

Ministerial Ordinance under “Act on Preventing Environmental Pollution of Mercury” (about mercury-added products for new use)

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1. Background of enactment of the ministerial ordinance

Act on Preventing Environmental Pollution of Mercury (Act No. 42 of 2015), as a measure to ensure the implementation of Article 4(6) of the Minamata Convention on Mercury (hereinafter referred to as “the Convention”), lays out the basic principle of banning the manufacture and distribution in commerce of mercury-added products not covered by mercury-added products for known use (hereinafter referred to as “mercury added products for new use”) unless the use of such products demonstrates environmental or human health benefits. Further, businesses intending to be engaged in the manufacture or distribution in commerce of “mercury-added products for new use” are required to carry out a self-assessment of use of their “mercury-added products for new use” and notify its result to the competent minister.

The Ministerial Ordinance of the Act specifies mercury-added products for known use and the method of the self-assessment of the manufacture or distribution in commerce of “mercury-added products for new use”.

2. Outline

(1) Mercury-added products for known use

“Mercury-added products for known use” are listed in Annex. However, based on identification of current practice of use of “mercury-added products for known use”, addition or revision to Annex may occur in the future.

(2) Assessment method of manufacture or distribution in commerce of mercury-added products for new use

Those who intend to manufacture or distribute in commerce a “mercury-added product for new use” as a business shall:

- 1) obtain information about the amount of mercury that is expected to be emitted/released during the stages of manufacture, sale, use and disposal according to the structure, usage, transaction volume, and other characteristics of “mercury-added product for new use” as well as impacts of the use of such product on the protection of human health and the living environment;
- 2) taking into account the information obtained, select major parameters (hereinafter referred to as “evaluation items”) contributing to the protection of or having adverse impacts on human health and the living environment (hereinafter referred to as “benefits and risks”) due to the use of “mercury-added product for new use”;
- 3) set multiple alternatives for the manufacture or distribution in commerce of “mercury-added product for new use” as a business, and make efforts to include an alternative whereby the manufacture or distribution in commerce of “mercury-added product for new use” is not to be carried out when it is considered practical to include such alternative, or make the reason why such alternative is not taken into consideration clear;

- 4) study, analyze, compile, and compare quantitatively as much as possible levels of “benefits and risks” of each of the multiple alternatives according to “evaluation items” and obtain advice from experts if necessary; and
- 5) identify whether or not adverse impacts on human health and the living environment due to the use of “mercury-added product for new use” manufactured or distributed in commerce as a business are in excess of the permissible level compared to the contribution of the use to the protection of human health and the living environment, and consider effects of measures to avoid or alleviate adverse impacts on human health and the living environment with regard to “evaluation items” if they are to be taken.

3. Planned date of enforcement

The date of entry into force of the Convention

Table 1: List of Mercury-added Products for Known Use

Mercury-added Product	Use
Alkaline button battery	Power source
Silver oxide battery	Power source
Zinc air battery	Power source
Mercury battery	Power source
Dry cell battery (containing mercury)	Power source
Mercury standard battery	Voltage standard
Switch to detect temperatures	Temperature detection
Switch to detect inclinations	Inclination detection
Electric acceleration switch (G sensor)	Vibration detection
Shock sensor (acceleration sensor)	Shock detection
Anti-overcurrent protection switch	Overcurrent detection
Measuring, controlling and transmission line switch/relay	Signal switching and switch without interruptions (chattering), high-voltage/high-current signal switching, low contact resistance signal switching, very minor load open-and-close switch and signal switching, analog input switching, and very low current circuit switching
Fluorescent lamp (Straight tube fluorescent lamp, circular fluorescent lamp, compact fluorescent lamp, bulb-shaped fluorescent lamp, electrodeless fluorescent lamp, specially shaped fluorescent lamp and other lamps)	General lighting purposes (Those intended to ensure luminous intensity, excluding lamps that are designed only to be used at low temperatures or for high color rendering and other special purposes. The same applies hereinafter)
	Special purposes ○ Those that have special wavelength distribution (including the following: those for color comparison and assessment; those used for tests; those used as color lamps; those with high color rendering property [intended for art galleries, museums, photographing and other purposes]; those for plants and living creatures; those used for cutting ultraviolet ray; those used for product and food exhibition; those that are less likely to attract bugs; those used in medical devices; those to modify surface; and those for ultraviolet irradiation [that are used for such purposes as catching bugs, various examinations, photoreaction, modifying surface, fluorescent lighting medical devices and tanning machines])
	○ Those supposed to be used under special conditions (such as lamps used at low temperatures and lamps for

Mercury-added Product	Use
	semiconductor plants, signboards, display indicators, scanners, medical devices, emergency lights, emergency exit lights and aeronautical lights)
Cold cathode fluorescent lamp (CCFL), External electrode fluorescent lamp (EEFL)	General lighting purposes
	To be used as backlight of display devices
	Special purposes ○ Those that have special wavelength distribution (such as those used for sterilization, medical devices, chemical reactions, scanners, instrumental analysis, tests, and plants and living creatures)
	○ Those supposed to be used under special conditions (that are used as emergency lights and emergency exit lights)
High-intensity discharge (HID) lamps (such as high-pressure mercury vapor lamp, metal halide lamp, high-pressure sodium lamp, mercury xenon lamp and other high-pressure mercury lamps [including medium- and very high-pressure ones])	General lighting purposes
	Special purposes ○ Those that have special wavelength distribution (including the following: those used for sterilization, photochemical reactions, cleaning and surface modification; those used as light sources for optical instruments; those used for wavelength calibration, tests, medical devices, plants and living creatures and gathering fish)
	○ Those supposed to be used under special conditions (such as those used for exposure, landscape lighting, tests, medical devices and aeronautical lights)
	○ Those supposed to be used for special light distribution and other such purposes (such as those used in automobiles and projectors as well as those used for stage and landscape lighting)
Low-pressure mercury lamps other than fluorescent lamps (ultraviolet irradiation lamp, hollow cathode lamp, Pen-Ray lamp, electrodeless discharge lamp and other types)	Special purposes ○ Those that have special wavelength distribution Including the following: those used for sterilization (such as those intended for liquids and containers, algicides, and those used for medical devices); those used for photochemical reactions; those for ozone generation; those for dismantling; those for cleaning and bleaching; those for surface modification; those intended for medical devices; those for plants and living creatures; and those used in analyzers and measuring instruments (those used for instrumental analysis, wavelength calibration, photoexcitation and other purposes)

Mercury-added Product	Use
Neon tube	Special purposes <ul style="list-style-type: none"> ○ Intended to transmit Morse code
Paints containing mercuric oxide	Preservation and antifouling purposes
Insecticides and biocides containing mercury	Prevention and elimination (agrochemicals) of insects and diseases that damage crops (including wood as well as agricultural and forestry products)
	Prevention and elimination of harmful insects and diseases in articles other than crops
Mercury thermometer	Temperature measurement of gases, liquids and solid bodies, humidity measurement of gases, calorimetry, pressure measurement of liquids, and densimetry
Mercury hygrometer	Humidity measurement of gases
Mercury-filled thermometer	Temperature measurement of gases and liquids
Liquid manometer	Gauge pressure measurement of gases
High-temperature diaphragm seal pressure gauge	Pressure measurement of liquids
High-temperature diaphragm seal pressure transmitter	Pressure measurement of liquids
Liquid mercury barometer	Measurement of atmospheric pressure
Vacuum gauge	Absolute pressure measurement of gases
Mercury coulometer	Measurement of quantity of electricity
Hydrometer	Density and temperature measurement of liquids
Mercury clinical thermometer	Measurement of body temperature
Mercury sphygmomanometer	Measurement of blood pressure
Drugs containing thimerosal (vaccines and in-vitro diagnostic agents included)	Prevention of infectious diseases, treatment of diseases, checks of allergens, and diagnosis
Drugs containing mercurochrome	Protection and sterilization of abrasions and other injuries
Drugs containing mercuric chloride	Check of allergens
Nessler's reagent	Reagent used to detect ammonia
Millon's reagent	Reagent used to detect proteins and phenols
Rubber	Adsorption
Firework	Entertainment
Mirror	Large telescope
Mercury alloy (pellet)	Raw material for lamps
Mercury triple point cell	Calibration and reference standard
Rotary connector	Electricity supply to rolling object or signal extraction from rolling object
Mercury ion frequency standard	Frequency standard

Mercury-added Product	Use
Infrared detection element (mixture of mercury, cadmium and tellurium)	Measurement of temperatures, concentrations, coating thickness and other categories, detection of images, sensing section of instrument analyzer
Gyrocompass	Course checking for vessels
Strain gauge	Strain measurement
Total power supplying time meter	Measurement of operating time of light source lamps
Mercury-based prototype for resistance	Electrical resistance standard
Mercury boiler	Steam generation
X-ray tube	X-ray generation
Daguerreotype	For appreciation
Radiation detector	Radiation detection
Grip dynamometer	Measurement of grip strength
Mercury-vapor diffusion pump	Manufacturing of semiconductors
Damper	Vibration control

Note 1: Assembled products using items shown in Table 1 as their components are considered to be products for known use, as long as those products are used for purposes described in the table.

Note 2: Uses such as analysis, research and calibration of measuring instruments or reference standards are basically considered to be known uses, regardless of descriptions in the "Use" section.

Note 3: Even when the products and their uses are mentioned above, those intended to be used under conditions deviating from normally expected uses are not considered to be used as known use.

Table 2: List of Mercury, Mercury Compounds, and Agents Containing Mercury or Mercury Compounds and Their Uses

Mercury-added Product	Use
Mercury and agents containing mercury	Reference standard used for instrumental analysis
	Reagent used for instrumental analysis
	Sensing section of instrument analyzer (such as electrodes and contact makers of rotary electrodes)
	Development of daguerreotypes
	Calomel electrode
	Dental-use mercury and alloy for dental amalgam
	Lens floating at lighthouses
	Power source for cultural assets
Mercurous chloride and agents containing mercurous chloride	Plating
	Reference electrode
	Ceramic industry
	Color development adjustments for fireworks
Mercuric oxide and agents containing mercuric oxide	Reagent used for instrumental analysis
	Electrode of mercury batteries
	For antiseptics and antifoulants
	Reagent used for instrumental analysis
	Adjustments of mercury salts
	Aroma chemical
Mercuric sulfate and agents containing mercuric sulfate	Catalyzer
	Cosmetics
	Manufacturing of mercuric chloride and other mercurates
Mercuric nitrate and agents containing mercuric nitrate	Metallurgy of gold and silver
	Reagent used for chemical analysis
	Oxidizing agent
	Antiseptic
	Carroting treatment to produce felt in making hats and caps
	Textile treatment
	Nitrate auxiliary agent
Catalyzer in organic synthesis	
Manufacturing of mercury fulminate or mercuric oxide	
Plating	

Mercury-added Product	Use
	Treatment of syphilis
	Density and temperature measurement of liquids
	Calibration of measuring instruments
Mercuric sulfide (cinnabar) and agents containing mercuric sulfide	Pigment
	Reference standard used for instrumental analysis
Mercurous sulfate and agents containing mercurous sulfate	Reference electrode
Mercuric chloride and agents containing mercuric chloride	Lamps
	Electrode of manganese cells
	Iron's conversion to bronze
	Leather manufacturing
	Ink for mercurography
	Sterilization
	Drugs
	Fireproofing agents for wood
	Sensitizer for photographs
	Reagent used for instrumental analysis
	Detection of hydrogen sulfide
	Manufacturing of mercuric oxide and mercurous chloride
	Catalyzer for manufacturing vinyl chloride
	Coloring of metals
	Reagent used for tap water quality testing
	Reagent used for food inspection
	Cleaning of acetylene gas
Ethylmercuric chloride and agents containing ethylmercuric chloride	Polymerization initiator
	Antimicrobial agent and antifoulant
	Catalyzer
	Reagent used for instrumental analysis
Ammonium chloromercurate and agents containing ammonium chloromercurate	Color development adjustment for fireworks
Mercuric bromide and agents containing mercuric bromide	Lamps
	Chemical analysis (arsenic analysis)
	Semiconductors
Mercurous nitrate and agents containing	Carroting treatment to produce felt in making hats and caps

Mercury-added Product	Use
mercurous nitrate	Drugs
	Manufacturing of mercurous acetate
	Plating
	Chemical analysis (protein analysis)
Phenylmercuric nitrate and agents containing phenylmercuric nitrate	Antimicrobial agent
Mercuric thiocyanate and agents containing mercuric thiocyanate	Sensitizer for photographs
	Special analysis
Mercurous iodide and agents containing mercurous iodide	Lamps
	Organic synthesis
	Thermosensitive paint
Mercuric iodide and agents containing mercuric iodide	Lamps
	Thickener for photographs
	Calibration of measuring instruments
	Density and temperature measurement of liquids
	Chemical analysis (ammonia detection)
	Reagent used for instrumental analysis
Mercury-copper iodide and agents containing mercury-copper iodide	Manufacturing of thermoscopes
Mercurous acetate and agents containing mercurous acetate	Catalyzer
	Reagent for research
Mercuric acetate and agents containing mercuric acetate	Alkaloid oxidant
	Synthesis of organic mercury compounds
Phenylmercuric acetate and agents containing phenylmercuric acetate	Antiseptic
	Manufacturing of other phenylmercury compounds
	Antimicrobial agent
	Leather manufacturing
	Papermaking
	Fiber softening agent
	Glazing agent
Cosmetics	

Mercury-added Product	Use
	Drugs
Mercurous oxide and agents containing mercurous oxide	Electrode of mercury batteries
	Reagent for research
Mercuric oxycyanide and agents containing mercuric oxycyanide	Special analysis
Mercuric cyanide and agents containing mercuric cyanide	Drugs
	Reagent for research
Potassium cyanomercurate and agents containing potassium cyanomercurate	Manufacturing of silver mirrors
Mercuric perchlorate and agents containing mercuric perchlorate	Oxidizing agent
	Reagent for research
Dimethylmercury and agents containing dimethylmercury	Reagent used for instrumental analysis
Mercury selenide and agents containing mercury selenide	Manufacturing of semiconductors
Mercuric amino acid and agents containing mercuric amino acid	Color development adjustment for fireworks
	Reagent for research
Mercuric orthoarsenate and agents containing mercuric orthoarsenate	Antifoulant
Mercury fulminate and agents containing mercury fulminate	Priming powder for detonators
Methylmercuric chloride and agents containing methylmercuric chloride	Reagent used for instrumental analysis
	Reagent for research
Agents containing 4-(hydroxymercury)benzoic acid sodium salt	Reagent for research
Sodium ethylmercurithiosalicylate and agents containing sodium ethylmercurithiosalicylate (thimerosal)	Drugs
	Preservatives for drugs (including vaccines and in-vitro diagnostic agents)
	Reagent for research
Merbromin (organomercuric disodium salt compound) and agents containing merbromin	Topical disinfectant

Mercury-added Product	Use
Agents containing (diphenylthiocarbazono)phenylmercury	Reagent for research
Potassium tetraiodomercurate	Reagent for research
4-(chloromercuri)benzenesulfonic acid sodium salt	Reagent for research
Phenylmercuric oleate, borate and propionate	Antiseptic, germicide and insecticide
Phenylmercury and agents containing phenylmercury	Drugs
Methylmercury dicyandiamide and agents containing methylmercury dicyandiamide	Seed processing agent
Phenylmercuric chloride and agents containing phenylmercuric chloride	Seed disinfectant
Mercuric salicylate and agents containing mercuric salicylate	Germicide for agricultural use, and skin antiseptic
Ethylmercuric chloride and agents containing ethylmercuric chloride	Seed disinfectant
Mercury trifluoroacetate and agents containing mercury trifluoroacetate	Catalyzer
4-chloromercuribenzoic acid	Reagent for biochemistry experiments

Note 1: Uses such as analysis, research and calibration of measuring instruments or reference standards are basically considered to be known uses, regardless of descriptions in the "Use" section.

Note 2: Even when the products and their uses are mentioned above, those intended to be used under conditions deviating from normally expected uses are not considered to be used as known use.

Note 3: All uses should be considered as known use when products listed in Table 2 are used for products in Table 1.