or entering and working inside said facilities (exclusive of the class-2 oxygen-deficiency-danger work designated in item (8) of Article 2 of the Anoxia Ordinance and work designated in Article 25-2 of the Anoxia Ordinance), the employer shall take the following measures when there is a danger of generating a specified chemical substance due to the work relating to welding and polishing of the said equipment.

(1) Determine the method and procedure of the work and make them known to the workers who will carry out the work in advance.

(2) Appoint a supervisor from among those with the necessary knowledge concerning the prevention of health impairment due to specified chemical substances, etc., and have that person supervise the said work.

(3) Open all the openings of the facility on which work is done and which has no danger of the influx of specified chemical substances, etc.

(4) Adequately ventilate the interior of the facility where work is carried out using ventilation equipment.

(5) Provide tools and other equipment to allow for the immediate evacuation of workers carrying out work inside a facility in an emergency.

(6) Have workers carrying out the work use the necessary protective equipment including impermeable clothing, protective gloves, protective boots and respiratory protective equipment.

2. Workers shall use the protective equipment provided for in item (6) of the preceding paragraph when they are directed to do so by the employer.

(Evacuation, etc.)

Article 23. When leakage of group-3 substances, etc., occurs resulting in the fear that workers may suffer from health impairment, the employer shall make the said workers evacuate the workshop concerned.

2. In such a case as provided for in the preceding paragraph, the employer shall prohibit outsiders other than the persons directly concerned from entering into the said facilities, etc., and indicate this prohibition in writing at easily visible locations until the confirmation has been made that there is no fear that health impairment of the said workers will occur resulting from group-3 substances, etc.

(Prohibition of Entry, etc.)

Article 24. The employer shall prohibit outsiders other than persons directly concerned from entering into the workshops given below, and indicate this prohibition in writing at a location easily visible to outsiders..

(1) Workshops to manufacture or handle group-1 substances or group-2 substances (exclusive of the workshops where fumigation using methyl bromide, etc. is carried out.).

(2) Workshops installed with specified chemical facilities or workshops other than those installed with specified chemical facilities in which to handle group-3 substances, etc., of 100 liters or more in quantity.

(Containers)

Article 25. When the specified chemical substances, etc., are carried or stored, the employer shall use hard and secure containers or provide safe packaging for prevention of the leakage or overflow of the said substances.

2. The employer shall indicate information which shows the names and disposition cautions of the said substances at an easily visible location on the said containers or packages.

3. In terms of the keeping of the specified chemical substances, etc., in custody, certain locations shall be designated for storage of the substances.

4. As for the containers or packages used for carrying, storing, etc., of the specified chemical substances, etc., the employer shall take measures thereby to prevent dispersion of the said substances, and he shall accumulate the said containers or packages at certain locations as already designated by him/her when he/she intends to keep them in custody.

(Rescue Organization, etc.)

Article 26. In respect of workshops in which specified chemical facilities are installed, the employer shall make efforts to establish rescue organizations and to perform training of the persons concerned, etc., for preparation in case that a group-3 substances, etc. may leak.

Chapter V. Management

(Appointment of Operations Chief of Work on Specified Chemical Substances, etc.)

Article 27. As for the work provided in item (18) of Article 6 of the Enforcement Order, the employer shall appoint an operations chief of work on specified chemical substances, etc., from among those who have finished a skill training course for operations chiefs of work on specified chemical substances.

(Duties of Operations Chief of Work on Specified Chemical Substances, etc.)

Article 28. The employer shall have the operations chief of work on specified chemical substances, etc., conduct the items given below.

- (1) Determine the methods of working and direct the workers concerned such that they will not be contaminated with the specified chemical substances, etc., or inhale these substances.
- (2) Make a checkup of the local exhaust ventilation systems, dust exclusion devices, exhaust gas disposition devices, discharged fluid disposition devices and other prophylactic devices thereby to protect workers from suffering health impairment at intervals of not more than a month.
- (3) Observe the use of personal protective equipment.

(Machines to Be Subjected to Periodical Voluntary Inspection).

Article 29. The local exhaust ventilation systems, dust exclusion devices, exhaust gas disposition devices and discharged fluid disposition devices (restricted to those relating to the specified chemical substances, etc. and others designated in this Ordinance) designated in the Ministry of Labour ordinance conforming to item (8) of paragraph 1, Article 15 of the Enforcement Order shall be those listed respectively in the following items:

- (1) The local exhaust ventilation system to be installed conforming to the provisions of Article 3; paragraph 3 of Article 4; paragraph 1 of Article 5 or item (2) of paragraph 1 of Article 38-12; or item (6) of paragraph 1 of Article 50 or item (1), (5), (9) or (12) of paragraph 1 of Article 50-2 (inclusive of the local exhaust ventilation system conforming to the conditional clause of paragraph 1 of Article 3 and the conditional clause of paragraph 1 of Article 38-12).
- (2) The dust exclusion device to be installed conforming to the provisions of paragraph 1 of Article 9 or item (3) of paragraph 1 of Article 38-12; or item (7) c) or (8) of paragraph 1 of Article 50 (inclusive of the cases where the said provisions are to be applied with necessary modification to the case of paragraph 2 of Article 50-2).

(3) The exhaust gas disposition device to be installed conforming to the provision of paragraph 1 of Article 10.

(4) The discharged fluid disposition device to be installed conforming to the provisions of paragraph 1 of Article 11 or item (10) of paragraph 1 of Article 50 (inclusive of the case where these provisions are applied with necessary modifications in the case of paragraph 2 of Article 50-2).

2. Those substances designated in item (9) of paragraph 1, Article 15 of the Enforcement Order conforming to Ministry of Labour Ordinance shall be group-2 substances.

(Periodical Voluntary Inspection)

Article 30. For the systems or devices listed respectively under paragraph 1 of the preceding article, the employer shall voluntarily conduct periodical inspections as to the following inspection items at least once a year, except for equipment which has not been used for one year or more.

(1) Local exhaust ventilation system

- a) Hood, duct and fan for wear, corrosion, dents, etc., and degrees of such defects
- b) Duct and air exhauster for accumulation of dust
- c) Joints of ducts for looseness
- d) Belt to connect the motor and fan for performance
- e) Air intake and discharging capacities
- f) Items indispensable for maintaining required performance other than those listed in items a) through e).

(2) Dustexclusion device, exhaust gas disposition device and discharged fluid disposition device

- a) Structural members for wear, corrosion, damage and degrees of such defects
- b) Dust exclusion device or exhaust gas disposition device for accumulation of dust
- c) Dust exclusion device with filter for damage to the filter or looseness of filter fastener
- d) Treatment agent, flow rate of cleaning water and filler for right use or appropriateness
- e) Treatment capacity

f) Items indispensable for maintaining required performance other than those listed in items a) through e).

2. In respect to devices as described in the provisos of preceding paragraph, the employer shall conduct voluntary inspection at the time of resumption of use for respective items as set forth in the same paragraph.

Article 31. As for specified chemical facilities or their additional facilities, voluntary inspection shall be once conducted for the items given below at regular intervals of two years or less, provided that this does not apply in respect to the specified chemical facilities or their additional facilities not used for periods of time longer than two years.

(1) The following items for specified chemical facilities or their additional facilities (exclusive of pipes).

a) Presence or absence of the substances, etc., with the potential to trigger the development of damage to or collapse of facilities on the interior.

b) Presence or absence of internal or external outstanding damage, deformation of or erosion of facilities.

c) Conditions of cover plates, flanges, valves, cocks, etc.,.

d) Function of safety devices such as safety valves, emergency blocking devices and automatic warning devices.

e) Function of instruments for cooling, heating, stirring, compressing, measuring, and controlling.

f) Function of reserve power sources.

g) Items necessary for prevention of leakage of specified group-2 substances or group-3 substances in addition to those as described in a) to f).

(2) The following items for pipes.

a) Presence or absence of damage, deformation, and corrosion of welded joints.

b) Conditions of flanges, valves, cocks, etc.

c) Presence or absence of damage, deformation and corrosion of joints of steam pipes for heating which are installed near to pipes.

2. As for the facilities as set forth in provisos of the preceding paragraph, the employer shall conduct voluntary inspection at the time of resumption of use for respective items as described in the same paragraph.

(Records of Periodical Voluntary Inspection)

Article 32. When conducting the voluntary inspection as described in the preceding two Articles, the employer shall record the following items, and keep the records for a period of three years.

- (1) Date of inspection
- (2) Method of inspection
- (3) Inspected part of facilities
- (4) Result of inspection
- (5) Names of inspector(s)
- (6) When measures are taken for repair , etc., on the basis of the inspection result, the contents of the repair, etc.

(Checkup)

Article 33. When the employer first uses the systems or devices listed in the respective items of paragraph 1 of Article 29, or improves or repairs those systems or devices after the overhaul, a checkup shall be conducted for the items as described in paragraph 1 of Article 30, depending upon the type of the said systems or devices.

Article 34. When the employer first uses specified chemical facilities or their additional facilities, or improves or repairs those facilities after overhaul, or when he/she uses those facilities after periods of one month or more during which those facilities are kept from their being actually used, a checkup shall be conducted for the matters as described in the respective items of paragraph 1 of Article 31.

2. In addition to the cases as referred to in the preceding paragraph, when the employer makes changes in usage of specified chemical facilities or their additional facilities (exclusive of pipes) (inclusive of the cases in which change is made in raw materials used in the facilities, same as in this paragraph), a checkup shall be conducted for the matters listed in a), d) and e) of item (1) of paragraph 1 of Article 31, and also of the presence or absence of abnormalities in improved portions for the purpose of other usage.

(Records of Checkup)

Article 34-2. When the employer conducts a checkup as provided for the preceding two Articles, he/she shall record the items given below, and keep the records for a period of three years.

- (1) Date of checkup
- (2) Method of checkup
- (3) Part of facilities where checkup was made
- (4) Result of checkup
- (5) Names of inspector(s)
- (6) When measures are taken for repair, etc., on the basis of the checkup result, the contents of the repair, etc.

(Repair, etc.)

Article 35. When the employer makes voluntary inspection in terms of Article 30 or 31 or checkup in terms of Article 33 or 34, to find abnormalities, he/she shall take measures thereby to repair the facilities, systems or devices without delay.

(Measurements and the Records of Measurement)

Article 36. As for the workshops as set forth in item (7) of Article 21 of the Enforcement Order, the employer shall measure concentration of group-1 substances (exclusive of the substances as described in (8) of item 1 in Attached Table 3 of the Enforcement Order) or group-2 substances (exclusive of the substances as described in Attached Table 1) in the air once at regular intervals of 6 months or less.

2. When the employer makes measurements in compliance with the provisions of the preceding paragraph, he/she shall record the following items and keep the records for a period of three years.

- (1) Date of measurement
- (2) Method of measurement
- (3) Measured points of the workshop
- (4) Conditions of measurement
- (5) Result of measurements
- (6) Names of person(s) who conducted the measurement

(7) When measures are taken for prevention of health impairment of workers, resulting from the said substances, based on the measurement result, the outline of the said measures.

3. Of the records, 30-year keeping shall be made of the measurement records in respect to substances as provided in (1), (2), or (4) to (7) of item 1 in Attached Table 3 of the Enforcement Order, or in (4) to (6), (8), (12), (14), (15), (19), (24), (26), (29), (30), or (32) of item 2 in the said Table, or the measurement records of substances as set forth in (11) or (21) of item 2 in the said Table prepared in workshops therein to manufacture the substances as set forth in (11) or (21) of the same item or the substances as set forth in item (11) or (21) in Attached Table 1 (hereinafter called as "chromic acid, etc.") or in workshops therein to handle chromic acid, etc., in workplaces therein to manufacture chromic acid, etc., from ore.

(Evaluation of Result of Measurement)

Article 36-2. Each time when the measurement of the condition of the workplace conforming to the provision of paragraph 1 of the preceding Article or paragraph 5, Article 65 of the Industrial Safety and Health Law (hereinafter referred to as "the Law") has been conducted as to the indoor work relating to the substances designated in (3) or (6) of item 1 of Attached Table 3 of the Enforcement Order or (1) through (7), (10), (11), (13), (16) through (25), (27) through (31) or (33) through (36) of item 2 of Attached Table 3 of the Enforcement Order, the employer shall promptly evaluate the results of the measurement conforming to the working environment evaluation standards designated by the Minister of Labour to rate the result of the measurement into the first-grade section, second-grade section or third-grade section depending on the condition of the working environment.

2. Each time when the environmental condition of the workplace has been measured conforming to the provision of the preceding paragraph, the employer shall make up the record of the following matters and file it for at least three years.

(1) Date of evaluation

(2) Part of workplace where evaluation was made

(3) Result of evaluation

(4) Name of evaluator

3. From among the records of the evaluation provided for in the preceding paragraph, the employer shall file for at least 30 years the record of the evaluation concerning the substances designated in (6) of item 1 in Attached Table 3 of the Enforcement Order or the substances designated in (4) through (6), (14), (19), (24) and (29) of item 2 in the same table and the record of the evaluation concerning the substances designated in (11) or (21) of item 2 in Attached Table 3 of the Enforcement Order, in the workshops where chromic acid, etc., is manufactured, or in the workshops where chromic acid, etc., is handled in workplaces therein to manufacture chromic acid, etc., from ore.

(Measures on Result of Evaluation)

Article 36-3. For the place rated as a third-grade section based on the result of the evaluation conforming to the provision of paragraph 1 of the preceding Article, the employer shall immediately review the facilities, equipment, work processes or work methods of such place and take the necessary measures for improving the condition of the working environment, such as the installation of facilities or equipment or maintenance of the existing facilities and equipment and the improvement of the existing work processes or work methods based on the result of the review in order to raise the grade of such place to the first grade section or the second grade section.

2. When the measures conforming to the provision of the preceding paragraph have been taken, the concentration of the specified chemical substances, etc., concerned in the place concerned shall be measured to evaluate the effect of the measures taken.

3. Besides the measures designated in the preceding two paragraphs, the employer shall take other measures necessary for protecting the health of workers in the place designated in paragraph 1 including measures for workers to wear effective respiratory protective equipment and to conduct medical examination.

Article 36-4. For the place rated as a second-grade section based on the result of the evaluation conforming to the provision of paragraph 1 of Article 36-2, the employer shall review the existing facilities, equipment, work processes or work methods and take measures such as the installation of facilities and equipment, maintenance of existing facilities and equipment, improvement of existing work processes or methods and other necessary measures for improving the existing working environment.

(Break Rooms)

Article 37. When the employer has workers engage in work in which they usually manufacture or handle group-1 or group-2 substances, he/she shall provide break rooms at locations other than ones where the said work is carried out.

2. In respect of the said break rooms as set forth in the preceding paragraph, the employer shall take measures given below when the said substances are in powder form.

(1) Provide the said break rooms with devices at entrances in order to remove the substances attached to feet of the workers concerned, such as providing sufficiently humid mats or foot-washing devices.

(2) Provide the said break rooms with brushes for clothes at entrances leading to the rooms.

(3) Make the structure of said rooms' floors so as to easily conduct cleaning by means of vacuum cleaners or washing, and also conduct cleaning of the said break rooms once or more every day.

3. When the workers have been engaged in the work set forth in the preceding paragraph, they shall remove the substances attached on their clothes before they enter into the said break rooms.

(Washing Facilities)

Article 38. When the employer has workers engage in the work to manufacture or handle group-1 or group-2 substances, he/she shall provide facilities thereby to enable the workers to wash their eyes or bodies or to gargle, and facilities thereby to enable them to change the clothes used during the work, and the facilities thereby to clean their clothes.

(Prohibition of Smoking, etc.)

Article 38-2. The employer shall prohibit workers from smoking, drinking and eating in workshops therein to manufacture or handle group-1 or group-2 substances, and indicate this prohibition of smoking, drinking and eating in writing at easily visible locations in the workshop concerned.

2. The workers must not smoke, drink or eat in the workshops as prescribed in the preceding paragraph.

(Indication)

Article 38-3. In the workshops (restricted to the those, in case of handling chromic acid, etc., to handle chromic acid in the workplace therein to manufacture chromic acid, etc., from ore, same as in the following Article) therein to manufacture or handle group-1 substances (exclusive of chlorobiphenyl, etc.) or the substances provided for in (4) to (6), (8), (11), (12), (14), (15), (19), (21), (24), (26), (29), (30) or (32) of item 2 in Attached Table 3 of the Enforcement Order, or substances as set forth in items (4) to (6), (8), (11), (12), (14), (15), (19), (21), (24), (26), (29), (30), or (32) in Attached Table 1 (hereinafter referred to as "substances under special supervision"), the items given below shall be indicated at easily visible locations for workers concerned.

- (1) Names of substances under special supervision.
- (2) Effects of the said substances on human beings.
- (3) Cautions thereby to handle the substances under special supervision.
- (4) Personal protective equipment to be used by workers.

(Working Records)

Article 38-4. As for the workers who usually engage in the work in workshops for the manufacture or handling of the substances under special supervision, the employer shall record in terms of the items given below at intervals of not more than one month, and he/she shall keep

this record for 30 years from the dates on which the workers concerned came to be usually engaged in the said work in the said workshop.

- (1) Names of workers.
- (2) Outline of work in which the said workers were engaged and the periods of time during which the said workers were engaged in the work.
- (3) In case that the marked contamination of workers with the substances under special supervision occurs in the work, the outline of the case and also summary of emergency measures taken by the employer against the case.

Chapter V-II. Management of Specific Types of Work, etc.

(Measures concerning Chlorinated Biphenyl etc.)

Article 38-5. When the employer has workers engage in the work of handling chlorinated biphenyl, etc., he/she shall comply with the items given below.

- (1) Before the commencement of a day's work, a checkup shall be made of the status of the containers containing chlorinated biphenyl, etc., and whether there is contamination with chlorinated biphenyl, etc., in places where the said containers are placed.
- (2) When the said checkup is made to find abnormalities, the employer shall take necessary measures, such as repair of the said containers and removal of chlorinated biphenyl leaking from the said containers, etc.
- (3) When putting chlorinated biphenyl, etc., into its containers or taking it out of the containers, the employer shall have workers use the devices in a structure thereby to directly join containers by pouring or draining mounts to prevent chlorinated biphenyl, etc., from leaking.

Article 38-6. In respect to the containers used for carrying or storing chlorinated biphenyl, etc., which are contaminated with the said chlorinated biphenyl, etc., on their internal surfaces, the employer shall indicate information of the contamination at locations on the said containers easily visible to the workers concerned.

(Measures concerning Asbestos, etc.)

Article 38-7. In addition to the cases as provided in the respective items as given below, the employer shall not have workers engage in spraying work with the substances as set forth in (4) of item 2, Attached Table 3 of the Enforcement Order, or the substances as described in item (4) of Attached Table1.

2. When taking the measures as given below, the employer is allowed to have workers engage in spraying of asbestos, etc., over steel frames, etc., used as pillars, etc., of buildings.

(1) In order to protect the workers engaged in construction work from their being contaminated with asbestos, workshops therein to put said substances, etc., used for spraying into its containers, or to take them out or mix them with others are to be indoor ones which are separated from the workshops in which the said workers are engaged in construction work.

(2) The employer shall have workers engaged in the said spraying work put on air-supplied respirators or self-contained compressed air breathing apparatus and protective clothes.

3. When the workers are ordered by the employer to wear personal protective equipment as provided in the preceding two paragraphs, they shall wear the said protective equipment.

Article 38-8. When the employer has workers engage in the types of work given in the respective items, he/she shall make (the substances listed in item (4) or (5) of paragraph 1 of Article 16 of the Enforcement Order, substances listed in item (10) of the same paragraph (restricted to those related to item (4) and (5) of the same paragraph), substances listed in 4, item 2 of Attached Table 3 of the Enforcement Order and substances listed in item (4) of Attached Table 1 of the this Ordinance (hereinafter, referred to as "Asbestos, etc.") humid, provided that this does not apply in respect to the cases where it is extremely difficult to make the asbestos, etc., humid.

(1) Work thereby to cut, perforate, and grind asbestos, etc..

(2) Work thereby to spread and pour asbestos, etc. , or to breakup and dismantle the substances covered with asbestos, etc.

(3) Work thereby to put powdered asbestos, etc., into containers or to take them out of the containers.

(4) Work thereby to mix powdered asbestos, etc.,

2. The employer shall provide containers with covers in order to enable workers engaged in the said types of work to put pieces of asbestos into the containers at the place where the work is done.

Article 38-9. When having workers engage in any of the work covered in each of the items of paragraph 1 of the preceding Article, the employer shall have the said workers use respiratory protective equipment.

2. When having workers engage in work covered by the provisions of the preceding paragraph, the employer shall have the said workers use work clothing. However, this shall not apply where the employer has the said workers use protective clothing.

3. Workers shall use protective equipment, etc., specified under the provisions of the preceding two paragraphs when directed to do so by the employer.

Article 38-10. When engaging in the demolition, etc., of buildings, the employer shall carry out a survey of the locations in advance and use of asbestos, etc., in the said buildings using their building plans, etc., and keep a record of the results in order to prevent health impairment to workers due to asbestos, etc.

Article 38-11. When in engaging in the demolition, etc., of buildings where asbestos has been sprayed onto ferro-concrete used as pillars, etc., the employer shall keep the workplace for the removal of the said asbestos, etc., separate from workplaces where other work is carried on.

(Measures concerning Coke Furnaces)

Article 38-12. When the employer has workers engage in the work of manufacturing cokes on the surfaces of coke furnaces or near to those furnaces, the employer shall comply with the items as provided in the following.

- (1) In terms of the devices thereby to put coals, etc., into coke furnaces, the devices thereby to push cokes out of the coke furnaces, the apparatuses thereby to carry cokes to the coke-extinguishing cars, or the coke-extinguishing cars, they shall be made in a structure therein to prevent gases, vapour, or dust in powder of specified chemical substances, etc., dispersed from the said coke furnaces (hereinafter referred to as "substances dispersed from coke furnaces") from entering into the drivers' rooms of the devices or apparatuses.
- (2) Installation shall be made in the facilities therein to tightly close the substances dispersed from coke furnaces or of local exhaust ventilation systems at locations of the said coke furnaces' inlets for putting coals, etc., into the furnaces and also at locations to which cokes are carried out or pushed out from the said coke furnaces.
- (3) The said local exhaust ventilation system as provided for in compliance with the preceding paragraph or facilities thereby to extinguish the fire of cokes carried out onto the said extinguishing cars shall be provided with dust-exclusion devices either with liquid-scrubbing or filtration system, or those with performance superior to these devices.
- (4) In order to make the decrease in internal pressure of the said coke furnaces when coals, etc., are put into the said furnaces, measures shall be taken thereby to provide required devices in the ascending pipes, etc.
- (5) In order to prevent "substances dispersed from the coke furnaces" from leaking from the joints between the ascending pipes and the pipes' cover plates, measures shall be taken thereby to tightly connect the said ascending pipes to the pipes' cover plates.
- (6) The opening or closing of covers for inlets, from which coals are pushed into the coke furnaces when coals are forwarded into the furnaces, shall be conducted by remote control operation in separate remote-controlled rooms in order to prevent the contamination of workers with substances dispersed from the coke furnaces.

(7) In respect to work on the coke furnaces or near to the coke furnaces in terms of the manufacturing of cokes, the operation rules shall be established by the employer in respect of the items as given below in order to prevent the said workers from being contaminated with the substances dispersed from coke furnaces, and work shall be conducted in compliance with the rules.

- a) Operation of the devices thereby to put coals, etc., into the said coke furnaces.
- b) Operation of facilities installed in the said ascending pipes as set forth in item (4).
- c) Checking of the presence or absence of the leakage of substances dispersed from the coke furnaces from the joints between the said ascending pipes and the ascending pipes' cover plates, and also from contacting surfaces between the closed inlets, when closed, for carrying coals into the said coke furnaces, and the inlets' covers.
- d) Work thereby to remove substances adhering to the covers of the inlets from which coals, etc., are pushed into the coke furnaces.
- e) Work thereby to remove substances adhering to the insides of the said ascending pipes.
- f) Checking and storage of protective equipment.
- g) In addition to the items as described in a) to f), measures necessary for prevention of contamination of the said workers with the substances dispersed from the coke furnaces.

2. The provisions as set forth in items (1) to (3) inclusive of Article 7 and Article 8 are applicable to the local exhaust ventilation systems as provided in item 2 of the preceding paragraph.

(Measures concerning Fumigation Work)

Article 38-13. When the employer has workers engage in fumigation work using methyl bromide, etc., he/she shall comply with the provisions set forth in the following.

- (1) The measurement of concentrations of hydrogen cyanate or methyl bromide in the air at the places where fumigation work is conducted of warehouses, containers, holds, etc., shall be made possible at locations outside the places stated herein.
- (2) The spraying or dispersing of fumigation drugs shall be done outside the place where fumigation work with the chemicals is conducted in warehouses, containers, holds, etc., provided that this does not apply in respect to the case where the workers are made to wear air-supplied respirators, self-contained compressed air breathing apparatus or separation-type gas masks when they are engaged in the said fumigation work of warehouses or containers.

(3) Checkup shall be made of whether leakage of methyl bromide, etc., from the places where the said fumigation work is being conducted of warehouses, containers, holds, etc., has occurred.

(4) When the said checkup is done to find out the occurrence of abnormalities resulting from the fumigation work, necessary measures shall be taken immediately by repairing sealing used, etc.

(5) The employer shall prohibit workers from entering into places such as warehouses, containers, holds, etc., where fumigation work is being conducted, and also indicate this prohibition in writing at locations easily visible to the workers, however, this does not apply in a case in which the purpose of entering is to inspect the effects of the said fumigation work, and also in which the workers concerned are made to wear air-supplied respirators, self-contained compressed air breathing apparatus or separation-type gas masks, and also in which watchmen are placed.

(6) When opening doors or hatchboards of the places such as warehouses, containers, holds, etc., where fumigation work is being conducted, measures shall be taken which are necessary for confirmation of the direction in which wind is flowing in order to prevent the said workers from being contaminated with methyl bromide, etc., running from said places.

(7) The said warehouse fumigation work or container fumigation work shall be conducted in compliance with the provisions set forth in the following.

a) The places for which fumigation work is conducted shall be sealed in order to prevent methyl bromide, etc., from leaking from the places.

b) Before the commencement of spraying or dispersing of chemicals for fumigation, the confirmation shall be made of firm sealing and refuge made for the workers concerned from the warehouses or containers which will be subjected to the fumigation with chemicals.

c) When the fumigation is carried out on a portion of a warehouse interior, workers other than those workers involved in the fumigation work shall be prohibited from entering into the warehouse interiors where fumigation is not being conducted. Written information shall be posted which says that fumigation with the drugs is being conducted at places easily visible to the workers concerned.

d) In a case in which workers are made to enter into the interior of warehouses or containers where fumigation is being conducted with the said chemicals, for the first time after doors, etc., to the interior have been opened or in a case in which workers are made to enter into the places in which no fumigation has been done, of a warehouse in which partial fumigation has been conducted, the employer shall carry out in advance the measurements of the concentration of hydrogen cyanate or methyl bromide in the air in the places where fumigation has been carried out in the said warehouses or containers or in the places where no fumigation has been conducted in the said warehouses or containers. In both cases, the employer shall make the

measurement of the concentration of hydrogen cyanate or methyl bromide in the air in the areas of the said warehouses or containers in which no fumigation has been carried out, at the outsides of the warehouses or containers.

(8) Fumigation work with tents shall be carried out in compliance with the items given below.

a) In order to prevent the leakage of methyl bromide from the tents under which fumigation is being carried out, the tents shall be securely fixed or fastened by means of nets or ropes, and the peripheral portions of the tents shall be covered with earth and sand, to securely fix the tents.

b) Before commencement of the fumigation with chemicals to spray or disperse the chemicals, a checkup shall be made of whether there are any broken portions in the tents or not.

c) In the case in which the check is carried out as set forth in the preceding item b), repair and other necessary measures shall be taken for the tents immediately, if broken portions have been found.

d) When spraying or dispersing chemicals for fumigation, necessary measures such as confirmation of wind direction,, etc., shall be taken in order to prevent workers from being contaminated with methyl cyanate leaking from the tents.

(9) In carrying out silo fumigation work, the work shall be done in compliance with the items given below.

a) Silos in which fumigation is to be carried out shall be tightly closed at their openings, etc., in order to prevent the leakage of methyl bromide from the silos concerned, provided that this does not apply in respect to a case in which it is extremely difficult to tightly close the openings of the silos, etc.

b) Before the commencement of the spraying or dispersing of chemicals for a fumigation purpose, confirmation shall be made of the tight closure of silos where fumigation is to be carried out with the chemicals.

c) The employer shall prohibit workers from entering into the silos in which fumigation with the said chemicals has been carried out until confirmation has been made of the fact that there is no fear that the workers may be contaminated with methyl bromide, and shall indicate in writing information at locations easily visible to workers.

(10) The fumigation of sampans shall be carried out in compliance with the items given below.

a) The place of the sampans, in which fumigation is to be carried out, shall be covered with tents to prevent the leakage of methyl bromide from the said tents.

b) Dwellings, etc., near the places in which fumigation is to be carried out shall be of a structure such that the said dwellings, etc., are prevented from their being flooded with methyl bromide, etc., or necessary measures shall be taken thereby to prevent the inflow of methyl bromide, etc., into the dwelling rooms, etc., using sealing, etc.

c) Before the commencement of fumigation with chemicals, checkup shall be made as to whether there are broken portions in the tents used for the fumigation or not.

d) In a case in which the checkup is carried out, as set forth in the preceding item c), repair and other necessary measures shall be taken for the tents immediately, if broken portions have been found.

e) Before the commencement of the fumigation with chemicals, confirmation shall be made of necessary measures taken, such as the sure fixation of the sealing for prevention of the inflow of methyl bromide, etc., into the dwelling rooms, etc., and also of the evacuation of the workers concerned from the places where fumigation is to be carried out.

f) When the workers concerned are made to enter into the places in which fumigation has been carried out, or into dwelling rooms, etc., near to the said places immediately after the tents used for the said fumigation have been removed, or when the workers concerned are made to enter into dwelling rooms, etc., near the place in which fumigation is being carried out, measurements shall be made of the concentrations of hydrogen cyanate or methyl bromide in the air in the said places or dwelling rooms, etc. In this case, the measurement of the concentrations in the air in the said dwelling rooms, etc., shall be carried out outside the said dwelling rooms, etc.

(11) In-ship fumigation shall be carried out in compliance with the respective items given below.

a) The holds which are subjected to fumigation shall be tightly closed with vinyl sheets, etc., at their openings, etc., in order to prevent the leakage of methyl bromide, etc., from the holds.

b) Before the commencement of the fumigation with chemicals, confirmation shall be made of tight sealing of the holds which will be subjected to fumigation with vinyl sheets, etc., and also of the evacuation of the workers concerned from the said holds.

c) When workers are first made to enter into fumigated holds or into dwelling rooms, etc., near to the said holds after the vinyl sheets which have been used for sealing the holds have been removed or when workers are made to enter into the dwelling rooms, etc., near to the holds under fumigation, measurements shall be made of the concentrations of hydrogen cyanate or methyl bromide in the air in the said holds or the

dwelling rooms, etc, In both cases the measurement of the concentrations of hydrogen cyanate or methyl bromide in the air in the said dwelling rooms, etc., shall be made outside the said dwelling rooms, etc., exclusive of the case that the said workers are made to wear air-supplied respirators, self-contained compressed air breathing apparatus or separation-type gas masks.

(12) When the results of the measurements, made in compliance with the provisions set forth in d) of item (7), f) of item (10), or c) of the preceding item, show the concentrations of hydrogen cyanate or methyl bromide in the air, when measured at locations as provided above, to be higher than the values as given in the right column of the Table given below, depending upon the substances listed in the left column of the same Table, the employer is not allowed to have the said workers enter into the holds or the dwelling rooms, etc.

Substances	Value
Hydrogen cyanate	11 mg or 10 cm ³
Methyl bromide	60 mg or 15 cm ³
Remarks: The values as shown in this Table correspond to the weights or volumes of the said substances, contained in an air volume of 1 m ³ measured at a temperature of 25°C under atmospheric pressure.	

2. When the employer has workers engage in the work other than fumigation work in places subjected to fumigation with methyl bromide, such as warehouses, containers, holds, etc., or in dwelling rooms, etc., near to the places where the said fumigation has been carried out, the said work shall be made in compliance with the provisions given below, provided that this does not apply in respect to a case in which it has been apparent that there is no fear that the said workers may be contaminated with methyl bromide, etc.

(1) The measurements shall be made of the air concentrations of hydrogen cyanate or methyl bromide in the air in the places such as warehouses, containers, holds, etc., or in dwelling rooms, etc., near to the said places.

(2) The employer is not allowed to have workers enter into the said places when the results of the measurement of the concentrations of hydrogen cyanate or methyl bromide in the air, measured at the locations as provided above, show the values higher than the ones as described in the right column of the Table as provided in item (12) of the preceding paragraph, depending upon the substances listed in the left column of the said Table.

(Measures concerning Nitroglycol)

Article 38-14. When the employer has workers engage in work to manufacture dynamite, he/she shall comply with the items given below.

(1) When packaging under compression is made of the chemicals (corresponding to the substances made by nitroglycol and nitroglycerine sucked into nitrated cotton or the substances made by mixing the nitrated cotton with filling chemicals, etc., same as in this Article) or when the filling is made of the chemical, chemicals shall be used of which the mixing rates

(corresponding to the rates at which the total weight of nitroglycol plus nitroglycerine are occupied by the weight of nitroglycol) are less than the value as shown in the right column of the Table given below, depending upon the classification described in the left column of the said Table.

Classification			Value (in unit of %)
In filling done in summer	In filling done by using no remote-controlled operation from separated rooms	When temperature of chemicals is higher than 28°C	20
		When temperature of chemicals is 28°C or lower	25
	In filling done by remote-controlled operation from separated rooms		30
In manual packaging under compression in summer			30
In other cases			38
Remarks: The summer set forth above corresponds to the periods of two months, July and August for Hokkaido prefecture, and that of five months, May to September for other areas.			

(2) The temperatures of nitroglycol and chemicals in the workshops listed in the left column of the Table given below shall be less than those listed in the right column of the same Table, provided that this does not apply in respect to the case in which remote-controlled operation is done from separated rooms.

Workshops	Value (°C)
Workshops for nitration	22
Workshops for washing	
Workshops for mixing	
Others	32

(3) When filling work is done manually, cleaning shall be quickly done by those who are designated in advance to remove the chemicals fallen on the floors, etc., of workshops.

(4) The devices to which nitroglycol or chemicals have adhered shall be placed into firm containers capped with covers or plugs in order to prevent the leakage of nitroglycol vapour. In this case, the said containers shall be kept in custody in certain well-ventilated places.

(Measures concerning Benzene, etc.)

Article 38-15. The employer shall not have his/her workers engage in work to handle benzene, etc., as solvents, except where the equipment to use the benzene, etc., is of a sealed construction type, the work process is designed for preventing the workers from coming into direct contact with benzene, and a local exhaust ventilation system with an enclosed hood is installed in the workplace where the work using the benzene is carried out.

2. The provisions of Articles 7 and 8 shall be applicable to the local exhaust ventilation systems set forth in the proviso of preceding paragraph.

Chapter VI. Medical Examination

(Conducting of Medical Examination)

Article 39. The employer shall have medical doctors conduct medical examinations of workers who usually engage in the work set forth in item (3) of paragraph 1 of Article 22 of the Enforcement Order at the time when he/she employs or transfers the workers, and after that at regular intervals within the periods of time as described in the middle column of Attached Table 3, in accordance with the classification of the types of work and in terms of items as described in the left column and the right column of the same Table, respectively.

2. The employer shall have medical doctors conduct medical examinations of workers who have been made to be engaged in work set forth in paragraph 2 of Article 22 of the Enforcement Order, and also of those who are being employed at regular intervals within the periods of time as described in the middle column of Attached Table 3 in accordance with the classification of the types of work in which the said workers have been usually engaged, of the types of work set forth in the left column of the same Table, in terms of items listed in the right column of the same Table.

3. As the result of the medical examinations made in compliance with the preceding two paragraphs (exclusive of the ones made according to paragraph 1 for workers who are engaged in work thereby to manufacture or handle potassium cyanate (including chemical substances, etc., which contain more than 5% by weight of potassium cyanate), hydrogen cyanate (including chemical substances, etc., which contain more than 1% by weight of hydrogen cyanate), and sodium cyanate (including chemical substances, etc., which contain more than 5% by weight of sodium cyanate), the employer shall have medical doctors conduct medical examinations of workers regarded as in need of being subjected to medical examination by a doctor, in whom objective symptoms are noted or who complain of subjective symptoms or in whom abnormalities are suspected, in accordance with the classification of types of work as described in the right column of Attached Table 4 in terms of the items listed in the left column of the same Table.

4. The substances as provided for by the Ministry of Labour Ordinance based on item (24) of paragraph 2 of Article 22 of the Enforcement Order are as shown in Attached Table 5.

(Recording of the Results of Medical Examination)

Article 40. The employer shall make up the individual medical examination card on the specified chemical substances, etc., (Form No.2) for the individual workers based on the results of the medical examinations conforming to the provisions of paragraphs 1 through 3 of the preceding Article (inclusive of the results of the medical examinations received by the workers concerned conforming to the conditional clause of paragraph 5 of Article 66, in the following

article, referred to as "Medical Examination concerning the Specified Chemical Substances, etc.") and file such cards for at least five years.

2. Individual Medical Examination Cards on Specified Chemical Substances, etc., shall be kept for 30 years starting from the date on which workers began to be usually engaged in or to have been usually engaged in the work to manufacture or handle the substances under special supervision (as for work thereby to handle chromic acid, etc., restricted to the work thereby to handle chromic acid, etc., in the workplaces therein to manufacture chromic acid, etc., from ore).

(Hearing the Views of the Medical Doctor Concerning the Results of the Medical Examination)

Article 40-2. Under the provision of Article 66-2 of the Law, the hearing of the views of the medical doctor based on the results of medical examination concerning the specified chemical substances, etc., shall be carried out in accordance with the following stipulations.

(1) To conduct within three months of the date of medical examination concerning the specified chemical substances, etc., (where the provisional 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 to the employer).

(2) To record the views of the medical doctor on the individual medical examination cards on the specified chemical substances, etc.

(Report on Results of Medical Examination)

Article 41. When the employer has made medical doctors conduct medical examinations of workers concerned as provided for in paragraph 1 to 3 inclusive of Article 39 (restricted to regular ones), he/she shall make without delay a report on the result of medical examinations of workers on specified chemical substances, etc., (Form No.3) to the Chief of the competent Labour Standards Inspection Office.

(Emergency Examination)

Article 42. When there occurs a leakage of specified chemical substances, etc., and the workers are in the presence of the said specified chemical substances, etc. or inhaling them, the employer shall have medical doctors conduct medical examination without delay of the said workers, or treat them.

Chapter VII. Personal Protective Equipment

(Respiratory Protective Equipment)

Article 43. In the workshops therein to manufacture or to handle specified chemical substances, etc., the employer shall provide respiratory protective equipment in order to prevent the health

impairment of workers, resulting from the inhalation by the workers of gases, vapours or dusts of the said specified chemical substances, etc.

(Protective Clothes, etc.)

Article 44. The employer shall provide impermeable protective clothes, protective gloves, or protective long shoes and ointments made to be used by workers who are engaged in work liable to cause health impairment of the said workers, resulting from the cutaneous absorption of the substances into the workers, or from damage caused to the skins of the workers due to the said specified chemical substances, etc.

(Number of Personal Protective Equipment)

Article 45. In terms of personal protective equipment set forth in the preceding two Articles, the employer shall provide personal protective equipment the same or greater in number than the number of workers who are engaged in the work at the same time, and shall keep the devices clean and effective.

Chapter IX. Skill Training Course for Operations Chiefs of Work on Specified Chemical Substances, etc.

Article 51. The skill training course for operations chiefs of work on specified chemical substances, etc. will be done by theoretical instruction.

2. The theoretical instruction will be done in respect of the subjects concerning specified chemical substances, etc., given below.

(1) Knowledge of health impairment of workers due to specified chemical substances, etc., or on prophylactic measures against such impairment.

(2) Knowledge of methods thereby to improve working environments.

(3) Knowledge of personal protective equipment

(4) Related laws and ordinances

3. The Minister of Labour shall establish necessary matters concerned with the actual execution of the skill training courses for operations chiefs of work on specified chemical substances, etc., in addition to the provisions set forth in Articles 80 to 82 of the Ordinance on Industrial Safety and Health (Ministry of Labour Ordinance No. 32, of 1972) and in the preceding two Articles.

Chapter IX. Skill Training Course for Operations Chiefs of Work on Specified Chemical Substances, etc.

Article 51. The skill training course for operations chiefs of work on specified chemical substances, etc. will be done by theoretical instruction.

2. The theoretical instruction will be done in respect of the subjects concerning specified chemical substances, etc., given below.

- (1) Knowledge of health impairment of workers due to specified chemical substances, etc., or on prophylactic measures against such impairment.
- (2) Knowledge of methods thereby to improve working environments.
- (3) Knowledge of personal protective equipment
- (4) Related laws and ordinances

3. The Minister of Labour shall establish necessary matters concerned with the actual execution of the skill training courses for operations chiefs of work on specified chemical substances, etc., in addition to the provisions set forth in Articles 80 to 82 of the Ordinance on Industrial Safety and Health (Ministry of Labour Ordinance No. 32, of 1972) and in the preceding two Articles.

Chapter X. Notification and Report

Article 52. (Deleted)

(Report on Records, etc.)

Article 53. When the employer who is manufacturing or handling the specified chemical substances tries to cease the manufacture or handling of those substances, he/she shall submit to the Chief of the competent Labour Standards Inspection Office the Reports on Records related to Substances under Special Supervision (Form No. 11) with the records as given below, and individual medical examination cards on specified chemical substances, etc., or the copies of them.

- (1) Records on measurements set forth in paragraph 3 of Article 36.
- (2) Records on work as described in Article 38-4.
- (3) Individual medical examination cards on specified chemical substances set forth in paragraph 2 of Article 40.

Supplementary Provisions

(Date of Enforcement)

Article 1. This Ministry of Labour Ordinance will be put into effect on October 1, 1972, provided that this does not apply in respect to Article 4, which will be put into effect on October 1, 1973.

(Abrogation)

Article 2. The Ordinance on Prevention of Hazards Due to Specified Chemical Substances, etc. (Ministry of Labour Ordinance No. 11 of 1971) will be abolished.

(Interim Measures concerning Local Exhaust Ventilation Systems)

Article 3. In terms of indoor workshops where dispersion occurs of the dust of coal tar, the provisions as set forth in Article 5 will not be applied to the workshops until September 30, 1973.

(Interim Measures concurring Dust Exclusion Devices)

Article 4. In term of exhaust gas disposition cylinders from which to emit the gases containing dusts of coal tar, the provision of Article 9 will not be applied until September 30, 1973.

(Interim Measures concurring Operations Chiefs of Work on Specified Chemical Substances, etc.)

Article 5. In spite of the provisions of Article 27, the employer may appoint an operations chief of work on specified chemical substances, etc., from among persons holding the health supervisor's license until September 30, 1974.

Supplementary Provisions

(Ministry of Labour Ordinance No. 26 of September 30, 1975)

(Date of Enforcement)

Article 1. This Ministry of Labour Ordinance will be put into effect on October 1, 1975, provided that the following provisions will be put into effect on the dates shown in the respective items.

(1) Amended provision of contents (exclusive of the portion thereby to revise "Article 50" into "Article 50-2"), amended provision thereby to add one article following Article 12, amended provision thereby to revise Article 20 (exclusive of the portions

thereby to revise "item (8)" into "item (9)," "item (7)" into "item (8)," and to add one item following item (6), amended provisions thereby to revise Article 22, Article 24 and Article 25, amended provision thereby to add three articles following Article 38, amended provision thereby to add one chapter next to Chapter V (exclusive of the portions related to Article 38-9 and Article 38-12), amended provision thereby to add one article following Article 52, and amended provision thereby to add the form following Form No. 10: January 1, 1976.

(2) Amended provisions thereby to revise Article 3, the heading before Article 4 and Article 4, amended provisions thereby to revise Article 6, (restricted to that of "The provisions of the preceding Article, indoor workshops" into "The provisions of the preceding two Articles, indoor workshops"), amended provision thereby to revise paragraph 1 of Article 7 (exclusive of the portions thereby to add provisos to item (3), and also add one item to the same paragraph), amended provisions thereby to revise Article 8 (restricted to the revision of "paragraph 3 of Article 3, and Article 4" into "Article 3, and paragraph 3 of Article 4), amended provision thereby to revise Article 9 (restricted to revision of "paragraph 3 of Article 3, and Article 4" into "Article 3, and paragraph 3 of Article 4"), amended provision thereby to revise Article 10 (restricted to "paragraph 1 of Article 5" into "paragraph 3 of Article 4 or paragraph 1 of Article 5"), amended provisions thereby to revise paragraph 2 of Article 11, Article 13, and Article 15 to 17 inclusive, amended provision thereby to add one Article following Article 18, amended provision thereby to revise Article 19, amended provision thereby to add two articles following Article 19, amended provision thereby to revise Article 20 (restricted to the revision of item (8) of Article 20 into item (9) of Article 20, and also of "item (7) of Article 20" into "item (8) of Article 20," and also the addition of one item following item (6) of Article 20), amended provision thereby to revise the Article 21 (restricted to the portions related to the group-2 substances under supervision of the portions in which to revise the specified group-1 substances into auramine, etc., or group-2 substances under supervision), amended provision thereby to revise Article 29 (restricted to the portions, related to Article 3 and paragraph 3 of Article 4, of the portions in which to revise paragraph 3 of Article 3, Article 4 or paragraph 1 of Article 5 into Article 3, paragraph 3 of Article 4, paragraph 1 of Article 5 or item (2) of paragraph 1 of Article 38-9 as set forth in item 1 of paragraph 1 of Article 29, and addition of "inclusive of local exhaust ventilation systems as set forth in the provisos in paragraph 1 of Article 3 and paragraph 1 of Article 38-12" to the portion following "local exhaust ventilation systems," and amended provisions thereby to add one chapter following Chapter V (restricted to the portions related to Article 38-12): April 1, 1976.

(3) Amended provisions thereby to revise Article 29 (restricted to the portion related to item 2 of paragraph 1 of Article 38-9, of the portions in which to revise "paragraph 3 of Article 3, Article 4 or paragraph 1 of Article 5" as set forth in item (1) of paragraph 1 of Article 29, into "Article 3, paragraph 3 of Article 4, paragraph 1 of Article 5 or item (2) of paragraph 1 of Article 38-9," and also to add "or item (3) of paragraph 1 of Article 38-9" to the portion following "paragraph 1 of Article 9" as set forth in item 2 of paragraph 1 of Article 29, and amended provision thereby to add one chapter

following Chapter V (restricted to the portion related to Article 38-9): April 1, 1977

(Interim Measures)

Article 2. In terms of the application of paragraph 1 of Article 5 of the newly revised Ordinance on Prevention of Hazards Due to Specified Chemical Substances, etc. (hereinafter called the "New Ordinance"), the portion of paragraph 1 of Article 5, which says that "indoor workshops when manufacturing specified group-2 substances, when handling the said group-2 substances in workshops therein to manufacture specified group-2 substances, where conducting fumigation therein to handle substances as set forth in (17) to (20) inclusive of item 2 in Attached Table 3 of the Enforcement Order or substances as described in item (17) to (20) inclusive in Attached Table 1 (hereinafter called methyl bromide, etc.), and when handling the substances as set forth in (30) of item 2 in Attached Table 3 or substances (hereinafter called "benzene, etc.") as described in item (30) in Attached Table 1 (inclusive of dilutants, similarly as in Article 38-12), the indoor workshops are excluded from which dispersion is made of gases, vapour or powdered dust of the specified group-2 substances" shall be defined as "indoor workshops" by December 31, 1975.

2. In terms of the provisos of paragraph 1 of Article 5 of the New Ordinance, the portion of paragraph 1 of Article 5, which says that "indoor workshops (when manufacturing specified group-2 substances, when handling the specified group-2 substances in workshops therein to manufacture the specified group-2 substances, when performing fumigation therein to handle the substances or set forth in (17) or (20) of item 2 in Attached Table 3 of the Enforcement Order or substances listed in (17) or (20) of item 2 of Attached Table 1 (hereinafter called "methyl bromide"), and when handling the substances listed in the (30) of item 2 in Attached Table 3 or the substances as described in item (30) in Attached Table 1 (hereinafter called "benzene, etc.") the indoor workshops are excluded from which dispersion is made of gases, vapour or powdered dust of specified group-2 substances" shall be defined as "indoor workshops (when conducting fumigation therein to handle the substances listed in (17) or (20) of item 2 in Attached Table 3 of the Enforcement Order or substances listed in item (17) or (20) in Attached Table 1, the indoor workshops are excluded from which dispersion is made of gases of these substances)" for the period of January 1, 1976 to March 31, 1976.

3. In terms of application of Article 3 and Article 4 of the old Ordinance on Prevention of Hazards Due to Specified Chemical Substances, "specified group-1 substances" as set forth in Article 3 shall be defined as "Auramine, etc.," and "permitted substances" as described in Article 4 shall be defined as "group-1 substances (exclusive of substances listed in (3) of item 1 of Attached Table 3 of the Enforcement Order or substances listed in (7) of item 1 in the same Table, and as related to 3 of the same item) " respectively, until March 31, 1976.

4. When the employer performs work to put the substances, listed in (3) of item 1 in Attached Table 3 of the Enforcement Order of the Industrial Safety and Health Law, or

substances (hereinafter called "chlorobiphenyl , etc." in this paragraph) listed in (7) of item 1 in the same Table and as related to 3 of the same item into containers, to take these substances out of containers or to throw the substances into reaction vessels (in the workshops therein to manufacture chlorobiphenyl, the exclusion is made of the work thereby to put chlorobiphenyl into its containers, to take the chemical out of the containers or to throw the chemical into reaction vessels), the said workshops shall be provided with local exhaust ventilation systems.

5. In terms of the application of the provisions set forth in Article 7, Article 8 and paragraph 1 of Article 29 of the New Ordinance on the local exhaust ventilation systems as provided in compliance with the provisions in the preceding paragraph, the said local exhaust ventilation systems will be regarded as the ones provided in compliance with paragraph 1 of Article 5 of the New Ordinance.

6. As for the facilities thereby to manufacture the substances listed in 6 of item 2 of Attached Table 3 of the Enforcement Order of the Industrial Safety and Health Law or the substances listed in item 6 in Attached Table 1 of the New Ordinance, or to handle these substances, actually existing on March 31, 1978, the said facilities are not applied to the provisions as described in Articles 4 and 5 of the New Ordinance.

7. In terms of coke furnaces which actually exist on October 1, 1975, the furnaces will not be affected by the provisions of Article 38-9 of the New Ordinance by March 31, 1978.

8. In terms of the application of the provisions set forth in Articles 5 and 37 of the New Ordinance, the substances, as set forth in (1), (2), (5), (6), (12), (13), (19), (20), (23), (25) to (27), (29), (30), and (34) of item 2 of Attached Table 3 of the Enforcement Order of the Industrial Safety and Health Law or the substances, as set forth in the New Ordinance in items (1), (2), (5), (6), (12), (13), (19), (20), (23), (25) to (27), (29), (30), and (34) of Attached Table 1 are not to be included among group-2 substances, as set forth in item (2) of Article 2 in the New Ordinance March 31, 1976 in spite of the provisions of the same item.

9. In terms of the application of the provisions of Article 13 of the old Ordinance on Prevention of Hazards Due to Specified Chemical Substances, etc., and also of Articles 18 and 21 of the New Ordinance, the facilities therein to manufacture or handle the substances set forth in (1), (6), (12), (19), (20), (26), (29), (30) or (34) of item 2 in Attached Table 3 of the Enforcement Order of the Industrial Safety and Health Law or substances listed in items (1), (6), (12), (19), (20), (26), (29), (30) or (34) of Attached Table 1 in the New Ordinance are not to be included among those provided in Article 13 of the prior-to-revision Ordinance on Prevention of Hazards Due to Specified Chemical Substances, etc., until March 31, 1976.

Supplementary Provisions

(Ministry of Labour Ordinance No. 4 of March 25, 1976)

(Excerpt)

(Date of Enforcement)

1. This Ministry of Labour Ordinance will be put into effect from April 1, 1976.

Supplementary Provisions

(Ministry of Labour Ordinance No. 3 of March 22, 1977)

This Ministry of Labour Ordinance will be put into effect from April 1, 1977.

Supplementary Provisions

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

This Ministry of Labour Ordinance will be put into effect from September 1, 1978.

Supplementary Provisions

(Ministry of Labour Ordinance No. 18 of May 20, 1982)

(Excerpt)

(Date of Enforcement)

Article 1. This ministerial ordinance shall be enforced from the day of its promulgation, provided that the provisions of the following subparagraphs shall be enforced from dates designated respectively in the said paragraphs.

(1) The provision to amend Article 1 of the Ordinance for Prevention of Anoxia from among the provisions of Article 1; the provision to amend Article 2 of the said ordinance (restricted to the part expressed as "in paragraph 1 of Article 9...", which is to be deleted, and the part to add item (2) next to the said article); provisions to amend the provisions of Articles 3 through 5 of the said ordinance; provision to add another article next to the said article; provisions to amend the provisions of Articles 6, 7, 9, 10, 13, 14, 16, 17 and 23 of the said ordinance; provision to add another article next to the said article; provision to add another article next to Article 25 of the said ordinance and the provision to amend Article 27 of the said ordinance (restricted to the part expressed as "anoxia" which is to be amended as "anoxia, etc."); provision to amend item (4), paragraph 1, Article 585 of the Industrial Safety and Health Ordinance of the Industrial Safety and Health Law out of the provisions of Article 2 and the provision to amend item (4), paragraph 1, Article 640 of the said ordinance (restricted to the part expressed as "the place designated in paragraph 1 of Article 9..." in the said subparagraph, which is to be amended as "oxygen deficiency danger place designated

in paragraph 1 of Article 9..." and Articles 4, 6 and 7 of the supplementary provisions: July 1, 1982.

(2) (Omitted.)

(Interim Measures for Partial Amendment of the Ordinance for Prevention of Hazards Due to Specified Chemical Substances, etc.)

Article 7. In applying, between July 1, 1982 and March 31, 1983, the provisions of items (1) and (2) of paragraph 1, Article 22 of the Ordinance for Prevention of Hazards Due to Specified Chemical Substances, etc., amended conforming to the provision of the preceding Article, the part expressed as "the class-2 oxygen-deficiency-danger work designated in item (8) of Article 2 and the work designated in Article 25-2 of the same ordinance..." shall be amended as "the work designated in Article 25-2."

(Interim Measures for Penal Provision)

Article 8. The penal provision to acts committed against the provision of the old Ordinance for Prevention of Hazards Due to Specified Chemical Substances conforming to the old Ordinance for Prevention of Anoxia, the old Industrial Safety and Health Law and the provision of Article 6 of the Supplementary Provisions prior to the enforcement of this ministerial ordinance shall be applied according to precedent.

Supplementary Provisions

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

(Extract)

1. This ministerial ordinance shall be enforced from March 1, 1984.

Supplementary Provision

(Ministry of Labour Ordinance No. 8 of March 18, 1986)

This ministerial ordinance shall be enforced from April 1, 1986.

Supplementary Provisions

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

(Date of Enforcement)

Article 1. This ministerial ordinance shall be enforced from October 1, 1988.

(The rest is omitted.)

(Interim Measures)

Article 2. 1. and 2. (Omitted).

3. Concerning the measurements of the workplace where substances designated in (6) of item 1 in Attached Table 3 of the Enforcement Order (Cabinet Ordinance No. 318 of 1972) of the Industrial Safety and Health Law and the substances designated in (1) through (4), (7), (10), (11), (13), (16) through (18), (20) through (22), (25), (27), (28), (30), (31) or (33) through (35) of item 2 of the said table conducted conforming to the provision of paragraph 1 or 5, Article 65 of the Industrial Safety and Health Law before the enforcement of this ministerial order, the provisions of Articles 36-2 through 36-4 of the amended Ordinance for Prevention of Hazards Due to Specified Chemical Substances, etc., shall not be applicable.

4. (Omitted.)

Supplementary Provisions

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

This Ministry of Labour 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 Ministry of Labour Ordinance shall be enforced from July 1, 1994.

(Interim Measures concerning Notification of Plans)

Article 2. (Omitted) Notifications based on the provisions of paragraph 1 (omitted) of Article 52 of the Ordinance on Prevention of Hazards Due to Specified Chemical Substances, etc., prior to amendment by this Ordinance (called the "old Specified Chemicals 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 the provisions of paragraph 1 of Article 88 of the Industrial Safety and Health Law (called the "Law" below) after the enforcement date.

2. (Omitted) Notifications based on the provisions of paragraph 3 (omitted) of Article 52 of the old Specified Chemicals Substances concerning construction to commence

after the enforcement date shall, where the provisions of paragraph 2 of the Law apply, be treated as valid notifications under the provisions of paragraph 1 of the same Article after the enforcement date.

3. (Omitted)

4. (Omitted)

(Interim Measures concerning 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. 3 of January 16, 1995)

(Excerpts)

(Date of Enforcement)

Article 1. This Ministry of Labour Ordinance shall be enforced from April 1, 1995. However, the provisions listed under each of the following items shall be enforced from the date specified in the relevant items.

(1) (Omitted) The provision in Article 2 to amend Article 36-2 of the Ordinance on Prevention of Hazards Due to Specified Chemical Substances, etc.,: October 1, 1995.

(2) (Omitted)

(Interim Measures for Evaluating the Results of Measurements, etc.)

Article 3. The provisions of Article 36-2 through 36-4 of the amended Ordinance on Prevention of Hazards Due to Specified Chemical Substances, etc., (called the "new Specified Chemicals Ordinance" below) shall not apply to measurements in indoor workplaces of substances listed under (6) or (14) of item 2 of Attached Table 3 of the Enforcement Order of the Industrial Safety and Health Law (call the "Order" below) carried out under the provisions of paragraph 1 or paragraph 5 of Article 65 of the Law before October 1, 1995.

2. The provisions of Articles 36-2 through 36-4 of the new Specified Chemicals Ordinance shall not apply to measurements in indoor workplaces of substances listed under (5), (19), (23), (24), (29) or (36) of item 1 in Attached Table 3 of the Order carried out under the provisions of paragraph 1 or 5 of Article 66 of the Law before

October 1, 1996.

(Interim Measures for Penal Provisions)

Article 4. The application of penal provisions to acts committed before the enforcement of this Ordinance shall be according to precedent.

Supplementary Provisions

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

(Excerpt)

(Date of Enforcement)

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

Supplementary Provisions

(Ministry of Labour Ordinance No. 13 of March 25, 1997)

(Date of Enforcement)

This Ministry of Labour Ordinance shall be enforced from the date of promulgation.

(Interim Measures)

Article 2. The application of penal provisions to acts committed prior to the enforcement of this Ordinance shall be according to precedent.

Supplementary Provisions

(Ministry of Labour Ordinance No. 32 of October 1, 1997)

This Ministry of Labour Ordinance shall be enforced from the date of promulgation.

Supplementary Provisions

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

(Date of Enforcement)

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

(Interim Measures)

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

Attached Table 1 (related to Articles 2, 5, 36, 38-3, 38-7 and 38-8)

- (1) Chemicals and other substances containing acryl amide , provided that this does not apply in respect to substances which contain acryl amide of 1% or less by weight.
- (2) Chemicals and other substances containing acrylonitrile, provided that this does not apply in respect to substances which contain acrylonitrile of 1% or less by weight.
- (3) Chemicals and other substances containing alkyl mercury compounds, provided that this does not apply in respect to substances which contain alkyl mercury compounds of 1% or less by weight
- (4) Chemicals and other substances containing asbestos (exclusive of amosite and crocidolite, the same shall apply below in this item), provided that this does not apply in respect to substances which contain asbestos of 1% or less by weight.
- (5) Chemicals and other substances containing ethyleneimine, provided that this does not apply in respect to substances which contain ethyleneimine of 1% or less by weight.
- (6) Chemical and other substances containing vinyl chloride, provided that this does not apply in respect to substances which contain vinyl chloride of 1% or less by weight.
- (7) Chemicals and other substances containing chlorine, provided that this does not apply in respect to substances which contain chlorine of 1% or less by weight.
- (8) Chemicals and other substances containing auramine, provided that this does not apply in respect to substances which contain auramine of 1% or less by weight.
- (9) Chemicals and other substances containing O-phthalodinitrile, provided that this does not apply in respect to substances which contain O-phthalodinitrile of 1% or less by weight.
- (10) Chemicals and other substance containing cadmium, provided that this does not apply in respect to substances which contain cadmium of 1% or less by weight.
- (11) Chemicals and other substances containing chromic acid or its salts, provided that this does not apply in respect to substances which contain chromic acid or its salts of 1% or less by weight.

(12) Chemicals and other substances containing chloromethyl methyl ether, provided that this does not apply in respect to substances which contain chloromethyl methyl ether of 1% or less by weight.

(13) Chemicals and other substances containing vanadium pentoxide, provided that this does not apply in respect to substances which contain vanadium pentoxide of 1% or less by weight.

(14) Chemicals and other substances containing coal tar, provided that this does not apply in respect to substances which contain coal tar of 5% or less by weight.

(15) Chemicals and other substances containing arsenic trioxide, provided that this does not apply in respect to substances which contain arsenic trioxide of 1% or less by weight.

(16) Chemicals and other substances containing potassium cyanide, provided that this does not apply in respect to substances which contain potassium cyanide of 5% or less by weight.

(17) Chemicals and other substances containing hydrogencyanide, provided that this does not apply in respect to substances which contain hydrogen cyanide of 1% or less by weight.

(18) Chemicals and other substances containing sodium cyanide, provided that this does not apply in respect to substances which contain sodium cyanide of 5% or less by weight.

(19) Chemicals and other substances containing 3-3'- dichloro-4-4'-diamino-diphenyl methane, provided that this does not apply in respect to substances which contain 3-3' - dichloro-4-4' - diamino-diphenyl methane of 1% or less by weight.

(20) Chemicals and other substances containing methyl bromide, provided that this does not apply in respect to substances which contain methyl bromide of 1% or less by weight.

(21) Chemicals and other substances containing dichromic acid or its salts, provided that this does not apply in respect to substances which contain dichromic acid or its salts of 1% or less by weight.

(22) Chemicals and other substances containing mercury or its inorganic compounds (exclusive of mercury sulfide similarly as in the following), provided that this does not apply in respect to substances which contain mercury or its inorganic compounds of 1% or less by weight.

(23) Chemicals and other substances containing trilene-diisocyanate, provided that this does not apply in respect to substances which contain trilene-diisocyanate of 1% or

less by weight.

(24) Chemicals and other substances containing nickel carbonyl, provided that this does not apply in respect to substances which contain nickel carbonyl of 1% or less by weight.

(25) Chemicals and other substances containing nitroglycol, provided that this does not apply in respect to substances which contain nitroglycol of 1% or less by weight.

(26) Chemicals and other substances containing P-dimethylaminoazobenzene, provided that this does not apply in respect to substances which contain P-dimethylaminoazobenzene of 1% or less by weight.

(27) Chemicals and other substances containing P-nitrochlorobenzene, provided that this does not apply in respect to substances which contain P-nitrochlorobenzene of 5% or less by weight.

(28) Chemical and other substances containing hydrogen fluoride, provided that this does not apply in respect to substances which contain hydrogen fluoride of 5% or less by weight.

(29) Chemicals and other substances containing γ -propiolactone, provided that this does not apply in respect to substances which contain γ -propiolactone of 1% or less by weight.

(30) Chemicals and other substances containing benzene, provided that this does not apply in respect to substances which contain benzene of 1% or less by weight.

(31) Chemicals and other substances containing pentachlorophenol (otherwise called PCP) or its sodium salts, provided that this does not apply in respect to substances which contain pentachlorophenol or its sodium salts of 1% or less by weight.

(32) Chemicals and other substances containing magenta, provided that this does not apply in respect to substances which contain magenta of 1% or less by weight.

(33) Chemicals and other substances containing manganese or its compounds (exclusive of basic manganese oxide, similarly as in the following), provided that this does not apply in respect to substances which contain manganese or its compounds of 1% or less by weight.

(34) Chemicals and other substances containing methyl iodide, provided that this does not apply in respect to substances which contain methyl iodide of 1% or less by weight.

(35) Chemicals and other substances containing hydrogen sulfide, provided that this does not apply in respect to substances which contain hydrogen sulfide of 1% or less by weight.

(36) Chemicals and other substances containing dimethylsulfide provided that this does not apply in respect to substances which contain dimethylsulfide of 1% or less by weight.

Attached Table 2 (related to Article 2)

(1) Chemicals and other substances containing ammonia, provided that this does not apply in respect to substances which contain ammonia of 1% or less by weight

(2) Chemicals and other substances containing carbon monoxide, provided that this does not apply in respect to substances which contain carbon monoxide of 1% or less by weight.

(3) Chemicals and other substances containing hydrogen chloride, provided that this does not apply in respect to substances which contain hydrogen chloride of 1% or less by weight.

(4) Chemicals and other substances containing nitric acid, provided that this does not apply in respect to substances which contain nitric acid of 1% or less by weight.

(5) Chemicals and other substances containing sulfur dioxide, provided that this does not apply in respect to substances which contain sulfur dioxide of 1% or less by weight.

(6) Chemicals and other substances containing phenol, provided that this does not apply in respect to substances which contain phenol of 5% or less by weight.

(7) Chemicals and other substances containing phosgene, provided that this does not apply in respect to substances which contain phosgene of 1% or less by weight.

(8) Chemicals and other substances containing formaldehyde, provided that this does not apply in respect to substances which contain formaldehyde of 1% or less by weight.

(9) Chemicals and other substances containing sulfuric acid, provided that this does not apply in respect to substances which contain sulfuric acid of 1% or less by weight.

Attached Table 3 (related to Article 39)

Work	Period	Items
(1) Work to manufacture or handle the substances given below. 1) Benzidine and its salts.	6 months	1. Investigation of working history. 2. Review of past history of presence of objective or subjective symptoms such as hematuria, pollakisuria, pain on urination,

<p>2) ?A-naphthylamine and its salts. 3) Dichlorobenzidine and its salts. 4) ??-naphthylamine and its salts. 5) O-tolidine and its salts. 6) Dianisidine and its salts. 7) P-dimethylamino azobenzene. 8) Magenta. 9) Chemicals and other substances containing these substances, listed in item 1) to 8), of more than 1% by weight.</p>		<p>etc.</p> <p>3. Examination for presence of objective or subjective symptoms such as hematuria, pollakisuria, pain on urination, etc.</p> <p>4. Microscopic examination of urine sediment (cytological examination by the Papanicolaou technique on urine sediment when regarded necessary by medical doctors).</p>
<p>(2) Work to manufacture or handle bis (chloromethyl) ether (inclusive of chemicals and other substances which contain bis (chloromethyl) ether of more than 1% by weight).</p>	<p>6 months</p>	<p>1. Investigation of working history.</p> <p>2. Review of past history of presence of objective or subjective symptoms such as cough, sputum, chest pain, body weight loss, etc., resulting from bis (chloromethyl) ether.</p> <p>3. Examination for presence of objective or sub-jective symptoms such as cough, sputum, chest pain, body weight loss, etc.</p> <p>4. Examination with direct roentgenography on chest on those who have been engaged in work for more than three years.</p>
<p>(3) Work to manufacture or handle chlorinated biphenyl.</p>	<p>6 months</p>	<p>1. Investigation of working history.</p> <p>2. Review of past history of presence of dermatological symptoms, hepatic damage, etc., resulting from chlorinated biphenyl.</p> <p>3. Examination for presence of objective or subjective symptoms such as appetite loss, sense of weakness, etc.</p> <p>4. Examination for presence of dermatological findings such as hair follicle acne, darkening of skin, etc.</p> <p>5. Testing for urobilinogen in urine.</p>

(4) Work to manufacture or handle beryllium, etc.	6 months	<ol style="list-style-type: none"> 1. Investigation of working history. 2. Review of past history of presence of respiratory symptoms, allergic symptoms, etc., resulting from beryllium, etc. 3. Examination for presence of objective or subjective symptoms such as dry cough, sputum, pharyngodynia, throat irritation, chest pain, chest uneasiness, shortness of breath, palpitation, difficult breathing, malaise, appetite loss, body weight loss, etc. 4. Examination for presence of dermatological findings such as dermatitis, etc. 5. Measurement of lung vital capacities.
	1 year	Direct examination of chest with roentgenography.
(4-2) Work to manufacture or handle benzotrichloride (inclusive of chemicals and other substances which contain benzotrichloride of more than 0.5% by weight).	6 months	<ol style="list-style-type: none"> 1. Investigation of working history. 2. Review of past history of presence of objective or subjective symptoms such as cough, sputum, chest pain, nasal discharge, epistaxis, olfactory sensory loss, sinusitis, nasal polyposis. 3. Examination for presence of objective or subjective symptoms such as cough, sputum, chest pain, nasal discharge, epistaxis, olfactory sensory, sinusitis, nasal polyposis, lymph node swelling on neck, etc. 4. Examination for dermatological findings such as verruca, pigmentation, etc. 5. Direct roentgenography examination of chest for those were engaged in work for more than 3 years as described in the provisions of item (9) of Article 23 of the Enforcement Order.
(5) Work to manufacture or handle acrylamide (inclusive of	6 months	1. Investigation of working history.

chemicals and substances which contain acrylamide of more than 1% by weight.)		<p>2. Review of past history of presence of objective or subjective symptoms such as paresthesia in extremities, gait disturbances, abnormal sweating, etc.</p> <p>3. Examination for presence of objective or subjective symptoms such as paresthesia in extremities, gait disturbances, abnormal sweating, etc.</p> <p>4. Examination for presence of dermatological findings such as dermatitis.</p>
(6) Work to manufacture or handle acrylonitrile (inclusive of chemicals and substances which contain acrylonitrile of more than 1% by weight.)	6 months	<p>1. Investigation of working history.</p> <p>2. Review of past history of presence of objective or subjective symptoms such as heaviness in the head, headache, irritation in upper respiratory tract, general malaise, easy fatigue, nausea, vomiting, epistaxis, etc., resulting from acrylonitril.</p> <p>3. Examination for presence of objective or subjective symptoms such as heaviness in the head, head ache, irritation in the upper respiratory tract, general malaise, easy fatigue, chills, vomiting, nasal hemorrhage, etc.</p>
(7) Work to manufacture or handle alkyl mercury compounds (inclusive of substances which contain alkyl mercury compounds of more than 1% of their weights.	6 months	<p>1. Investigation of working history.</p> <p>2. Review of past history of presence of objective or subjective symptoms such as heaviness in the head, headache, abnormal senses of lips or upper and lower extremities, althralgia, insomnia, sleepiness, depression, uneasiness, disturbance in gait, tremor in fingers, body weight loss, etc. resulting from alkyl mercury compounds.</p> <p>3. Examination for presence of objective or subjective symptoms such as abnormal senses in lips or upper and lower extremities, althralgia, insomnia, disturbance in gait, tremor in fingers, body weight loss, etc.</p> <p>4. Examination for presence of</p>

		dermatological findings such as dermatitis, etc.
(8) Work to manufacture or handle asbestos, etc.	6 months	<ol style="list-style-type: none"> 1. Investigation of working history. 2. Review of past history of presence of objective or subjective symptoms such as cough, sputum, shortness of breath, chest pain, etc., resulting from asbestos etc. 3. Examination for presence of objective or subjective symptoms such as cough, sputum, shortness of breath, chest pain, etc. 4. Direct examination of chest with roentgenography.
(9) Work to manufacture or handle ethyleneimine (inclusive of substances which contain ethyleneimine of more than 1% by weight.)	6 months	<ol style="list-style-type: none"> 1. Investigation of working history. 2. Review of past history of presence of objective or subjective symptoms such as headache, cough, sputum, chest pain, vomiting, mucous irritation symptoms, etc., resulting from ethyleneimine. 3. Examination for presence of objective or subjective symptoms such as headache, cough, sputum, chest pain, vomiting, mucous irritation symptoms, etc. 4. Examination for presence of dermatological findings such as dermatitis.
(10) Work to manufacture or handle vinyl chloride (inclusive of chemicals and substances which contain vinyl chloride of more than 1% by weight.)	6 months	<ol style="list-style-type: none"> 1. Investigation of working history. 2. Review of past history of presence of objective or subjective symptoms such as general malaise, easy fatigue, appetite loss, uncertain upper abdominal symptoms, jaundice, tarry stools, pallidness, pain or abnormal sense in fingers, etc. resulting from vinyl chloride. 3. Examination for presence of objective or subjective symptoms such as headache, dizziness, tinnitus, general malaise, easy fatigue, uncertain upper abdominal symptoms, jaundice, tarry stools, pain or

		<p>abnormal sense in fingers, etc.</p> <p>4. Examination for presence of hepatomegaly or splenomegaly.</p> <p>5. Hepatic functional examination covering items such as serum bilirubi, serum (GOT), serum (GPT), ALP, etc.</p> <p>6. Direct examination of chest with roentgenography for those engaged in the said work for more than 10 years.</p>
(11) Work to manufacture or handle chlorine (inclusive of substances which contain chemicals and the substances which contain chlorine of more than 1% by weight.)	6 months	<p>1. Investigation of working history.</p> <p>2. Review of past history of presence of objective or subjective symptoms such as respiratory symptoms, ophthalmologic symptoms, etc. resulting from chlorine.</p> <p>3. Examination for presence of objective or subjective symptoms such as cough, sputum, upper respiratory tract irritation symptoms, tearing, abnormalities of corneas, vision disturbances, dental changes, etc.</p>
(12) Work to manufacture or handle auramine (inclusive of substances which contain suramine of more than 1% by weight.)	6 months	<p>1. Investigation of working history.</p> <p>2. Review of past history of presence of objective or subjective symptoms such as hematuria pollakysuria, pain on urination, etc.</p> <p>3. Examination for presence of objective or subjective symptoms such as hematuria, pollakysuria, pain on urination, etc.</p> <p>4. Microscopic examination of urine sediment (cytological examination by the Papanicolaou technique on urine sediment when found necessary by medical doctors.</p> <p>5. Testing for urobilinogen in urine.</p>
(13) Work to manufacture or handle of O-phthalodinitrile (inclusive of substances which contain O-	6 months	<p>1. Investigation of working history.</p> <p>2. Review of past history of presence of</p>

<p>phthalodinitrile of more than 1% by weight.)</p>		<p>objective or subjective symptoms such as epilepsy-like attack.</p> <p>3. Examination for presence of objective or subjective symptoms such as headache, heaviness in the head, forgetfulness, insomnia, malaise, nausea, poor appetite, facial pallidness, tremor in fingers, etc.</p> <p>4. Testing for urobilinogen in urine.</p>
<p>(14) Work to manufacture or handle cadmium or its compounds (inclusive of chemicals and substances which contain cadmium or its compounds of more than 1% by weight.)</p>	<p>6 months</p>	<p>1. Investigation of working history.</p> <p>2. Review of past history of presence of symptoms such as respiratory symptoms, gastrointestinal symptoms, etc. resulting from cadmium or its compounds.</p> <p>3. Examination for presence of objective or subjective symptoms such as cough, sputum, irritation in throat, abnormalities in nasal mucous membranes, shortness of breath, poor appetite, nausea, vomiting, repeated abdominal pain or diarrhea, body weight loss, etc.</p> <p>4. Examination for presence of cadmium accumulated in yellow circles on incisor tooth or canine tooth.</p> <p>5. Testing for presence of urinary protein.</p>
<p>(15) Work to manufacture or handle chromic acid, etc.</p>	<p>6 months</p>	<p>1. Investigation of working history.</p> <p>2. Review of past history of presence of objective or subjective symptoms such as cough, sputum, chest pain, abnormalities in nasal cavity, dermatological symptoms, etc., resulting from chromic acid or bichromate.</p> <p>3. Examination for presence of objective or subjective symptoms such as cough, sputum, chest pain, etc.</p> <p>4. Examination for presence (or absence) of nasal cavity findings such as abnormalities in nasal membrane, perforation.</p>

		<p>5. Examination for presence of dermatological findings such as dermatitis, ulcers, etc.</p> <p>6. Direct examination of chest with roentgenography for those engaged in work, as provided in item (4) of Article 23 in the Enforcement Order, for more than 4 years.</p>
(16) Work to manufacture or handle chloromethylmethylether (inclusive of chemicals and substances which contain chloromethylmethylether of more than 1% by weight.)	6 months	<p>1. Investigation of working history.</p> <p>2. Review of past history of presence of objective or subjective symptoms such as cough, sputum, chest pain, body weight loss, etc., resulting from chloromethylmethylether.</p> <p>3. Examination for presence of objective or subjective symptoms such as cough, sputum, chest pain, body weight loss, etc.</p> <p>4. Direct examination of chest with roentgenography.</p>
(17) Work to manufacture or handle vanadium pentoxide (inclusive of chemicals and substances which contain vanadium pentoxide of more than 1% by weight.)	6 months	<p>1. Investigation of working history.</p> <p>2. Review of past history of presence of objective or subjective symptoms such as respiratory symptoms, etc., resulting from vanadium pentoxide.</p> <p>3. Examination for presence of objective or subjective symptoms such as cough, sputum, chest pain, dyspnea, tremor in fingers, dermatological pallidness, green tongue, cornification of the palm of fingertips, etc.</p> <p>4. Measurement of lung capacity.</p> <p>5. Measurement of blood pressure levels.</p>
(18) Work to manufacture or handle coal tar (inclusive of chemicals or substances which contain coal tar of more than 5% by weight.)	6 months	<p>1. Investigation of working history.</p> <p>2. Review of past history of presence of objective or subjective symptoms such as gastrointestinal symptoms, respiratory symptoms, dermatological symptoms, etc.</p>

		<p>resulting from coal tar.</p> <p>3. Examination for presence of objective or subjective symptoms such as poor appetite, cough, sputum, ophthalmologic pain, etc.</p> <p>4. Examination for presence of dermatological findings such as dermatitis in exposed sites, acne changes, melanosis, vernica, ulcers, gaseous spots, etc.</p> <p>5. Direct examination of chest with roentgenography for those engaged in work, as provided in item (6) of Article 23 in the Enforcement Order, for more than 5 years.</p>
<p>(19) Work to manufacture or handle arsenic trioxide (inclusive of chemicals or substances which contain arsenic trioxide of more than 1% by weight.)</p>	<p>6 months</p>	<p>1. Investigation of working history.</p> <p>2. Review of past history of presence of objective or subjective symptoms such as abnormalities in nasal membrane, respiratory symptoms, stomatitis, diarrhea, constipation, body weight loss, abnormal senses, etc. resulting from arsenic trioxide.</p> <p>3. Examination for presence of objective or subjective symptoms such as cough, sputum, poor appetite, body weight loss, abnormal senses, etc.</p> <p>4. Examination for presence of nasal cavity findings such as abnormalities in nasal membrane, perforation in nasal cavity, etc.</p> <p>5. Examination for dermatological findings such as dermatitis, pigmentation, depigmentation, cornification, etc.</p> <p>6. Testing for urinary urobilinogen levels.</p> <p>7. Direct examination of chest with roentgenography for those engaged in work, as provided in item (5) of Article 23 in the Enforcement Order, for more than 5 years.</p>
<p>(20) Work to manufacture or handle the substances given below.</p>	<p>6 months</p>	<p>1. Investigation of working history.</p>

<p>1) Potassiumcyanide. 2) Hydrogencyanide. 3) Sodiumcyanide. 4) Chemicals and substances containing more than 5% by weight of the chemicals and substances listed in 1) or 3). 5) Chemicals and other substances containing more than 1% by weight of the substance listed in 2).</p>		<p>2. Investigation of working conditions. 3. Review of past history of presence of objective or subjective symptoms such as heaviness in the head, headache, fatigue, malaise, hyperemia of conjunctiva, abnormaltaste, gastrointestinal symptoms, etc. 4 Examination for presence of objective or subjective symptoms such as heaviness in the head, headache, fatigue, malaise, hyperemia ofconjunctiva, abnormal taste, gastrointestinal symptoms, etc. 5 Testing of urinary urobilinogen levels.</p>
<p>(21) Work to manufacture or handle 3,3'-dichloro-4,4'-diaminodiphenylmethane (inclusive of substances which contain 3,3'-dichloro-4,4'-diaminodiphenylmethane of more than 1% by weights.)</p>	<p>6 months</p>	<p>1. Investigation of working history. 2. Review of past history of presence of objective or subjective symptoms such as abnormalities in upper abdomen, malaise, cough, sputum, chest pain, haematuria, etc., resulting from 3-3'-dichloro-4-4'diaminodiphenylmethane. 3. Examination for presence of objective or subjective symptoms such as abnormalities in upper abdomen, malaise, cough, sputum, chest pain, haematuria, etc. 4. Hepatic functional examination.</p>
<p>(22) Work to manufacture or handle methyl bromide (inclusive of chemicals or substances which contain methyl bromide of more than 1% by weight.)</p>	<p>6 months</p>	<p>1. Investigation of working history. 2. Review of past history of presence of objective or subjective symptoms such as heaviness in the head, headache, dizziness, tearing, rhinitis, throat pain, cough, poor appetite, nausea, vomiting, abdominal pain, diarrhea, paresthesia in upper and lower extremities, decreased sight, decreased memory, dysarthria, increased reflex in tendon, disturbances in gait, etc., resulting from methyl bromide. 3. Examination for presence of objective or subjective symptoms such as heaviness in</p>

		<p>the head, headache, dizziness, poor appetite, paresthesia in upper and lower extremities, decreased sight, decreased memory, dysarthria, increased reflex in tendon, disturbances in gait, etc.</p> <p>4 Examination for the presence of dermatological findings.</p>
(23) Work to manufacture or handle mercury or its inorganic compounds (inclusive of chemicals and substances which contain mercury or its inorganic compounds of more than 1% by weight.)	6 months	<p>1. Investigation of working history.</p> <p>2. Review of past history of presence of objective or subjective symptoms such as headache, insomnia, tremor in fingers, oliguria, polyuria, inflammation of gums, stomatitis, etc., resulting from mercury or its inorganic compounds.</p> <p>3. Examination for presence of objective or subjective symptoms such as headache, insomnia, tremor in fingers, oliguria, polyuria, inflammation of gums, stomatitis, etc., resulting from mercury or its inorganic compounds.</p> <p>4. Examination for presence of urinary occult blood and protein.</p>
(24) Work to manufacture or handle trilediisocyanate (inclusive of chemicals and other substances which contain trilediisocyanate of more than 1% by weight.)	6 months	<p>1. Investigation of working history.</p> <p>2. Review of past history of presence of objective or subjective symptoms such as headache, ophthalmologic pain, nasal pain, throat pain, abnormal feeling in throat, cough, sputum, sense of chest compression, shortness of breath, chest pain, dyspnea, general malaise, mucous inflammation in eyes, nose, or throat, body weight loss, allergic asthma, etc., resulting from trilediisocyanate.</p> <p>3. Examination for presence of objective or subjective symptoms such as heaviness in the head, headache, ophthalmologic pain, nasal pain, throat pain, abnormal feeling in throat, cough, sputum, chest compression sense, shortness of breath, chest pain, dyspnea, general malaise, mucous</p>

		<p>inflammation in eyes, nose or throat, body weight loss, allergic asthma, etc.</p> <p>4. Examination for presence of dermatological findings such as dermatitis.</p>
(25) Work to manufacture or handle nickel carbonyl (inclusive of chemicals and other substances which contain nickel carbonyl of more than 1% by weight.)	6 months	<p>1. Investigation of working history.</p> <p>2. Review of past history of presence of objective or subjective symptoms such as headache, dizziness, nausea, vomiting, cough, chest pain, dyspnea, itching, abnormalities in nasal mucous membrane, etc. resulting from nickel carbonyl.</p> <p>3. Examination for presence of objective or subjective symptoms such as headache, dizziness, nausea, vomiting, cough, chest pain, dyspnea, itching, abnormalities in nasal mucous membrane, etc.</p>
	1 year	Direct examination of chest with roentgenography.
(26) Work to manufacture or handle nitroglycol (inclusive of chemicals and other substances which contain nitroglycol of more than 1% by weight.)	6 months	<p>1. Investigation of working history.</p> <p>2. Review of past history of presence of objective or subjective symptoms such as headache, abnormal feeling in the chest, cardiac symptoms, paresthesia in upper and lower extremities, cooling sensation, neuralgia, malaise, etc. resulting from nitroglycol.</p> <p>3. Examination for presence of objective or subjective symptoms such as heaviness in the head, headache, stiffness in shoulders, abnormal feeling in the chest, cardiac symptoms, paresthesia in upper and lower extremities, cooling sense, neuralgia, malaise, gastrointestinal symptoms, etc.</p> <p>4. Measurement of blood pressure levels.</p> <p>5. Testing of blood in respect to its total specific gravity, and erythrocytic systems covering blood count of red blood cells, etc.</p>

<p>(27) Work to manufacture or handle P-nitrochlorobenzene (inclusive of chemicals or substances which contain P-nitrochlorobenzene of more than 5% by weight.)</p>	<p>6 months</p>	<ol style="list-style-type: none"> 1. Investigation of working history. 2. Review of past history of presence of objective or subjective symptoms such as heaviness in the head, headache, dizziness, malaise, fatigue, facial pallidness, cyanosis, anemia, palpitations, coloured urine, etc. 3. Examination for presence of objective or subjective symptoms such as heaviness in the head, headache, dizziness, malaise, fatigue, facial pallidness, cyanosis, anemia, palpitation, coloured urine, etc. 4. Testing for urinary urobilinogen.
<p>(28) Work to manufacture or handle hydrogen fluoride (inclusive of chemicals or substances which contain hydrogen fluoride of more than 5% by weight.)</p>	<p>6 months</p>	<ol style="list-style-type: none"> 1. Investigation of working history. 2. Review of past history of presence of objective or subjective symptoms such as respiratory symptoms, ophthalmologic symptoms, etc., resulting from hydrogen fluoride. 3. Examination for presence of objective or subjective symptoms such as mucous inflammation of the eyes, nose or mouth, change in tooth colour, etc. 4. Examination for presence of dermatological findings such as dermatitis. 5. Testing for urinary urobilinogen.
<p>(29) Work to manufacture or handle β-propiolactone (inclusive of chemicals and substances which contain β-propiolactone of more than 1% by weight.)</p>	<p>6 months</p>	<ol style="list-style-type: none"> 1. Investigation of working history. 2. Review of past history of presence of objective or subjective symptoms such as cough, sputum, chest pain, body weight loss, etc. resulting from β-propiolactone. 3. Examination for presence of objective or subjective symptoms such as cough, sputum, chest pain, body weight loss, etc. 4. Examination for dermatological findings such as dermatitis in exposed sites.

		5. Direct examination of chest with roentgenography.
(30) Work to manufacture or handle benzene, etc.	6 months	<ol style="list-style-type: none"> 1. Investigation of working history. 2. Review of past history of presence of objective or subjective symptoms such as heaviness in the head, headache, dizziness, palpitation, malaise, paresthesia in upper and lower extremities, poor appetite, bleeding tendency, etc. resulting from benzene. 3. Examination for presence of objective or subjective symptoms such as heaviness in the head, headache, dizziness, palpitation, malaise, paresthesia in upper and lower extremities, poor appetite, etc. 4. Testing of blood in respect to the total specific gravity, and erythrocytic systems covering blood count of red blood cells, etc. 5. Testing for blood count of white blood cells.
(31) Work to manufacture or handle pentachlorophenol (otherwise called PCP) or its sodium salts (inclusive of chemicals and substances which contain pentachlorophenol and its sodium salts of more than 1% by weight.)	6 months	<ol style="list-style-type: none"> 1. Investigation of working history. 2. Review of past history of presence of objective or subjective symptoms such as cough, sputum, throat pain, irritation in throat, headache, dizziness, easy fatigability, malaise, gastrointestinal symptoms such as poor appetite, preference for sweet materials, excessive sweating, fever, palpitation, ophthalmologic pain, itching, etc., resulting from pentachlorophenol or its sodium salts. 3. Examination for presence of objective or subjective symptoms such as cough, sputum, throat pain, irritation in throat, headache, dizziness, easy fatigability, malaise, gastrointestinal symptoms such as poor appetite, preference for sweets, excessive sweating, ophthalmologic pain, itching, etc.

		<p>4. Examination for presence of dermatological findings such as dermatitis, etc.</p> <p>5. Measurement of blood pressure levels.</p> <p>6. Testing of urinary sugar and urobilinogen.</p>
(32) Work to manufacture or handle manganese or its compounds (inclusive of manganese or its compounds)	6 months	<p>1. Investigation of working history.</p> <p>2. Review of past history of presence of objective or subjective symptoms such as cough, sputum, mask-like faces, salve faces, ptyalismus, abnormal sweating, tremors in the fingers, unskillful lettering, disturbances in gait, disturbances of involuntary motion, dysarthria, etc., as in Parkinson's syndrome.</p> <p>3. Examination for presence of cough, sputum, mask-like face, salve faces, ptyalismus abnormal sweating, tremor in fingers, unskillful lettering, disturbances in gait, disturbances of involuntary motion, dysarthria as symptoms as in Parkinson's syndrome.</p> <p>4. Measurement of grasping power.</p>
(33) Work to manufacture or handle methyl iodide (inclusive of chemicals and other substances which contain methyl iodide of more than 1%)	6 months	<p>1. Investigation of working history.</p> <p>2. Review of past history of presence of objective or subjective symptoms such as heaviness in the head, dizziness, sleepiness, nausea, vomiting, malaise, dimness of sight, etc., resulting from methyl iodide.</p> <p>3. Examination for presence of objective or subjective symptoms such as heaviness in the head, dizziness, sleepiness, nausea vomiting, malaise, dimness of sight, etc.</p> <p>4. Examination for presence of dermatological findings such as dermatitis.</p>
(34) Work to manufacture or handle hydrogen sulfide (inclusive of chemicals and other substances	6 months	<p>1. Investigation of working history.</p> <p>2. Review of past history of presence of</p>

<p>which contain hydrogen sulfide of more than 1% by weight.)</p>		<p>objective or subjective symptoms such as respiratory symptoms, ophthalmologic symptoms, etc., resulting from hydrogen sulfide.</p> <p>3. Examination for presence of objective or subjective symptoms such as headache, sleeplessness, easy fatigability, dizziness, easy excitability, nausea, cough, upper respiratory tract irritation, gastrointestinal symptoms, abnormalities in conjunctiva and cornea, changed teeth.</p>
<p>(35) Work to manufacture or handle dimethyl sulfide (inclusive of chemicals and other substances which contain dimethyl sulfide of more than 1% by weight.)</p>	<p>6 months</p>	<p>1. Investigation of working history.</p> <p>2. Review of past history of presence of objective or subjective symptoms such as respiratory symptoms, ophthalmologic symptoms, dermatological symptoms, etc., resulting from dimethyl sulfide.</p> <p>3. Examination for presence of objective or subjective symptoms such as cough, sputum, hoarseness, tearing, abnormalities in conjunctiva and cornea, senses of powerlessness, gastrointestinal symptoms, etc.</p> <p>4. Examination for presence of dermatological findings such as dermatitis, etc.</p> <p>5. Testing of urinary urobilinogen or protein.</p>
<p>(36) Work to manufacture or handle the substances given below, for use in experimentation and research. 1) 4-aminodiphenyl and its salts. 2) 4-nitrodiphenyl and its salts. 3) Chemicals and other substances which contain substances listed in items 1) and 2) more than 1% by weight. .</p>	<p>6 months</p>	<p>1. Investigation of working history.</p> <p>2. Review of past history of presence of objective or subjective symptoms such as hematuria, pollakysuria, pain on urination, etc.</p> <p>3. Examination for presence of objective or subjective symptoms such as hematuria, pollakysuria, pain on urination, etc.</p> <p>4. Microscopic examination of urine sediment (cytological examination by the</p>

	Papanicolaou technique on urine sediment when found necessary by medical doctors.)
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Attached Table 4 (related to Article 39)

Type of work	Items
<p>(1) Work to manufacture or handle the substances given below.</p> <p>1) Benzidine or its salts 2) β-naphthylamine and its salts. 3) α-naphthylamine and its salts. 4) P-dimethylaminoazobenzene. 5) Chemicals and other substances which contain substances listed in items 1) to 4) of more than 1% by weight.</p>	<p>1. Investigation into working conditions.</p> <p>2. Cystoscopy or pyelography, when found necessary by medical doctors.</p>
<p>(2) Work to manufacture or handle the substances given below.</p> <p>1) Dichlorobenzidine or its salts. 2) O-tolidine and its salts. 3) Dianisidine and its salts. 4) Magenta. 5) Chemicals and other substances which contain substances listed in items 1) to 4) of more than 1% by weight.</p>	<p>1. Investigation into working conditions.</p> <p>2. Cystoscopy, when found necessary by medical doctors.</p>
<p>(3) Work to manufacture or handle bis (chloromethyl) ether (inclusive of chemicals and other substances which contain bis (chloromethyl) ether of more than 1% by weight.</p>	<p>1. Investigation into working conditions.</p> <p>2. Examination of chest with specified roentgenography, cytological examination on sputum or bronchoscopy when found necessary by medical doctors.</p>
<p>(4) Work to manufacture or handle chlorinated biphenyl, etc.</p>	<p>1. Investigation into working conditions.</p> <p>2. Blood testing of erythrocytic system such as total specific gravity, blood count of red blood cells, etc.</p> <p>3. Testing for blood count of white blood cells.</p> <p>4. Hepatic functional examination.</p>

<p>(5) Work to manufacture or handle beryllium, etc.</p>	<ol style="list-style-type: none"> 1. Investigation into working conditions. 2. Chest physical examination. 3. Pulmonary ventilation function examination. 4. Pulmonary functional diffusion examination, ECC, measurement of urinary or blood beryllium levels, dermatological patching test, or measurement of hematocrit values, when found necessary by medical doctors.
<p>(5-2) Work to manufacture or handle benzotrichloride (inclusive of chemicals and other substances which contain benzotrichloride of more than 0.5% by weight.)</p>	<ol style="list-style-type: none"> 1. Investigation into working conditions. 2. Examination of chest with specified roentgenography, cytological examination on sputum, bronchoscopy, examination with cerebral roentgenography, etc., blood testing (inclusive of blood clinical pictures), histopathological examination of lymphatic gland or dermatological histopathological examination, when found necessary by medical doctors.
<p>(6) Work to manufacture or handle acrylamide (inclusive of chemicals and other substances which contain acrylamide of more than 1% by weight.)</p>	<ol style="list-style-type: none"> 1. Investigation into working conditions. 2. Medical and neurological examination of peripheral nerves.
<p>(7) Work to manufacture or handle acrylonitrile (inclusive of chemicals and other substances which contain acrylonitrile of more than 1% by weight.)</p>	<ol style="list-style-type: none"> 1. Investigation into working conditions. 2. Measurement of plasma cholinesterase action values. 3. Hepatic functional examination.
<p>(8) Work to manufacture or handle alkyl mercury compounds (inclusive of chemicals and other substances which contain alkyl mercury compounds of more than 1% by weight.)</p>	<ol style="list-style-type: none"> 1. Investigation into working conditions. 2. Measurement of blood and urinary mercury levels. 3. Examination for presence of stenosis of visual fields. 4. Checking hearing. 5. Medical neurological examination of

	<p>abnormal senses, Rombergsign, inability to do repeatedly antagonistic motions, etc.</p> <p>6. EMG and EEG when found necessary by medical doctors in a case in which abnormal neurological findings are noted.</p>
(9) Work to manufacture or handle asbestos, etc.	<p>1. Investigation into working conditions.</p> <p>2. When the results of direct examination of chest with roentgenography show abnormal shadows (exclusive of fibrous growth change), examination of chest with specific roentgenography, cytological examination on sputum, and bronchoscopy, when found necessary by medical doctors.</p>
(10) Work to manufacture or handle ethyleneimine (inclusive of chemicals and other substances which contain ethyleneimine of more than 1% by weight.)	<p>1. Investigation into working conditions.</p> <p>2. Counting of bone marrow cells.</p> <p>3. Examination of chest with direct or specific roentgenography, cytological examination, bronchoscopy or renal functional examination, when found necessary by medical doctors.</p>
(11) Work to manufacture or handle vinyl chloride (inclusive of chemical and other substances which contain vinyl chloride of more than 1% by weight.)	<p>1. Investigation into working conditions.</p> <p>2. Testing for platelet counts, gamma gultamyltraspepitase (?A-GTP) and Kunkel's reactions (ZTT) when hepatomegaly or splenomegaly are noted.</p> <p>3. Examination with dianogreen method (ICG), testing for lactate dehydrogenase (LDH), testing for serum lipid levels, etc., examination with specific roentgenography, examination of liver or spleen with scintigram, and medical neurological examination of central nervous systems, when found necessary by medial doctors.</p>
(12) Work to manufacture or handle chlorine (inclusive of chemicals and other substances which contain chlorine of more than 1% by weight.)	<p>1. Investigation into working conditions.</p> <p>2. Chest physical examination or examination of chest with direct roentgenography.</p>

	3. Pulmonary ventilation function examination when objective or subjective symptoms are noted in respiratory organs.
(13) Work to manufacture or handle auramine (inclusive of the chemicals and other substances which contain auramine of more than 1% by weight.)	<ol style="list-style-type: none"> 1. Investigation into working conditions. 2. Cystoscopy or hepatic functional examination, when found necessary by medical doctors.
(14) Work to manufacture or handle O-phthalodinitrile (inclusive of chemicals and other substances which contain O-phthalodinitrile of more than 1% by weight.)	<ol style="list-style-type: none"> 1. Investigation into working conditions. 2. Blood testing of erythrocytic system covering total specific gravity, blood count of red blood cells, etc. 3. EEG when abnormal findings such as epilepsy-like attack are noted in cerebral nervous systems. 4. Hepatic functional tests or measurement of urinary phthalic acid levels when gastrointestinal symptoms are noted and when found necessary by medical doctors.
(15) Work to manufacture or handle cadmium or its compounds (inclusive of chemicals and other substances which contain cadmium of more than 1% by weight.)	<ol style="list-style-type: none"> 1. Investigation into working conditions. 2. Measurement of urinary cadmium levels. 3. Chest physical examination and pulmonary ventilation function examination when objective or subjective symptoms are noted in respiratory organs. 4. Urine sedimentation tests, measurement of urinary protein levels, and renal functional examinations when urinary protein is noted.
(16) Work to manufacture or handle chromic acid, etc.	<ol style="list-style-type: none"> 1. Investigation into working conditions. 2. Examination of chest with direct or specific roentgenography, cytological examination on sputum, bronchoscopy or dermatological pathological examination, when found necessary by medical doctors.
(17) Work to manufacture or handle chloromethylmethylether (inclusive of chemicals and substances which contain chloromethylmethylether of more than 1%	<ol style="list-style-type: none"> 1. Investigation into working conditions. 2. Examination of chest with direct or specific roentgenography, cytological

by weight.)	examination on sputum, or bronchoscopy, when found necessary by medical doctors.
(18) Work to manufacture or handle vanadium pentoxide (inclusive of chemicals and other substances which contain vanadium pentoxide of more than 1% by weight.)	<ol style="list-style-type: none"> 1. Investigation into working conditions. 2. Examination of sight. 3. Chest physical examination or examination of chest with direct roentgenography. 4. Examination of pulmonary ventilation functions, measurement of serum cholesterol or triglyceride, or measurement of urinary vanadium, when found necessary by medical doctors.
(19) Work to manufacture or handle coal tar (inclusive of chemicals and other substances which contain coal tar of more than 5% by weight.)	<ol style="list-style-type: none"> 1. Investigation into working conditions. 2. Examination of chest with direct or specific roentgenography, cytological examination on sputum, bronchoscopy, or dermato-pathological examination, when found necessary by medical doctors.
(20) Work to manufacture or handle arsenic trioxide (inclusive of chemicals and other substances which contain arsenic trioxide of more than 1% by weight.)	<ol style="list-style-type: none"> 1. Investigation into working conditions. 2. Examination of chest with direct or specific roentgenography, measurement of hair or urinary arsenic levels, hepatic functional test, blood testing of erythrocytic system, cytological examination on sputum, bronchoscopy, or dermato-pathological examination, when found necessary by medical doctors.
(21) Work to manufacture or handle 3,3' - dichloro-4,4' - diaminodiphenyl methane (inclusive of chemicals and other substances which contain 3,3' -dichloro-4,4' - diaminodiphenyl methane of more than 1% by weight.)	<ol style="list-style-type: none"> 1. Investigation into working conditions. 2. Examination of chest with direct or specific roentgenography, cytological examination on sputum, bronchoscopy, or renal functional examination, when found necessary by medical doctors.
(22) Work to manufacture or handle methyl bromide (inclusive of chemicals and substances which contain methyl bromide of more than 1% by weight.)	<ol style="list-style-type: none"> 1. Investigation into working conditions. 2. Examination of motor function, visual acuity, visual field, or EEG, when found necessary by medical doctors.

<p>(23) Work to manufacture or handle mercury or its inorganic compounds (inclusive of chemicals and other substances which contain mercury or its inorganic compounds of more than 1% by weight.)</p>	<ol style="list-style-type: none"> 1. Investigation into working conditions. 2. Neurological examination. 3. Measurement of urinary mercury levels and urinary sediments tests.
<p>(24) Work to manufacture of handle trilediisocyanate (inclusive of chemicals and other substances which contain trilene- diisocyanate of more than 1% by weight.)</p>	<ol style="list-style-type: none"> 1. Investigation into working conditions. 2. Physical examination of chest, examination of chest with direct roentgenography, or examination of occlusive changes of respiratory functions when existing subjective or objective symptoms of lungs are noted. 3. Hepatic function tests, renal function tests, or examination of allergic reaction when found necessary by medical doctors.
<p>(25) Work to manufacture or handle nickel carbonyl (inclusive of chemicals and other substances which contain nickel carbonyl of more than 1% by weight.)</p>	<ol style="list-style-type: none"> 1. Investigation into working conditions. 2. Examination of pulmonary ventilation functions. 3. Physical examination of chest. 4. Measurement of urinary or blood nickel levels when found necessary by medical doctors.
<p>(26) Work to manufacture or handle nitroglycol (inclusive of chemicals and other substances which contain nitroglycol of more than 1% by weight.)</p>	<ol style="list-style-type: none"> 1. Investigation into working conditions. 2. Measurement of urinary or blood nitroglycol levels. 3. Blood testing on the two items out of the measurement of hematocrit values, blood count of red blood cells and measurement of hemoglobin, when abnormalities were found as a result of the testing of blood total specific gravity. 4. Testing for the presence of urinary urobilinogen and of protein.

	<p>5. Examination with ECG.</p> <p>6. Examination of automatic nervous systems (exclusive of that conducted with drugs), hepatic functional examination, and circulatory functional examination when found necessary by medical doctors.</p>
<p>(27) Work to manufacture or handle P-nitrochlorobenzene (inclusive of chemicals and other substances which contain P-nitrochlorobenzene of more than 5% by weight.)</p>	<p>1. Investigation into working conditions.</p> <p>2. Blood testing of erythrocytic system covering blood total specific gravity, blood count of red blood cells, reticulocytes count, methemoglobin levels and the presence of Heinz body.</p> <p>3. Testing for urinary occult blood.</p> <p>4. Hepatic function examination.</p> <p>5. Neurological examination.</p> <p>6. Measurement of urinary aniline or P-aminophenol or measurement of metabolites in blood such as nitrosoamine and hydroxyamine, aminophenol, quinone-imine, etc., when found necessary by medical doctors.</p>
<p>(28) Work to manufacture or handle hydrogen fluoride (inclusive of chemicals and other substances which contain hydrogen fluoride of more than 5% by weight.)</p>	<p>1. Investigation into working conditions.</p> <p>2. Chest physical examination or examination of chest with direct roentgenography.</p> <p>3. Blood testing of erythrocytic system covering total blood specific gravity, blood count of red blood cells, etc.</p> <p>4. Measurement of bleeding time, examination of long bones with roentgenography, hepatic function examination, measurement of urinary fluorine, or measurement of blood acidic phosphatase or calcium when found necessary by medical doctors.</p>

<p>(29) Work to manufacture or handle β-propiolactone (inclusive of chemicals and other substances which contain betapropiolactone of more than 1% by weight)</p>	<ol style="list-style-type: none"> 1. Investigation into working conditions. 2. Examination of chest with specific roentgenography, cytological examination on sputum, bronchoscopy, and dermatopathological examination when found necessary by doctors.
<p>(30) Work to manufacture or handle benzene, etc.</p>	<ol style="list-style-type: none"> 1. Investigation into working conditions. 2. Scanning in terms of blood covering blood pictures and others. 3. Neurological examination.
<p>(31) Work to manufacture or handle pentachlorophenol (otherwise called PCP) or its sodium salts (inclusive of chemicals and other substances which contain pentachlorophenol of more than 1% by weight)</p>	<ol style="list-style-type: none"> 1. Investigation into working conditions. 2. Chest physical examination and examination of chest with direct roentgenography when objective or subjective symptoms are noted in respiratory organs. 3. Hepatic function examination. 4. Blood count of white blood cells. 5. Measurement of urinary pentachlorophenol, when found necessary by medical doctors.
<p>(32) Working to manufacture or handle manganese or its compounds (inclusive of chemicals and other substances which contain manganese or its compounds of more than 1% by weight)</p>	<ol style="list-style-type: none"> 1. Investigation into working conditions. 2. Chest physical examination and examination of chest with direct roentgenography when objective or subjective symptoms are noted in respiratory organs. 3. Neurological examination for Parkinson's-syndrome-like symptoms. 4. Measurement of urinary or blood manganese levels, when found necessary by medical doctors.
<p>(33) Work to manufacture or handle methyl iodide (inclusive of chemicals and other substances which contain methyl</p>	<ol style="list-style-type: none"> 1. Investigation into working conditions. 2. Ophthalmologic examination, motor

iodide of more than 1% by weight)	neuron function examination, or neurological examination when found necessary by medical doctors.
(34) Work to manufacture or handle hydrogen sulfide (inclusive of chemicals and other substances which contain hydrogen sulfide of more than 1% by weight)	<ol style="list-style-type: none"> 1. Investigation into working conditions. 2. Chest physical examination or examination of chest with direct roentgenography.
(35) Work to manufacture or handle dimethyl sulfide (inclusive of chemicals and other substances which contain dimethyl sulfide of more than 1% by weight)	<ol style="list-style-type: none"> 1. Investigation into working conditions. 2. Chest physical examination or examination of chest with direct roentgenography. 3. Hepatic function tests, renal function tests or examination of pulmonary ventilation functions, when found necessary by medical doctors.
(36) Work to manufacture or handle the chemicals given below, for use in experimentation and research. 1) 4-aminodiphenyl and its salts. 2) 4-nitrodiphenyl and its salts. 3) Chemicals and other substances which contain substances listed in 1) and 2) of more than 1% by weight.	<ol style="list-style-type: none"> 1. Investigation into working conditions. 2. Cystoscopy or pyelography, when found necessary by medical doctors.

Attached Table 5 (related to Article 39)

- (1) Chemicals and other substances containing asbestos (exclusive of amosite and crocidolite, the same shall apply below in this item), provided that this does not apply in respect to substances which contain asbestos of 1% or less by weight.
- (2) Chemicals and other substances containing ethyleneimine, provided that this does not apply in respect to substances which contain ethyleneimine of 5% or less by weight.
- (3) Chemicals and other substances containing vinyl chloride, provided that this does not apply in respect to substances which contain vinyl chloride of 1% or less by weight.
- (4) Chemicals and other substances containing auramine, provided that this does not

apply in respect to substances which contain auramine of 1% or less by weight.

(5) Chemicals and other substances containing chromic acid or its salts, provided that this does not apply in respect to substances which contain chromic acid or its salts of 1% or less by weight.

(6) Chemicals and other substances containing chloromethylmethylether, provided that this does not apply in respect to substances which contain chloromethylmethylether of 1% or less weight.

(7) Chemicals and other substances containing coal tar, provided that this does not apply in respect to substances which contain coal tar of 5% or less by weight.

(8) Chemicals and other substances containing arsenic trioxide, provided that this does not apply in respect to substances which contain arsenic trioxide of 1% or less weight.

(9) Chemicals and other substances containing 3,3'-dichloro-4,4'-diaminodiphenylmethane, provided that this does not apply in respect to substances which contain 3,3'-dichloro-4,4'-diaminodiphenylmethane of 1% or less by weight.

(10) Chemicals and other substances containing dichromic acid or its salts, provided that this does not apply in respect to substances which contain dichromic acid or its salts of 1% or less by weight.

(11) Chemicals and other substances containing nickel carbonyl, provided that this does not apply in respect to substances which contain nickel carbonyl of 1% or less by weight.

(12) Chemicals and other substances containing P-dimethylaminoazobenzene, provided that this does not apply in respect to substances which contain P-dimethylaminoazobenzene of 1% or less by weight.

(13) Chemicals and other substances containing α -propiolactone, provided that this does not apply in respect to substances which contain α -propiolactone of 1% or less by weight.

(14) Chemicals and other substances containing benzene, provided that this does not apply in respect to substances which contain benzene of 1% or less by weight.

(15) Chemicals and other substances containing magenta, provided that this does not apply in respect to substances which contain magenta of 1% or less by weight.

(Deleted)

Notice on Performance, as Provided by the Minister of Labour on the Basis of item (5) of Article 7 and f) of item (7) in paragraph 1 of Article 50 of the Ordinance on Prevention of Hazards Due to Specified Chemical Substances, etc.

Ministry of Labour Notice No. 75 (September 30, 1975)

Revised into Notice 26, March 25, 1976.

The performance standards given below are established by the Minister of Labour in relation to item (5) of Article 7 (inclusive of the cases in which paragraph 2 of Article 38-12 is applicable to the said item) and to f) of item (7) in paragraph 1 of Article 50 (inclusive of the cases in which paragraph 2 of Article 50-2 is applicable to this item) of the Ordinance on Prevention of Hazards Due to Specified Chemical Substances.

(1) In terms of local exhaust ventilation systems installed in workshops therefrom to disperse gases, vapour, or dust resulting from the substances listed in (3) or (6) of item 1, or the substances as described in (8) of the same item which are related to (3) or (6) of the same item, or the substances listed in (1) to (7) inclusive, (9) to (11) inclusive, (13) to (18) inclusive, (20) to (25) inclusive, (27), (28), (30), (31) or (33) to (36) inclusive of item 2 of Attached Table 3 of the Enforcement Order of the Industrial Safety and Health Law, or the substances listed in item (1) to (7) inclusive, (9) to (11) inclusive, (13) to (18) inclusive, (20) to (25) inclusive, (27) (28), (30), (31) or (33) to (36) inclusive of Attached Table 1 of the Ordinance on Prevention of Hazards Due to Specified Chemical Substances, the concentrations of substances, as described in (3) or (6) of item 1 of Attached Table 3 of the Enforcement Order of the Industrial Safety and Health Law or the substances listed in (1) to (7), (9) to (11) inclusive, (13) to (18) inclusive, (20) to (25) inclusive, (27), (28), (30), (31) or (33) to (36) inclusive of item 2 of Attached Table 3 of the said Enforcement Order outside the hoods of local exhaust ventilation systems shall be not more than the values as established in the right column of the Table as given below corresponding to the types of the substances listed in the

left column of the same Table.

Types of substances	Values
Chlorinated biphenyl (otherwise known as PCB)	0.5 mg.
Beryllium and its compounds	0.002 mg.
Acrylamide	0.3 mg.
Acrylonitrile	45 mg. or 20 cm ³
Alkyl mercury compounds (restricted to the substances in which the alkyl radicals are methyl or ethyl radicals).	0.01 mg.
Asbestos	5
Ethyleneimine	1 mg. or 0.5 cm ³
Vinyl chloride	2 cm ³
Chlorine	3 mg. or 1 cm ³
O-Phthalodinitrile	0.1 mg.
Cadmium and its compounds	0.05 mg.
Chromic acid and its salts	0.1 mg.
Vanadium pentoxide	In terms of substances in powder: 0.5 mg., In terms of substances in gaseous form: 0.05 mg.
Coal tar	0.2 mg.
Arsenic trioxide	0.5 mg.
Potassium cyanate	5 mg.
Hydrogen cyanate	11 mg. or 10cm ³
Sodium cyanate	5 mg.
Methyl bromide	60 mg. or 15 cm ³
Dichromic acid and its salts	0.1 mg.
Mercury and its inorganic compounds (exclusive of mercurysulfide)	0.05 mg.
Trilenediisocyanate	0.12 mg. or 0.02 cm ³
Nickel carbonyl	0.007 mg. or 0.001 cm ³
Nitroglycol	1.2mg. or 0.2cm ³
P-Nitrochlorobenzene	1 mg.
Hydrogen fluoride	2 mg. or 3 cm ³
Benzene	30 mg. or 10 cm ³
Pentachlorophenol (otherwise known as PCP) and its sodium salts	0.5 mg.
Manganese and its compounds (exclusive of basic manganese oxides)	5 mg.

Methyl iodide	28 mg. or 5 cm ³
Hydrogen sulfide	15 mg. or 10 cm ³