

## Ordinance on Prevention of Organic Solvent Poisoning

The Ministry of Labour Ordinance No. 36, September 30, 1972

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### Chapter I. General Provisions

#### (Definition of Terms)

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

- (1) Organic solvents shall be defined as those listed in Attached Table 6-2 of the Enforcement Order of the Industrial Safety and Health Law (called "the Enforcement Order" hereinafter).
- (2) Organic solvents, etc., shall be defined as organic solvents or those substances which contain organic solvents (mixtures of organic solvents with substances other than organic solvents which contain organic solvents of more than 5% by weight; same applies to item (6)).
- (3) First-class organic solvents, etc., shall be defined as those which are listed below from among organic solvents, etc.:
  - a) Substances listed in items 14, 23, 27, 28, 32, 36 or 38 of Attached Table 6-2 of the Enforcement Order.

- b) Mixtures consisting of those substances specified in a).
  - c) Mixtures of those substances specified in a) with other substances which contain substances specified in a) of more than 5% by weight.
- (4) Second-class organic solvents, etc., shall be defined as those which are listed below:
- a) Substances listed in items 1 through 13, 15 through 22, 24 through 26, 29 through 31, 33 through 35, 37 or 39 through 47 of Attached Table 6-2 of the Enforcement Order.
  - b) Mixtures consisting of those substances specified in a).
  - c) Mixtures of those substances specified in a) with other substances which contain substances specified in a) of this item or a) of the preceding item of more than 5% by weight (excluding those which are specified in c) of the preceding item).
- (5) Third-class organic solvents, etc., shall be defined as organic solvents, etc., other than those which are defined as being of the first and second classes.
- (6) Organic solvent work shall be defined as those types of work listed below:
- a) Work to filter, mix, agitate, heat or pour organic solvents, etc., into containers or equipment in the processes of manufacturing organic solvents, etc.
  - b) Work to filter, mix, agitate or heat organic solvents, etc., in the processes of manufacturing dye stuff, medicinal chemicals, agricultural chemicals, chemical fibers, synthetic resins, organic pigments, oils and fats, perfume, sweeteners, explosives, photographic chemicals, rubber, plasticizers and intermediates thereof.
  - c) Work of printing, making use of organic solvents, etc.
  - d) Work of drawing letters or pictures, making use of organic solvents, etc.
  - e) Work of glazing, water proofing or other surface processing, making use of organic solvents, etc.
  - f) Work of applying organic solvents, etc., for adhesion.
  - g) Work of adhering materials applied with organic solvents, etc.
  - h) Work of washing or purging, making use of organic solvents, etc. (exclusive of the washing work specified in 1).
  - i) Work of coating with organic solvents, etc. (exclusive the coating work specified in 1).
  - j) Work of drying materials that have had organic solvents applied, etc.

k) Work of testing or research making use of organic solvents, etc.

l) Work inside of a tank which once contained organic solvents, etc. (exclusive of those which have no possibility of emitting a vapour of organic solvents, etc.; same applies hereinafter).

2. Given below are the locations defined by the Ministry of Labour Ordinance provided for in item (22) of Article 6 and item (6) of paragraph 1 of Article 22 of the Enforcement Order:

(1) Inside of a ship.

(2) Inside of a vehicle.

(3) Inside of a tank.

(4) Inside of a pit.

(5) Inside of a gallery or shaft (of a mine).

(6) Inside of a tunnel.

(7) Inside of a covered conduit or manhole.

(8) Inside of a box girder.

(9) Inside of a duct.

(10) Inside of a water pipe.

(11) Places where ventilation is insufficient other than Indoor workshops and those which are listed in the preceding items.

(Exemptions of Application)

Article 2. Provisions of Chapter II, Chapter III and Article 19, Article 19-2, Articles 24 through 26 of Chapter IV and Chapter VII and Chapter IX shall not be applied to the work if the said work comes under any of the following classifications when the employer has workers engage in any of the work listed in c) through k) of item (6) of paragraph 1 of the preceding Article.

(1) Of the indoor workshops, etc. (which shall be defined as indoor workshops and the places specified in every item of paragraph 2 of the preceding Article; same applies hereinafter), when workers are engaged in work in places other than inside of a tank, etc. (which shall be defined as inside of a cellar and other insufficiently ventilated workshop, inside of ship hatches, and the other insufficiently ventilated places within a ship, inside of refrigerated freight cars and the other insufficiently ventilated places within freight cars, and those which are specified in (3) through (11) of paragraph 2 of the preceding Article; same applies hereinafter) and when the

quantity of the organic solvents, etc., to be consumed in one working hour does not exceed the quantities obtained by the equations specified in the right column of the following table corresponding to the classifications given in the left column in the same table (the quantity shall be called "permissible consumption of organic solvents, etc." hereinafter).

Classification	Permissible use of organic solvents, etc.
First-class organic solvents, etc.	$W = \frac{1}{15} X A$
Second-class organic solvents, etc.	$W = \frac{2}{5} X A$
Third-class organic solvents, etc.	$W = \frac{3}{2} X A$

Remarks: W and A in the above-stated table stand for the following figures:

W: Permissible consuming quantity of organic solvents, etc. (Unit: g)

A: Gas volume of the workshop (whereas a space located higher than 4 m from the floor is not included; unit:cubic meter), where gas volume exceeding 150 m<sup>3</sup> shall be deemed as 150 m<sup>3</sup>.

(2) When workers are engaged in the said work inside of a tank, and the daily consumption of organic solvents, etc., does not exceed the permissible consumption of the organic solvents, etc.

2. Consumption of organic solvents, etc., Per working hour provided for in item (1) of the preceding paragraph and the daily consumption of organic solvents, etc., provided for in item (2) of the same paragraph shall be specified in the following items corresponding to the respective work classifications. When work specified in g) of item (6) of paragraph 1 of the preceding Article is to be continuously conducted in the same place following the work specified in f) of the same item and when the work specified in j) of the same item is to be continuously conducted in the same place following the work of applying organic solvents, etc., to the material to be dried, the quantities of organic solvents, etc., consumed in the work specified in g) and j), respectively, shall be exempted from the consumption.

(1) For the work specified in any of c) through f) or h), i) or k) of item (6) of the preceding Article: quantity obtained by multiplying a figure separately stipulated by the Minister of Labour by the consumption of organic solvents, etc., during one working hour in the cases of item (1) of the preceding paragraph and during one working day in the cases of item (2) of the same paragraph.

(2) For the work specified in either g) or j) of item (6) of the preceding Article: quantity obtained by multiplying a figure separately stipulated by the Minister of Labour by the quantities of organic solvents either applied to or sticking to materials to be coated or adhered during one

working hour in the cases of item (1) of the preceding paragraph and during one working day in the cases of item (2) of the same paragraph.

Article 3. This Ordinance (exclusive of Article 27 of Chapter IV and Chapter VIII) shall not be applied to work coming under any of the following classifications in the cases that an employer engages his workers in the work listed in c) through k) of item (6) of paragraph 1 of Article 1. In such cases, the employer shall be so recognized by the Chief of the Labour Standards Inspection Office who governs the location of the workplace (hereinafter called "the Chief of the competent Labour Standards Inspection Office").

(1) In cases that workers are engaged in the said work in indoor workshops other than inside of a tank, and when the consumption of organic solvents, etc., per working hour does not exceed the permissible consumption of organic solvents, etc., under a normal situation.

(2) In cases that workers are engaged in the said work inside of a tank or the like, and when the daily consumption of organic solvents, etc., does not exceed the permissible consumption of organic solvents, etc., under any situation.

2. The provisions of the paragraph 2 of the preceding Article shall be applied to the quantity of organic solvents, etc., consumed in one working hour specified in item (1) of the preceding paragraph, and the quantity of organic solvents, etc., consumed in a day specified in item (2) of the same paragraph.

(Procedure of Applying for Recognition)

Article 4. The employer who wants to be recognized as provided for in paragraph 1 of the preceding Article (hereinafter called "recognition") shall file with the Chief of the competent Labour Standards Inspection Office a Petition for Recognition for Partial Exemption of Applying Ordinance on the Prevention of Organic Solvents Poisoning (Form No. 1) attached with a sketch of the workshop.

2. The Chief of the competent Labour Standards Inspection Office who receives such a petition shall notify the said employer whether or not such an exemption was recognized in writing as soon as the decision is made.

3. An employer who receives such recognition, when the recognized work ceases to fall under the stipulation of paragraph 1 of the preceding Article, shall report the fact in writing to the Chief of the competent Labour Standards Inspection Office without delay.

4. The Chief of the competent Labour Standards Inspection Office shall revoke the said recognition as soon as the recognized work does not come under any stipulation of paragraph 1 of the preceding Article or the report as provided for in the preceding paragraph is filed with his office.

## Chapter II. Facilities

(Facilities Pertaining to First or Second-class Organic Solvents, etc.)

Article 5. When the employer has workers engage in organic solvent work pertaining to first or second-class organic solvents, etc., in indoor workshops, etc., (exclusive of the work specified in 1) of item (6) of paragraph 1 of Article 1), the employer shall install equipment to seal up the emission source of organic solvent vapour, a local exhaust ventilation system or a push-pull type ventilation system in the said workshop.

(Facilities Pertaining to Third-class Organic Solvents, etc.)

Article 6. When the employer has workers engage in organic solvent work pertaining to third-class organic solvents, etc. (exclusive of the work specified in 1) of item (6) of paragraph 1 of Article 1 and blast-spraying of organic solvents), the employer shall install equipment to seal up the emission source of organic solvent vapour, a local exhaust ventilation system, a push-pull type ventilation system or a general ventilation system in the said workshop.

2. When the employer has workers engage in blast-application work of third-class organic solvents (exclusive of the work stipulated in item (6) of paragraph 1 of Article 1) inside of a tank, etc., the employer shall install equipment to seal up the emission source of organic solvent vapour, a local exhaust ventilation system or a push-pull type ventilation system in the said workshop.

(Application Exemption in Cases Where an Indoor Workshop is Free of Surrounding Walls)

Article 7. The provisions of Article 5 shall not be applied when the employer has workers engage in organic solvent work in the indoor workshop coming under the following items:

- (1) Two sides or more of the surrounding walls and more than half of the surrounding wall area is directly open to outside air.
- (2) There are no walls or partitions, etc., which impede air ventilation in the said workshop.

(Application Exemption when Organic Solvent Work is Temporarily Made)

Article 8. When the employer, who temporarily carries out organic solvent work has workers engage in the said organic solvent work in indoor workshops, etc., other than inside of a tank, the provision of Article 5 shall not be applied to it.

2. When the employer, who temporarily carries out organic solvent work has workers engage in the said organic solvent work inside of a tank and the like, and installs a general ventilation system, the employer may be exempted from the duty of installing equipment to seal up the emission source of organic solvent vapour, a local exhaust ventilation system or a push-pull type ventilation system regardless the provisions of Article 5 or paragraph 2 of Article 6.

(Special Case for Facilities when Organic Solvent Work is Conducted for a Short Time)

Article 9. When the employer has workers engage in organic solvent work in indoor workshops, etc., other than inside of a tank and the like, and when the time required for such work in the said place is short and when he/she installs a general ventilation system, he/she may be exempted from the duty of installing equipment to seal up the emission source of organic solvent vapour, a local exhaust ventilation system or a push-pull type ventilation system regardless of the provisions of Article 5.

2. When the employer has workers engage in organic solvent work inside of a tank, etc., and when the time required for such work in the said place is short and when he/she provides the workers with air-supplied respirators, he/she may be exempted from the duty of installing equipment to seal up the emission source of organic solvent vapour, a local exhaust ventilation system, a push-pull type ventilation system or a general ventilation system regardless of the provisions of Article 5 and 6.

(Special Case for Places where Local Exhaust Ventilation System is Hard to Install)

Article 10. When the employer has workers engage in organic solvent work for walls, floors and ceilings of an indoor workshop, etc., and when the surface which emits vapour of organic solvents is too large to install equipment provided for in Article 5 or paragraph 2 of Article 6, and when he/she installs a general ventilation system, he/she may be exempted from the duty of installing equipment to seal up the emission source of organic solvent vapour, a local exhaust ventilation system or a push-pull type ventilation system.

(Special Case for Equipment in Indoor Workshops Separated from Other Indoor Workshops)

Article 11. When the employer has workers engage in organic solvent work in an indoor workshop where the reaction chamber or other facility used for organic solvent work is permanently installed and which is separated from other indoor workshops, and in which workers are not required to enter usually, and when he/she installs a general ventilation system, he/she may be exempted from the duty of installing equipment to seal up the emission source of organic solvent vapour, a local exhaust ventilation system or a push-pull type ventilation system, regardless of the provisions of Article 5 or paragraph 2 of Article 6.

(Special Case for Equipment in Connection with Replacing Equipment)

Article 12. The employer, when the case comes under any of the following items, does not have to install equipment to seal up the emission source of organic solvent vapour, local exhaust ventilation system, a push-pull type ventilation system or a general ventilation system, regardless of the provisions of Article 5 or paragraph 1 of Article 6.

(1) When the employer has workers engage in organic solvent work making use of an infrared ray drying oven or other heating equipment, and when he/she installs an exhaust pipe or the like to exhaust organic solvent vapour to the outside of the workshop, making use of ascending air flow so that vapour emitted from the said equipment does not diffuse into the workshop.

(2) When the employer covers the surface of organic solvents in a non-closed vessel with water or installs a counter-flow coagulator at the opening of the vessel so that organic solvent vapour does not diffuse into the workshop.

(Special Case for Facility Pertaining to Approval of the Chief of the Labour Standards Inspection Office)

Article 13. When the employer has workers engage in organic solvent work in an indoor workshop, etc., and when the emitting surface of organic solvent vapour is too large to install equipment provided for in Article 5 or paragraph 2 of Article 6, the employer does not have to install equipment to seal up the emission source of organic solvent vapour or a local exhaust ventilation system or a push-pull type ventilation system, with the approval of the Chief of the competent Labour Standards Inspection Office.

2. The employer who wants to get such approval shall file with the Chief of the competent Labour Standards Inspection Office a petition for approval for exemption from the installation of a local exhaust ventilation system (Form No. 2), with a sketch of the workshop attached.

3. The Chief of the competent Labour Standards Inspection Office who receives such a petition shall notify the said employer whether or not such an exemption was approved in writing as soon as the decision is made.

### Chapter III. Performance of Ventilation Systems

(Hood, etc., of Local Exhaust Ventilation Systems)

Article 14. The hood of a local exhaust ventilation system (the ones stipulated by Chapter II; the same for this Chapter and item (2) of Article 19-2) shall comply with the following provisions.

(1) Each hood shall be installed for each emission source of organic solvent vapour.

(2) Hoods of outside mounting type shall be installed as close as possible to the emission source of organic solvent vapour.

(3) Mode of Function: The hood shall be of a type and size suitable to suck in the vapour of the said organic solvents in connection with the work methods, the status of vapour emission, specific gravity of the vapour and the like.

2. An employer shall make ducts of the local exhaust ventilation system as short as possible and minimize bending.

(Draft, etc.)

Article 15. When an air cleaner is mounted on a local exhaust ventilation system, an employer shall install an exhaust fan at the location where cleaned air flows. Whereas, this provision is not



applied when sucked vapour of organic solvents does not have a risk of explosion and does not corrode the fan.

2. The employer shall install an air blower or exhaust fan of a general ventilation system (opening of a duct when the duct is used for the system) as close as possible to the emission source of organic solvent vapour in a general ventilation system (those which are provided for in Chapter II; the same for this Chapter and item (2) of Article 19-2).

(Exhaust Outlet)

Article 15-2. The employer shall keep the exhaust outlet of local exhaust ventilation systems, push-pull type ventilation systems (here refers to push-pull type ventilation systems installed conforming to the provisions of Chapter II and same applies in this Chapter and Article 19-2 and item (6) of paragraph 1 of Article 33), general ventilation systems and exhaust pipes, etc., specified in sub-paragraph 1 of Article 12, directly open to the atmosphere.

2. The employer shall keep the exhaust outlet of local exhaust ventilation systems, a push-pull type ventilation systems (restricted to those installed in indoor workshops) or the exhaust pipes, etc., specified in sub-paragraph 1 of Article 12, at a height of 1.5 m or more from the roof. However, this shall not apply where the concentration of the organic solvent discharged from the said outlet is lower than the concentration specified by the Minister of Labour.

(Performance of Local Exhaust Ventilation Systems)

Article 16. The local exhaust ventilation system shall have a capacity to generate the controlled air velocity specified in the right column of the following table corresponding to the types specified in the left column of the same table.

Type		Controlled air velocity (m/sec.)
Surrounding type hood		0.4
Outside mounting hood	Lateral direction sucking type	0.5
	Downward sucking type	0.5
	Upward sucking type	1.0

Remarks 1) Controlled air velocity in this table shall be defined as the one when all the hoods on the local exhaust ventilation system are set open.

2) Controlled air velocity in this table shall be defined as the air velocity specified below corresponding to the types of the hood:

(a) In the case of the surrounding type hood, the minimum air velocity at the hood opening.

(b) In the case of the outside mounting type hood, the air velocity at the most distant operation point from the hood opening within the range of a hood which is to suck the vapour of organic solvents in the said area.

2. Notwithstanding the provision of the preceding paragraph, when the local exhaust ventilation system falls under any one of the following categories, such a local exhaust ventilation system shall have a ventilating capacity of generating the controlled air velocity large enough to provide air flow rates equivalent to those of the general ventilation system which vary depending on the classification of the vapor-emitting organic solvents as are designated respectively in Article 17.

(1) The local exhaust ventilation systems are provided conforming to the provision of paragraph 1 of Article 6.

(2) The local exhaust ventilation systems are installed in the place where the installation of general ventilation system results in the exemption of the installation of the hermetically sealed container of the organic solvent vapor source or the local exhaust ventilation system because of the provision of paragraph 2 of Article 8, paragraph 1 of Article 9 or Article 11.

(Performance, etc., of Push-Pull Type Ventilation System)

Article 16-2. The push-pull type ventilation system shall have the construction and exert the performance designated by the Minister of Labour.

(Performance of General Ventilation Systems)

Article 17. A general ventilation system shall have the capacity for per minute ventilation volumes as computed based on the equations specified in the right column of the following table corresponding to the classification specified in the left column of the same table (when organic solvents of the different classifications are consumed simultaneously, the per minute ventilation volumes computed separately by respective classifications shall be added up).

Classification of organic solvents, etc.	Ventilation volume per minute
First-class organic solvents, etc.	$Q = 0.3 W$
Second-class organic solvents, etc.	$Q = 0.04 W$
Third-class organic solvents, etc.	$Q = 0.01 W$

Remarks: Q and W in this table stand for the following figures:

Q: Ventilation volume per minute (unit:  $m^3$ )

W: Weight of organic solvents to be consumed in one working hour (unit: g)

2. The weight of organic solvents to be consumed in one working hour stipulated in the preceding paragraph shall be as provided for in the following items:

(1) Work specified in a) and b) of item (6), paragraph 1 of Article 1: Weight of organic solvents evaporated in one working hour.

(2) Work specified in c) through f), h), i) or k) of item (6), paragraph 1 of Article 1: Weight obtained by multiplying a figure separately provided by the Minister of Labour by the weight of organic solvents to be consumed in one working hour.

(3) Work specified in g) or j) of item (6), paragraph 1 of Article 1: Weight obtained by multiplying a figure separately provided by the Minister of Labour by the weight of organic solvents applied to or sticking to the materials to be dried or adhered, respectively, in one working hour.

3. The provisions of the latter part of paragraph 2 of Article 2 shall be applied to the weight of organic solvents to be consumed in one working hour of the work stipulated in the preceding paragraph.

#### (Operation of Ventilation Systems)

Article 18. Where a local exhaust ventilation system is installed, the employer shall operate said local exhaust ventilation system in accordance with the models specified in the left column of the table in paragraph 1 of Article 16 at a controlled air velocity equal to or above the controlled air velocity specified respectively in the right column of the same table when workers are engaged in organic solvents work.

2. Notwithstanding the provision of the preceding paragraph, where the said local exhaust ventilation system is covered by any of the provisions of items in paragraph 2 of Article 16, it may be operated at a controlled air velocity equal to or above the controlled air velocity stipulated in the same paragraph >.

3. Where a push-pull type ventilation system is installed, the employer shall operate the said push-pull type ventilation system so as to satisfy the conditions stipulated by the Minister of Labour when workers are engaged in organic solvents work.

4. Where a general ventilation system is installed, the employer shall operate the said general ventilation system in accordance with the classifications stipulated in the left column of the table in paragraph 1 of the preceding Article at a ventilation volume equal to or above the ventilation volume per minute stipulated respectively in the right column of the same table when workers are engaged in organic solvents work.

5. Where a local exhaust system, a push-pull type ventilation system or a general ventilation system is installed, the employer shall take the necessary measures to operate the said system effectively such as installing a baffle to prevent air currents that impede ventilation.

#### (Special Measures for Local Exhaust Ventilation Systems)

Article 18-2. Notwithstanding the provision of paragraph 1 of the preceding Article, where measurements of a workplace relating to the said local exhaust ventilation system under the provision of paragraph 2 of Article 28 and the provision of paragraph 5 of Article 65 of the Industrial Safety and Health Law (called the "Law" below) and an evaluation of the said measurements have been carried out during the said previous eighteen months and where the results of the said evaluation are consistently classified in the first-grade section, the employer may, after taking the following measures, operate the said local exhaust ventilation system at a controlled air velocity less than that stipulated in the right column of the table in paragraph 1 of Article 16 for the models described in the left column of the same table when taking measurements of organic solvent concentration in order to obtain the permission specified in paragraph 1 of the following Article.

- 1) Appoint a person to check the following matters from among those with necessary competence to check the said matters and have them check the said matters in advance.
  - a) That the controlled air velocity is stable when the said local exhaust ventilation system is operated at the relevant controlled air velocity
  - b) That the hood of the said local exhaust ventilation system which is to extract organic solvent vapour is able to extract organic solvent vapour from the most distant operation point from the hood opening within the range of the said hood when the said local exhaust ventilation system is operated at the relevant controlled air velocity.
- 2) Workers engaged in organic solvents work in the area of the said local exhaust ventilation system shall be required to use air-supplied respirators or masks to prevent organic solvent poisoning.

2. When requiring workers to use the air-supplied respirators stipulated under the provision of sub-paragraph 2 of the preceding paragraph, the employer shall take measures to ensure that the said workers do not inhale toxic air.

Article 18-3. Notwithstanding the provision of paragraph 1 of Article 18, where a local exhaust ventilation system is operated at a controlled air velocity less than that specified in the right column of the table in paragraph 1 of Article 16 for each of the model types specified in the left column of the same table under the provisions of the preceding Article and measurements are taken of organic solvent concentration (applies only to those carried out in normal workplace conditions under the provision of paragraph 2 of Article 65 of the Law and the provision of Article 3 of the Enforcement Order for the style='background:yellow;') Work Environment Measurement Law (Ministry of Labour Ordinance No. 20 of 1975), the same applies in the following paragraph) in the workplace related to the said local exhaust ventilation system with the results evaluated in accordance with the provision of paragraph 1 of Article 28-2 producing a first-grade section, the said local exhaust ventilation system may be operated at the said controlled air velocity (called "Exceptional Controlled Air Velocity" below) with the permission of the Chief of the competent Labour Standards Inspection Office.

2. An employer intending to obtain the permission covered in the preceding paragraph shall attach the following documents concerning the application for the local exhaust ventilation system to the Local Exhaust System Exceptional Operation Permit Application Form (Form 2-2) and submit it to the Chief of the competent Labour Standards Inspection Office.

1) A sketch of the workplace

2) A written record of the results of measurements taken in the said workplace during the eighteen months prior to the application under the provisions of paragraph 2 of Article 28 and paragraph 5 of Article 65 of the Law and the evaluation of the said results of measurements under the provision of paragraph 1 of Article 18-2

3) A written record of the results of measurements of the concentration of organic solvents in the said workplace with the said local exhaust ventilation system operated at the exceptional controlled air velocity and the evaluation of the results of measurement carried out in accordance with the provision of paragraph 1 of Article 28-2.

4) A written record showing that the notification stipulated under the provision of the main text of paragraph 1 of Article 88 of the Law (including cases where paragraph 2 of the same Article applies) has been carried out

5) A written record of the results of voluntary inspections stipulated in paragraph 2 of Article 20 carried out during the two years prior to the application

3. When receiving a submission of an application provided for in the provisions of the preceding paragraph, the Chief of the competent Labour Standards Inspection Office shall notify in writing the said employer without delay when he/she has decided to grant or not grant the permit under paragraph 1.

4. An employer in receipt of a permit under paragraph 1 shall notify the Chief of the competent Labour Standards Inspection Office in writing without delay of the matters under each item of paragraph 3 of Article 28 and the matters under each item of paragraph 2 of Article 28-2 when measurements of the workplace to which the permit relates are carried out under the provision of paragraph 2 of Article 28 and evaluation of the results of the said measurements made under the provision of paragraph 1 of Article 28-2.

5. An employer in receipt of a permit under paragraph 1 shall inform the Chief of the competent Labour Standards Inspection Office in writing without delay when there are any changes to the details recorded on the application form and documents under paragraph 2.

6. Where the evaluation in paragraph 4 was not in the first-grade section and when it is deemed likely that the evaluation of the results of the measurements of a workplace relating to a permit under paragraph 1 carried out under paragraph 2 of Article 28 will not maintain the first-grade section under paragraph 1 of Article 28-2, the Chief of the competent Labour Standards Inspection Office shall cancel the said permit without delay.

## Chapter IV. Management

### (Appointment of Operations Chiefs of Organic Solvents Work)

Article 19. The work defined by the Ministry of Labour Ordinance provided for in item (22) of Article 6 of the Enforcement Order shall be the organic solvent work (exclusive of the one specified in k) of item (6) of paragraph 1 of Article 1) other than those which are specified as follows:

- (1) Work in the cases of paragraph 1 of Article 2.
- (2) Work in the cases of paragraph 1 of Article 3.

2. The employer shall appoint an operations chief of organic solvents work from among those who completed the skill training course for operations chiefs of organic solvents work.

### (Duties of Operations Chiefs of Organic Solvents Work)

Article 19-2. The employer shall have the operations chief of organic solvent work perform the following functions:

- (1) Decide and advise the working procedure for the workers who are to engage in the organic solvent work so that the workers will not be contaminated by the organic solvent or inhale the vapor of the organic solvent.
- (2) Inspect the local exhaust ventilation system, push-pull type ventilation system or general ventilation system at an interval of not exceeding a month.
- (3) Watch how the personal protective equipment for the workers is being used.
- (4) Make sure that the necessary measures have been taken conforming to the provisions set forth in each item of Article 26, where workers have to engage in organic solvents work in a tank.

### (Periodical Voluntary Inspection of Local Exhaust Ventilation Systems)

Article 20. The local exhaust ventilation system designated by Ministry of Labour Ordinance on the basis of item (8) of paragraph 1, Article 15 of the Enforcement Order (restricted to those relating to the organic solvent work) shall fall under the category of those to be installed conforming to the provisions of Article 5 or 6.

2. The employer shall conduct a voluntary inspection of the said local exhaust ventilation system periodically for example, at least once every year as to the following check points, provided that this rule shall not apply to a local exhaust ventilation system which has not been used for one year or more.

(1) Presence of wear, corrosion, dent and other damages in a hood, a duct and a fan, and degrees of such damages (2) Accumulation of dust in a duct and an exhaust fan (3) Condition of oil supplied to the exhaust fan.

(4) Presence of loosened joints of a duct

(5) Functioning of a belt connecting the motor and fan

(6) Air intake and air exhaust capacities (7) Other points to be checked for the maintenance of necessary performance besides those check points listed above.

3. The employer, however, shall voluntarily inspect the unused local exhaust ventilation system set forth in the conditional clause of the preceding paragraph as to the check points listed under the same paragraph before resuming its operation.

(Voluntary Periodical Inspection of Push-Pull Type Ventilation Systems)

Article 20-2. The push-pull type ventilation system (restricted to those for organic solvent work) designated Ministry of Labour Ordinance on the basis of item (8) of paragraph 1, Article 15 of the Enforcement Order shall be defined as those to be installed conforming to the provisions of Article 5 or Article 6.

2. The provisions of paragraphs 2 and 3 of the preceding Article shall be applied with necessary modification to the push-pull type ventilation systems designated in the preceding paragraph. In applying the said provisions, however, the term "exhaust fan" set forth in item (3) of paragraph 2 of the preceding Article shall be read as "blower and exhaust fan," and the term "air intake" in item (6) of the same paragraph as "air supply and air intake."

(Records)

Article 21. The employer, upon making the voluntary inspection stipulated in the preceding two Articles, shall keep the records of the following data for at least three years.

(1) Date of the inspection.

(2) Method of the inspection.

(3) Parts of the equipment inspected.

(4) Results of the inspection.

(5) Name of the inspector.

(6) Contents of repair or adjustment made according to the result of inspection, if any.

(Inspection)

Article 22. Before using the newly installed local exhaust ventilation system designated in paragraph 1 of Article 20, or after overhauling and modifying or repairing the said ventilation system, the employer shall inspect the ventilation system as to the following checkup points:

- (1) Accumulation of dust in a duct and an exhaust fan, for accumulation of dust.
- (2) Presence of loosened joints of a duct
- (3) Air intake and air exhaust capacities.
- (4) Other points necessary for maintaining required performance.

2. The provision of the preceding paragraph shall be applied with necessary modification to the push-pull type ventilation systems designated in paragraph 1 of Article 20-2, provided that the term "air intake" in item (3) of the preceding paragraph shall be read as "air supply and air intake."

(Repair)

Article 23. When any abnormality is detected through the voluntary inspection conforming to the provisions of paragraphs 2 and 3 of Article 20 (inclusive of the cases of the application with necessary modification conforming to paragraph 2 of Article 20-2) or the inspection conforming to the preceding article, the employer shall make repairs immediately.

(Notification)

Article 24. When the employer engages his/her workers in organic solvent work in an indoor workshop and the like, he/she shall post a notice at easily visible location to the workers on the following points:

- (1) Effects of organic solvents on the human body.
- (2) Precautions for handling organic solvents and the like.
- (3) First aid when poisoning is caused by organic solvents.

2. The contents and posting method of the items stipulated in the preceding paragraph shall be separately provided for by the Minister of Labour.

(Indication of Classification of Organic Solvents and the like)

Article 25. When the employer has workers engage in organic solvent work in an indoor workshop, he/she shall indicate to the workers the classification of the organic solvents, etc., by posting notice at easily visible location on such classification using colour codes as stipulated below:



- |   |        |
|---|--------|
| (1) First-class organic solvents, etc.  | Red    |
| (2) Second-class organic solvents, etc. | Yellow |
| (3) Third-class organic solvents, etc.  | Blue   |

(Work Inside of a Tank)

Article 26. When the employer has workers engage in organic solvent work inside of a tank, he/she shall take the following measures:

- (1) Before work commencement, manholes of a tank and all other openings which are free from the influx of organic solvents, etc., should be open.
- (2) When the body of a worker is critically contaminated by organic solvents, etc., and at the end of work, the worker shall be allowed to thoroughly wash his/her body and eliminate the contamination.
- (3) Equipment or tools for immediately rescuing workers inside of a tank when any accident occurs shall be prepared in a ready-to-use status.
- (4) In addition to the measures specified above, the employer shall take the following measures before work commencement on a tank which has once contained organic solvents, etc.:
  - a) Discharge organic solvents, etc., from the tank and prevent the influx of organic solvents, etc., into it from all the pipings connected to it.
  - b) Wash the inside walls of the tank with water, steam or the like, and discharge the water, steam or the like used for washing out of the tank.
  - c) Feed or exhaust air equivalent to three times the volume of the tank or more, or fill the tank with water and then discharge the water from it.

(Emergency Evacuation at Occurrence of Accident)

Article 27. When any one of the accidents as are described hereunder has occurred while the workers are engaging in organic solvent work in a tank or the like, and there is the fear of poisoning by organic solvent, the employer shall immediately have the workers discontinue their work and evacuate them from the site of the accident.

- (1) Substantial decline or loss of the normal function of the local exhaust ventilation system, push-pull type ventilation system or general ventilation system installed in the site of organic solvent work due to system trouble, etc.
- (2) Occurrence of accident so as to cause the site of the work to be contaminated badly by organic solvents, etc.

2. Should any of the accidents such as those described in the preceding paragraph occur and the work discontinue, the employer shall keep the workers away from the site of accident until the contamination due to the organic solvent, etc., is removed, except when the workers are to be engaged in rescue work or work for preventing damage due to the accident by a method in which the safety of the workers is guaranteed.

## Chapter V. Measurement

(Measurement)

Article 28. The work defined by the Ministry of Labour Ordinance provided for in item (10) of Article 21 of the Enforcement Order shall be work other than that designated in paragraph 1 of Article 3 out of organic solvents work described under items 1 through 47 in Table 6-2 attached to the Enforcement Order .

2. The employer shall measure concentrations of organic solvents in the air regularly at least once every six months in indoor workshops where work specified in the preceding paragraph is conducted.

3. After carrying out the measurements under the provision of the preceding paragraph, the employer shall record the following items and shall keep the records for three years.

- (1) Date and time of measurements.
- (2) Method of measurements.
- (3) Locations of measurements.
- (4) Conditions under which measurements were carried out.
- (5) Results of measurements.
- (6) The name of the person who conducted the measurements.
- (7) Outline of measures for protecting the health of the workers from organic solvents if such measures are taken as a result of the measurements.

(Evaluation of Result of Measurement)

Article 28-2. Each time that the employer has measured the condition of the indoor workshop designated in paragraph 2 of the preceding article, conforming to the provision of the said paragraph or paragraph 5 of Article 65 of the Law, the employer shall promptly evaluate the result of the measurement by classifying the measured workshop into three sections, namely, first-grade, second-grade and third-grade sections, in terms of its condition as a working environment and conforming to the working environment evaluation standard designated by the Minister of Labour.

2. Each time that the said evaluation has been made conforming to the provision of the preceding paragraph, the employer shall keep the records of the following data for three years.

- (1) Date of evaluation.
- (2) Locations of evaluation.
- (3) Result of evaluation.
- (4) Name of the person who conducted the evaluation.

(Measures to Be Taken According to Result of Evaluation)

Article 28-3. When a work site is classified as a third-grade section as a result of evaluation conforming to the provision of paragraph 1 of the preceding article, the employer shall immediately inspect the conditions of the facilities, equipment, work process or work method within such site, and install or improve facilities or equipment, improve the work process or methods and take other necessary measures for improving the condition of the working environment, in order to improve the grade of such site to the second or first grade.

2. When the necessary measures has been taken conforming to the provision of the preceding paragraph, the employer shall measure the concentration of the organic solvent vapor in the said section of the workshop in order to evaluate the effect or the result of such measures.

3. In addition to the requirements set forth in the preceding two paragraphs, the employer shall have his/her workers who are to work in the work site designated in paragraph 1 use effective respiratory protective equipment, provide the medical examination for the workers, and take other measures necessary for protecting the health of the workers.

Article 28-4. When a work site is classified as a second-grade section based on the result of the evaluation conforming to the provision of paragraph 1 of Article 28-2, the employer shall inspect the facilities, equipment, work process or work method, and shall install or improve necessary facilities or equipment, improve the work processes or methods, and take other necessary measures for improving the working environment.

## Chapter VI. Medical Examination

(Medical Examination)

Article 29. The work defined by the Ministry of Labour Ordinance provided for in item 6 of paragraph 1 of Article 22 of the Enforcement Order shall be work other than that stipulated in paragraph 1 of Article 3 out of organic solvent work at indoor workshops, etc. (restricted to the inside of a tank and the like in the cases of third-class organic solvents, etc.).

2. The employer shall have workers who are regularly engaged in the work designated in the preceding paragraph undergo a medical examination by a medical doctor as to the following

checkup points at the time of employment, before the transfer to the said work, and then periodically every six months.

(1) Personal history of work.

(2) History of sickness caused by organic solvents, history of subjective and objective symptoms, history of the results of the checkup items described in the bottom column of the attached table (restricted to the results of tests for the quantity of organic solvent metabolites in the urine) and history of the presence of abnormalities with relation to item 4 of this paragraph the items described in the lower column of the attached table (exclusive of tests for the quantities of organic solvent metabolites in the urine) and items (2) through (5) of paragraph 5.

(3) The presence of subjective or objective symptoms caused by organic solvents.

(4) Presence or absence of protein in the urine.

3. Besides the medical examination of the checkup items designated in the preceding paragraph, the employer shall have each employee who is regularly engaged in organic solvents work listed in the top column of the attached table undergo medical examination by a medical doctor on the checkup items listed in the bottom column of the same table according to the category of the organic solvent listed in the top column of the same table at the time of the employment, before transfer to the said work, and then periodically every six months.

4. Notwithstanding the provision of the preceding paragraph, the checkup items of the medical examination (restricted to those for the periodical medical examination) designated in the preceding paragraph may be omitted for those workers who have received a medical examination of those checkup items (restricted to tests for the quantities of organic solvent metabolites in the urine) listed in the bottom column of the attached table, if deemed unnecessary by a medical doctor.

5. If deemed necessary by a medical doctor, the employer shall have workers covered by the provision of paragraph 2 undergo a medical examination to cover all or some of the following checkup items in addition to the checkup items designated in paragraphs 2 and 3.

(1) Examination of working conditions

(2) Anemia

(3) Liver function

(4) Kidney function (exclusive of tests for the presence of protein in the urine)

(5) Neurological internal examinations

(Results of Medical Examination)

Article 30. The employer shall make up medical certificates (Form 3) including the diagnosis concerning the effect of the organic solvent for individual employees based on the result of the medical examination conforming to the provision of paragraph 2, 3 or 5 of the preceding article (inclusive of the result of the medical examination received by the workers concerned conforming to the conditional clause of paragraph 5 of Article 66 of the Law, and in the following article referred to as medical examination concerning organic solvents, etc.) and preserve such certificates for at least five years.

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

Article 30-2. Under the provision of Article 66-2 of the Law, the views of a medical doctor based on the results of the health examination concerning organic solvents, etc., shall be heard according to the following stipulations.

(1) Within three months of the date of the medical examination concerning organic solvents, etc. (under the provision of the conditional clause of paragraph 5 of Article 66 of the Law, the date on which said worker submitted a document showing the results of the medical examination)

(2) The views of the medical doctor shall be recorded on the personal medical examination certificate concerning organic solvents, etc.

(Report of the Results of Medical Examination)

Article 30-3. The employer who has executed the medical examination (restricted to the periodical examination) for its employees conforming to paragraph 2, 3 or 5 of Article 29 shall submit a report (Form 3-2) on the result of the medical examination including the diagnosis of the effect of the organic solvent, etc., to the head of the competent local Labor Standards Inspection Office in time.

(Urgent Examination)

Article 30-4. When a worker is seriously contaminated by or has inhaled large quantity of organic solvents, the employer shall have the worker examined or treated by a medical doctor as soon as possible.

(Exception of Medical Examination)

Article 31. The employer may be exempted from carrying out medical examinations, and making up and preserving the medical certificates conforming to the provision of paragraph 2, 3 or 5 of Article 29 when approved by the Chief of the competent Labor Standards Inspection Office on the condition that the employer has carried out medical examinations conforming to paragraph 2, 3 or 5 of Article 29 and Article 30 for at least three consecutive years during which none of the workers has been newly diagnosed with an abnormality caused by organic solvents.

2. The employer who wants to apply for the approval stipulated in the preceding paragraph shall file the Petition for Special Approval on Medical Examination for Workers Engaged in Organic Solvent Work (Form 4) accompanying the following documents relating to organic solvent work with the Chief of the competent Labour Standards Inspection Office:

(1) A sketch of the workshop.

(2) If the workshop is provided with a ventilation system or equipment to prevent the emission of organic solvent vapour, the drawings of the said system or equipment and a document indicating its performance.

(3) The document showing the results of the medical examinations which have been conducted in the last three years conforming to the provision of paragraph 2, 3 or 5 of Article 29 for the individual workers who have engaged in work using organic solvents.

3. The Chief of the competent Labour Standards Inspection Office shall, upon deciding whether or not to approve the Petition, notify the employer of the decision in writing as soon as possible.

4. The employer who was approved in compliance with paragraph 1 shall, as soon as the items specified in the Petition and attached document of paragraph 2 have changed, report it in writing to the Chief of the competent Labour Standards Inspection Office.

5. The Chief of the competent Labour Standards Inspection Office shall revoke the approval as soon as the workers engaged in organic solvent work related with the approval of paragraph 1 are judged to newly develop abnormality caused by organic solvents when the said officer has received the report stipulated by the preceding paragraph or inspected the workplace.

## Chapter VII. Personal Protective Equipment

(Use of Air-Supplied Respirator)

Article 32. When the employer engages his/her workers in any of the following work, he/she shall have the workers wear an air-supplied respirator:

(1) Work provided for in 1) of item (6) of paragraph 1 of Article 1.

(2) Work inside of a tank without installation of a local exhaust ventilation system, a push-pull type ventilation system, a general ventilation system or equipment to seal up the emission source of organic solvent vapour provided for in paragraph 2 of Article 9.

2. The provision of paragraph 2 of Article 18-2 shall apply when the employer requires workers to use an air-supplied respirator under the provision of the preceding paragraph..

(Use of Air-Supplied Respirator or Gas Masks for Organic Gases)

Article 33. The employer who is to assign any one of the works listed hereunder to his/her workers shall have each of such workers use the air-supplied respirators or gas masks for organic gases.

(1) Work to be performed in a tank installed with a general ventilation system conforming to paragraph 1 of Article 6.

(2) Work to be performed in a tank without installation of a local exhaust ventilation system, a push-pull type ventilation system or equipment to seal up the emission source of organic solvent vapour as is provided for in paragraph 2 of Article 8.

(3) Spray work using the organic solvent to be performed in a indoor workshop of no installation of equipment to seal up the emission source of organic solvent vapor and local ventilation system, conforming to the provision of paragraph 1 of Article 9 but not including that to be executed in a tank, etc..

(4) Work to be performed indoors and in similar places without installation of equipment to seal up the emission source of organic solvent vapor , a local exhaust ventilation system and a push-pull type ventilation system, conforming to the provision of Article 10.

(5) Work to be performed indoors without installation of equipment to seal up the emission source of organic solvent vapor , a local exhaust ventilation system and a push-pull type ventilation system, conforming to the provision of Article 11.

(6) Organic solvent work to be performed in indoor workshops and the like with installation of a push-pull type ventilation system for the objects such as trucks with cargo platform flaps having shapes which can cause turbulence of the air flow in the booth with installation of a push-pull type ventilation system.

(7) Work to open equipment to seal up the emission source of organic solvent vapor, which is to be performed indoors (exclusive of the work to handle such equipment from which organic solvents and the like have already been removed by cleaning).

2. The provision of paragraph 2 of Article 18-2 shall be applied to the cases when workers wear air-supplied respirators in compliance with the provision of the preceding paragraph.

(Number of Units of Personal Protective Equipment, and the like)

Article 33-2. The employer shall prepare the personal protective equipment stipulated in item (2) of paragraph 1 of Article 18-2, paragraph 1 of Article 32 or paragraph 1 of the preceding Article in a number the same as or more than that of the workers that work in that location, and shall always keep them effective and hygienic.

(Workers' Duty to Use Personal Protective Equipment)

Article 34. Workers who are engaged in the work specified in item (2) of paragraph 1 of Article 18-2, and each item of paragraph 1 of Article 32 and of paragraph 1 of Article 33 shall use the personal protective equipment specified in item (2) of paragraph 1 of Article 18-2, paragraph 1 of Article 32, or paragraph 1 of Article 33 during the period of the said work.

#### Chapter VIII. Storage of Organic Solvents and Disposal of Empty Containers

(Storage of Organic Solvents and the like)

Article 35. The employer shall, when storing organic solvents, etc., inside a building, use solid containers with closed lids or plugged stoppers so that the organic solvents will not spill, leak, seep out or disperse, and shall install the following equipment at the storage place:

- (1) Equipment to prevent workers other than assigned workers from entering the storage facility.
- (2) Equipment to exhaust organic solvent vapour to the outside.

(Disposal of Empty Containers)

Article 36. When an empty container which was previously used to contain organic solvents is suspected to emit vapour, the employer shall seal the container or store the container at a specified outdoor place.

#### Chapter IX. Skill Training Course for Operations Chiefs of Organic Solvent Work

Article 37. The skill training course for operations chiefs of organic solvent work shall be conducted through theoretical instruction.

2. Theoretical instruction shall consist of the following subjects concerning organic solvents:

- (1) Knowledge about health impairment caused by organic solvents and preventive measures thereof.
- (2) Knowledge about methods for improving the working environment.
- (3) Knowledge about personal protective equipment.
- (4) Related laws and ordinances.

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

#### Supplementary Provisions



(Date of Enforcement)

Article 1. This Ministry of Labour Ordinance shall be effective from October 1, 1972.

(Abolition)

Article 2. Ordinance on Prevention of Organic Solvent Poisoning (Ministry of Labour Ordinance No. 24 of 1960) shall be abolished.

(Interim Measures)

Article 3. The provisions of Chapters II and III shall not be applied to the organic solvent work related with 1, 1, 1-trichloroethane in the period until September 30, 1973.

#### Supplementary Provisions

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

(Date of Enforcement)

Article 1. This Ministry of Labour Ordinance shall be effective from October 1, 1975.

(The rest is omitted.)

#### Supplementary Provisions

(Ministry of Labour Ordinance No. 32 of August 7, 1978)

(Date of Enforcement)

Article 1. This Ministry of Labour Ordinance shall be effective from September 1, 1978. Whereas, the date of enforcement shall be December 1, 1978 for the amendment of paragraph 1 of Article 16, the amendment of all of paragraph 2 of Article 29, the amendment to add one paragraph to the Article, the amendment of Article 30, the amendment to add two articles next to the Article (restricted to the passage pertinent to Article 30-2), the amendment of Article 31 (except the passage of changing "the preceding Article" to "Article 30"), the amendment of the Attached Table, the amendment to add one table after the Attached Table, the amendment of Form No. 3 and the amendment to add one form after the same Form.

(Interim Measures)

Article 2. Regarding the application of the provisions of Chapters 2, 3 and 7 (except that of the provision of Article 37) of the Ordinance on Prevention of Organic Solvent Poisoning which have been revised in accordance with the provision of Article 1 of said Ordinance (hereinafter referred to as 'the new Ordinance'), the materials specified in the left column of the following table shall be those specified in the right column of the same table, until February 28, 1979,

which may be specified or classified by the provisions of Article 1 (except item 3 of the same Article) of the Ordinance on Prevention of Organic Solvent Poisoning prior to the revision in accordance with Article 1 of the Ordinance (hereinafter referred to as 'the former Ordinance'), if this Ordinance is applied on the assumption that there has been no revision of the Enforcement Order of Industrial Safety and Health Law in accordance with the Cabinet Order on the partial revision of the Enforcement Order of Industrial Safety and Health Law (Cabinet Order No. 226 of 1978), regardless of the provisions of items (2) through (5) of paragraph 1 of Article 1 of the new Ordinance.

Organic solvent, etc.	Organic solvent or material containing organic solvent
First-class organic solvent, etc.	First-class organic solvent or first-class material containing organic solvent
Second-class organic solvent, etc.	Second-class organic solvent or second-class material containing organic solvent
Third-class organic solvent, etc.	Third-class organic solvent or third-class material containing organic solvent

2. The provisions of Article 19 and 26 (exclusive of item (3) through (5) of the former Ordinance) shall be effective until August 31, 1980 (exclusive of the period that an employer appoints an operations chief of work handling organic solvent in compliance with the provision of paragraph 2 of Article 19 of the new Ordinance).

3. Omitted as the interim measures are not effective after February 28, 1979.

#### Supplementary Provisions

(Ministry of Labour Ordinance No. 41 of March 1, 1979)

(Date of Enforcement)

Article 1. This Ministry of Labour Ordinance shall be effective from March 1, 1979.

(Interim Measures)

Article 2. Omitted as the interim measures are not effective after February 29, 1980.

2. The approval granted by the Chief of the competent Labour Standards Inspection Office in line with item (2) of paragraph 1 of Article 13 of the former Ordinance shall be deemed to have been made by the Chief of the competent Labour Standards Inspection Office in compliance with the provision of paragraph 1 of Article 13 of new Ordinance after the revision.

3. Omitted as the interim measures pertaining to the performance of local exhaust ventilating system are not effective after February 29, 1980.

4. Precedent shall be followed in applying penal provisions to the infringement of the provisions of the former Ordinance committed before the date of enforcement of this Ministry of Labour Ordinance.

#### Supplementary Provisions

(Ministry of Labour Ordinance No. 1 of January 31, 1984)

1. This ministerial ordinance shall be enforced from February 1, 1984.
2. The penal provision to acts committed prior to the enforcement of this ministerial ordinance shall be applied according to precedent.

#### Supplementary Provision

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

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, provided that among the provisions of Article 1, the provision to amend paragraph 1 of Article 28, and the provision of Article 4 shall be enforced from April 1, 1990.

(Interim Measures)

Article 2. The provisions of Articles 28-2 through 28-4 of the amended Ordinance on Prevention of Organic Solvent Poisoning shall not be applicable to the measurement conforming to the provision of paragraph 1 or 5 of Article 65 of the Industrial Safety and Health Law relating to the indoor work sites designated in paragraph 2, Article 28 of the old Ordinance on Prevention of Organic Solvent Poisoning enforced prior to the enforcement of this ministerial ordinance.

#### Supplementary Provisions

(Ministry of Labour Ordinance No. 23 of June 30, 1989)

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

#### Supplementary Provisions

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

This Ordinance shall be enforced from January 1, 1991 .

#### Supplementary Provisions

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

(Excerpts)

(Date of Enforcement)

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

(Interim Measures for Notification of Plans)

Article 2. Notification based on the provisions of paragraph 1 (omitted) of Article 37 of the Ordinance on Prevention of Organic Solvent Poisoning prior to amendment by this Ordinance (called the "former Organic Solvent Ordinance" below) concerning construction to commence after the date of enforcement of this Ordinance (called the "enforcement date" below) will be regarded as valid notification under paragraph 1 of Article 88 of the Industrial Safety and Health Law (called the "Law" below) after the enforcement date of this Ordinance.

2. Notification based on the provisions of paragraph 3 (omitted) of Article 37 of the former Organic Solvent Ordinance concerning construction to commence after the enforcement date shall be regarded as valid notification under the provisions of paragraph 1 of Article 88 of the Law to which the provisions of paragraph 2 of the same Article shall apply.

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 acts committed after the enforcement of this Ordinance that are to be treated according to precedent under the provisions of Article 3 of the Supplementary Provisions shall be according to precedent.

#### Supplementary Provisions

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

(Excerpts)

(Date of Enforcement)

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

#### Supplementary Provisions

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

(Excerpts)

(Date of Enforcement)

Article 1. This Ordinance shall be enforced from the date of promulgation. However, the provisions set forth in each of the following items shall be enforced from the date stipulated in each of the said following items.

1) (Omitted)

2) (Omitted) The contents of the Ordinance of the Prevention of Organic Solvent Poisoning in Article 4, the provision amending Article 18, the provision adding two Articles to follow Article 18 of the same Ordinance, paragraph 1 of Article 28-2 of the same Ordinance, paragraph 2 of Article 32, paragraph 2 of Article 33, the provision amending Article 33-2 and Article 34 and the provision in the same Ordinance to add a form after Form 2: October 1, 1997

(Interim Measures)

Article 2. 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. 4 of January 11, 1999)

(Date of Enforcement)

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

(Interim Measures)

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

Attached Table (Refer to Article 29)

Organic Solvents	Items
(1) 1. Ethylene glycol monoethyl ether (otherwise known as cellosolve)  2. Ethylene glycol monoethyl ether acetate (otherwise known as cellosolve acetate).  3. Ethylene glycol monobutyl ether (otherwise known as butyl cellosolve).  4. Ethylene glycol monomethyl ether (otherwise known as methyl cellosolve).  5. Other substances containing more than 5% by weight of any one of the above organic solvents.	Examination of blood pigment quantity and number of red cells.
(2) 1. O-dichlorobenzene  2. Cresol  3. Chlorobenzene  4. Chloroform  5. Carbon tetrachloride  6. 1,4 dioxane  7. 1,2-dichloroethane (otherwise known as ethylene dichloride)	Examination of serum glutamic oxaloacetic transaminase (GOT), serum glutamic pyruvic transaminase (GPT) and gamma-glutamic transpeptidase ( $\gamma$ -GTP) (hereinafter referred to as "examination of hepatic function").

<p>8. 1,2-dichloroethylene (otherwise known as acetylene dichloride)</p> <p>9. 1,1,2,2-tetrachloroethane (otherwise known as acetylene tetrachloride)</p> <p>10. Other substances containing more than 5% by weight of any one of the above organic solvents.</p>	
<p>(3) 1. Xylene</p> <p>2. Substances which contain more than 5% by weight of the above organic solvent.</p>	<p>Examination of methyl hippuric acid level in urine.</p>
<p>(4) 1. N,N-Dimethyl formamide</p> <p>2. Substances which contain more than 5% by weight of the above organic solvent.</p>	<p>1. Examination of hepatic function.</p> <p>2. Examination of N-methyl formaldehyde level in urine.</p>
<p>(5) 1. Styrene</p> <p>2. Other substances containing more than 5% by weight of the above organic solvent.</p>	<p>Examination of mandelic acid level in urine.</p>
<p>(6) 1. Tetrachloroethylene (otherwise known as perchloroethylene).</p> <p>2. Trichloroethylene.</p> <p>3. Other substances containing more than 5% by weight of any one of the above organic solvents.</p>	<p>1. Examination of hepatic function.</p> <p>2. Examination of trichloroacetic acid or total trichloride level in urine.</p>
<p>(7) 1. 1,1,1-trichloroethane.</p> <p>2. Other substances containing more than 5% by weight of the above organic solvent.</p>	<p>Examination of trichloroacetic acid or total trichloride level in urine.</p>
<p>(8) 1. Toluene</p> <p>2. Other substances containing more than 5% by weight of the above organic solvent.</p>	<p>Measurement of hippuric acid in urine.</p>
<p>(9) 1. Carbon disulfide</p> <p>2. Other substances containing more than 5% by weight of the above organic solvent.</p>	<p>Fundus oculi examination</p>
<p>(10) 1. n-Hexane.</p> <p>2. Other substances containing more than 5% by weight of the above organic solvent.</p>	<p>Examination of 2,5-Hexanedione level in urine.</p>

