

## Reference Material 2. Kumamoto University Guidelines for the Handling of Chemical Substances

(Guidelines No. 5 of March 18, 2009)

(Purpose)

### Article 1

The purpose of the Guidelines is to prescribe the procedures and requirements necessary for using and handling certain types of chemical substances at Kumamoto University in accordance with Article 20 of the Kumamoto University Rules for Control and Management of Chemical Substances (established on March 18, 2009 and hereinafter referred to as “the Rules”).

(Scope of Application)

### Article 2

The Guidelines shall apply to the types of chemical substances selected from among those specified in Article 3, Item 1 of the Rules as specified below:

- (1) Hazardous Materials: the items whose product names are listed in Appended Table 1 of the Fire Service Act (Act No. 186 of 1948)
- (2) Poisonous Substances: the items listed in Appended Table 1 of the Poisonous and Deleterious Substances Control Act (Act No. 303 of 1950) and specified in Article 1 of the Cabinet Order concerning Poisonous and Deleterious Substances (Cabinet Order No. 2 of 1965) but excluding items classed as pharmaceuticals and quasi-pharmaceutical products
- (3) Deleterious Substances: items listed in Appended Table 2 of the Poisonous and Deleterious Substances Control Act and specified in Article 2 of the Cabinet Order concerning Poisonous and Deleterious Substances but excluding items classed as pharmaceuticals and quasi-pharmaceutical products
- (4) Specified Poisonous Substances: items listed in Appended Table 3 of the Poisonous and Deleterious Substances Control Act and specified in Article 3 of the Cabinet Order concerning Poisonous and Deleterious Substances
- (5) High Pressure Gases: items specified in Articles 2 and 3 of the High Pressure Gas Safety Act (Act No. 204 of 1951)
- (6) Substances Subject to Risk Assessment: the items specified in Article 57-3, Paragraph 1 of the Industrial Safety and Health Act (Act No. 57 of 1972)
- (7) Specified Chemical Substances: items listed in Appended Table 3 of the Order for Enforcement of the Industrial Safety and Health Act (Cabinet Order No. 318 of 1972)
- (8) Organic Solvents: items listed in Item 2 of Appended Table 6 of the Order for Enforcement of the Industrial Safety and Health Act
- (9) Specially Controlled Substances: the items specified in Article 38-3 of the Ordinance on Prevention of Dangers Due to Specified Chemical Substances (Ordinance of the Ministry of Labour No. 39 of 1972).
- (10) Substances That Require the Use of Protective Clothes, etc.: items specified in Article 44, Paragraph 2 of the Ordinance on Prevention of Dangers Due to Specified Chemical Substances.
- (11) Class I Designated Chemical Substances subject to the Pollutant Release and Transfer Register (PRTR): items listed in Appended Table 1 of the Order for Enforcement of the Act on the Confirmation, etc. of Release Amounts of Specific Chemical Substances into the Environment and Promotion of Improvements to the Management Thereof (Cabinet Order No. 138 of 2000)
- (12) Class II Designated Chemical Substances subject to the PRTR: items listed in Appended Table 2 of the Order for the Enforcement of the Act on the Confirmation, etc. of Release Amounts of Specific Chemical Substances into the Environment and Promotion of Improvements to the Management Thereof
- (13) Mercury, etc.: items specified in Article 3 of the Enforcement Order of the Act on Preventing Environmental Pollution of Mercury (Cabinet Order No. 378 of November 11, 2015)
- (14) Explosives' raw materials: chemical substances that are likely to be used as explosives' raw materials specified in “Enhancement of Management of Chemical Substances That Are Likely

To Be Used as Explosives' Raw Materials" (Cho-Bi-Ki-Hatsu No. 247 of the National Police Agency dated December 13, 2018)

- (15) In addition to what is set forth in the preceding items, any other items as may be specified by the Special Committee for Management of Chemical Substance, Kumamoto University Superior Committee for Safety and Health.

(Indication of Names of Chemical Substances)

#### Article 3

The Chemical Substance Managers specified in Article 6, Paragraph 1 of the Rules shall endeavor to indicate the names of chemical substances that fall under Items 7, 8, 11, and 12 of the preceding article on the containers of such chemical substances.

(Storage of Hazardous Materials, etc.)

#### Article 4

1. A laboratory, etc. shall be regarded as a unit of management area for storage and use of hazardous materials. The quantity of any hazardous material stored and used in each said area shall be less than one fifth of the designated quantity.
2. When multiple Chemical Substance Handling Groups (hereinafter referred to as "Groups") store and use hazardous materials in a single management area, the quantity stored and used by each Group (hereinafter referred to as the "Standard Allocation Quantity") shall be less than the quantity obtained by dividing one fifth of the designated quantity by the number of such Groups in principle. In this case, each Group shall be able to add or subtract a certain quantity to or from the Standard Allocation Quantity within the scope that the total of the Standard Allocation Quantity of all the Groups within such management area does not reach one fifth of the designated quantity for mutual adjustments.
3. Any hazardous material whose quantity is one fifth or more of the designated quantity shall be stored in the Hazardous Material Indoor Storage Facility. If the quantity of such hazardous material is one fifth of the designated quantity or more but not exceeding the specified quantity, it may be stored in the Small Quantity Hazardous Material Handling Area.
4. The Chemical Substance Managers shall classify and store hazardous materials in laboratories, etc. based on the categories indicated in the Table for Consolidated Storage of Hazardous Materials (Appended Table 1).
5. For storage specified in the preceding paragraph, it shall be required to comply with the following matters.
  - (1) When containers at the time of purchase are not used as containers to store hazardous materials, containers made from materials that are not easily damaged when containers are dropped, overturned, etc. shall be used (e.g., polyethylene containers) whenever possible.
  - (2) Containers that contain hazardous materials shall be stored in storage locations that meet the following conditions, and the doors shall be closed in principle.
    - A. Storage locations that are made from incombustible materials, have depth (front to rear), and are robust
    - B. Storage locations equipped with double sliding doors (In the case of storage locations equipped with gate-fold doors, they shall be provided with a latch to prevent the doors from opening due to vibration. In the case of storage locations equipped with double sliding doors, necessary measures shall be implemented to prevent containers from overturning due to vibration when the doors are opened and closed.)
    - C. Storage locations that are secured to the wall, pillar, etc. of the building and for which measures are implemented to prevent containers from overturning and dropping
  - (3) The following items shall be checked when storing containers in storage locations.
    - A. Containers shall be sealed hermetically.
    - B. Containers shall not be stacked up.
    - C. Containers that contain hazardous materials which may cause a hazardous reaction when mixed (e.g., ignition) shall be kept away from each other, or measures shall be implemented to prevent leaked hazardous materials due to overturning, etc. from being mixed.
    - D. For hazardous materials that are likely to cause spontaneous ignition, the container shall be filled with a sufficient quantity of protective liquid.

- E. For hazardous materials that are highly hazardous, storage in upper shelves of storage locations shall be avoided, and measures such as storage in a sandbox shall be implemented as necessary.

(Use of Hazardous Materials)

#### Article 5

When using hazardous materials, Chemical Substance Handling shall carry out the following matters.

- (1) Implement necessary measures to prevent leakage, overflow, or scattering of hazardous materials.
- (2) When conducting experiments, etc. that may cause hazardous reaction (e.g., ignition) due to mixing of chemicals, etc. that contain hazardous materials, prepare for firefighting in advance by arranging fire extinguishers in the vicinity, etc.

(Storage of Poisonous and Deleterious Substances)

#### Article 6

1. The Chemical Substance Managers shall ensure that the Poisonous and Deleterious Substances are stored in a securely lockable storage location (which shall be metallic and difficult to carry around; hereinafter the same applies in this article) with clear distinction from other items and ensure that such storage location is locked at all times.
2. The Chemical Substance Managers shall, on their own responsibility, manage and hold the key(s) for the storage location(s) in their possession and keep a management book for such key(s).
3. The Chemical Substance Managers shall appoint an agent for storage of Poisonous and Deleterious Substances. If a Chemical Substance Manager is absent, the agent shall lock the storage location and manage the key.
4. The Chemical Substance Managers shall indicate their names on the storage location(s) containing Poisonous and Deleterious Substances as well as ensuring that:
  - Each of the Poisonous Substances is marked "Poison" in white letters on a red label, together with the indication "Not for Medical Use," and
  - Each of the Deleterious Substances is marked "Deleterious" in red letters on a white label, together with the indication "Not for Medical Use."
5. Whenever any of the Poisonous and Deleterious Substances is used, the Chemical Substance Manager responsible for such use shall record the consumption in weight or volume and keep the record on file for five years from the date of the end of use.
6. The Chemical Substance Managers shall regularly examine and verify the registration status in YAKUMO for each type of Poisonous and Deleterious Substance, together with its inventory quantities. If a Poisonous and Deleterious Substance is unlikely to be put into use, the Chemical Substance Manager shall implement measures (e.g., disposal) promptly.

(Storage of High Pressure Gases)

#### Article 7

1. The Chemical Substance Managers shall not store high pressure gas containers in the following areas.
  - (1) Poorly ventilated areas
  - (2) Areas in which operations using open flames and sources of ignition take place and their vicinity
  - (3) Areas in which any explosive or hazardous material, any other ignitable or fulminic material, or a large quantity of any combustible material is manufactured or handled, and other areas in the vicinity
  - (4) Areas in which the surface temperature of a high pressure gas container reaches or exceeds 40 degrees centigrade
2. The Chemical Substance Managers shall clearly distinguish high pressure gas containers which are yet to be used or presently in use from empty and other high pressure gas containers.
3. The Chemical Substance Managers shall carry out the following matters for the storage of high pressure gas containers.
  - (1) High pressure gas containers shall be set up in the cylinder stands secured to the floor, wall, pillar, etc. using bolts, etc. whenever possible. Chains, hooks, etc. shall be used to prevent overturning.

- (2) When cylinder stands are not used, chains, hooks, etc. shall be secured to the wall, pillar, etc. using bolts, etc. to prevent high pressure gas containers from overturning.

(Use of High Pressure Gases)

#### Article 8

When using or handling a high pressure gas, the Chemical Substance Handlers shall fulfill the following requirements.

- (1) Handle high pressure gases while giving sufficient consideration to the hazards, including toxicity, combustion-supporting properties, and explosivity.
- (2) Return used-up high pressure gas containers (excluding self-owned containers) to the vendor immediately.
- (3) Do not keep containers with remaining gas (excluding bulk containers) for more than one year after their installation in principle; provided, however, that such containers may be kept for another year from the date of inspection if safety is confirmed based on an inspection by the high pressure gas vendor and the inspection sheet is reported to the President.
- (4) Handle high pressure gases in well ventilated areas.
- (5) Do not release high pressure gases into the atmosphere without due cause.
- (6) Check for corrosion on the high pressure gas cylinders, deterioration, etc. in their regulators, etc.
- (7) Install high pressure gas cylinders vertically for use in principle.
- (8) Do not use fire in areas where high pressure gases are handled. Do not place flammable or ignitable materials.

(Use of Substances Subject to Risk Assessment)

#### Article 9

Regarding the use of Substances Subject to Risk Assessment by the Chemical Substance Managers, the Chemical Substance Managers shall, under the guidance of the Superior Committee for Safety and Health, investigate the hazards or toxicity, etc. of such substances at the beginning of each fiscal year and when such substances are newly used, inform the Chemical Substance Handlers of the following matters, and record the investigation results and the status of informing the Chemical Substance Handlers.

- (1) Names of substances subject to such investigation
- (2) Details of such duty
- (3) Results of such investigation
- (4) Details of necessary measures to prevent hazards or health impairment of the Chemical Substance Handlers that are implemented based on the results of such investigation

(Use of Specified Chemical Substances)

#### Article 10

When using a Specified Chemical Substance, the Chemical Substance Manager shall carry out the following matters.

- (1) For the use or handling of any of the specially controlled substances:  
Displaying in a conspicuous location such information as the name of the specially controlled substance, any toxic physical or health effects that may be produced by the specially controlled substance, safety precautions to be observed, and personal protective equipment to be used when using or handling the specially controlled substance.
- (2) When the Chemical Substance Handlers regularly handle the Specially Controlled Substances, the names of the users as well as an outline and period of work (including an outline of the situation of serious pollution, if any) shall be recorded at an interval not exceeding one month.
- (3) For the regular handling of any of the Type 1 Specified Chemical Substances and the Type 2 Specified Chemical Substances:  
Ensuring that a Work Environment Measurement Expert regularly conducts work environment measurements at intervals not exceeding six months in principle, and the measurement results and relevant evaluation records are kept on file for the period specified in the Laws and Regulations, etc.
- (4) For work in which Substances That Require the Use of Protective Clothes, etc. are handled or work which is performed in the vicinity of such work, if there are risks of skin damage or

damage due to percutaneous absorption, an eye protector, impermeable protective clothes, protective gloves, and protective boots shall be used.

(Use of Organic Solvents)

#### Article 11

When using an Organic Solvent, the Chemical Substance Managers shall carry out the following matters.

- (1) Displaying in a conspicuous location information pertaining to any physical and health effects that may be produced by the Organic Solvent, safety precautions to be observed in using or handling the Organic Solvent, and first-aid measures to be implemented in the event of organic solvent poisoning
- (2) Ensuring that with respect to the regular handling of any of the Class I Organic Solvents and the Class II Organic Solvents, a Work Environment Measurement Expert conducts work environment measurements at intervals not exceeding six months in principle, and the measurement results and relevant evaluation record are kept on file for the period specified in the Laws and Regulations, etc.
- (3) Displaying in a conspicuous location the information and/or data organized based on the three types of Class I Organic Solvents, Class II Organic Solvents and the Class III Organic Solvents and indicated in red, yellow and blue respectively.

(Storage of Mercury, etc.)

#### Article 12

When storing mercury, etc., the Chemical Substance Managers shall carry out the following matters.

- (1) The containers or packages that are used to store mercury, etc. shall be made from carbon steel or stainless steel that does not react with mercury, etc. at normal temperature.
- (2) The name of mercury, etc. (for mixtures of mercury, etc. (excluding cinnabar), the name and content of mercury, etc.) shall be indicated on containers or packages.
- (3) Mercury, etc. shall be stored in a securely lockable storage location that indicates the name of mercury, etc. stored.

(Storage of Explosives' Raw Materials, etc.)

#### Article 13

1. The Chemical Substance Managers shall store the explosives' raw materials in a lockable storage location, manage the key for the storage location, and keep the storage location locked.
2. Whenever any of the explosives' raw materials is used, the Chemical Substance Manager responsible for such use shall record the consumption in weight or volume and keep the record on file for five years from the date of the end of use.

(Miscellaneous)

#### Article 14

In addition to what is provided for in the Guidelines, necessary matters related to the handling of the Chemical Substances shall be provided for separately.

#### Supplementary Provisions

1. The Guidelines shall come into force as from April 1, 2009.
2. The Kumamoto University Guidelines for the Handling of Poisonous and Deleterious Substances (established on April 1, 2004) shall be abolished.

#### Supplementary Provisions (Guidelines No. 15 of September 14, 2011 )

The Guidelines shall come into force as from October 1, 2011.

#### Supplementary Provisions (Guidelines No. 6 of March 29, 2013)

The Guidelines shall come into force as from April 1, 2013.

#### Supplementary Provisions (Guidelines No. 16 of March 23, 2015)

The Guidelines shall come into force as from April 1, 2015; provided, however, that the provisions of Article 9 after revision of the Guidelines shall come into force as from June 1, 2015.

Supplementary Provisions (Guidelines No. 43 of September 28, 2017)  
The Guidelines shall come into force as from October 1, 2017.

Supplementary Provisions (Guidelines No. 11 of March 29, 2019)  
The Guidelines shall come into force as from May 1, 2019.

## Appended Table 1 (Related to Article 4)

Table for Consolidated Storage of Hazardous Materials

“x” indicates that consolidated storage is prohibited.

“o” indicates that consolidated storage is allowed.

	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6
Type 1	-	x	x	x	x	o
Type 2	x	-	x	o	o	x
Type 3	x	x	-	o	x	x
Type 4	x	o	o	-	o	x
Type 5	x	o	x	o	-	x
Type 6	o	x	x	x	x	-