

## 1. Handle Harmful Chemicals as Experiment Waste Liquid

Hazardous Substances (Kumamoto University Rules)

- Items not to be drained into sewage systems listed under Disposal Precautions of the Safety Data Sheet (created by manufacturer).
- Items applicable to laws and regulations related to chemical substances.
- Items in which the presence or absence of hazardous/dangerous materials cannot be determined.
- Items of pH 5 or less, or pH 9 or more.

YAKUMO bar code label

Damage Can be determined by chemical label or via YAKUMO from the barcode label.

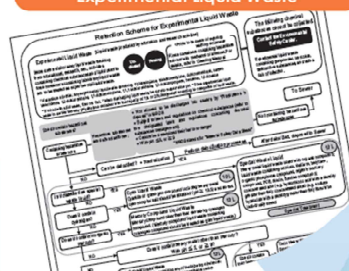


GHS icon



Aquatic environmental hazards etc.

Follow the Retention Scheme for Experimental Liquid Waste



Check the Website  
Environmental Safety Center Homepage  
> Waste > About waste products

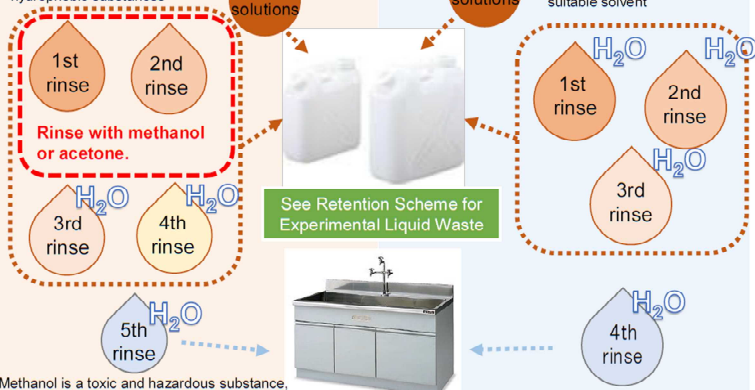
## 2. Treat Until Lower Than Standard Drainage Values (Cleaning)

Hazardous solvents (hydrophobic substances)

Items other than harmful solvents (hydrophilic substance)

\*Items classified as "hazardous solvent waste" Also applies to other hydrophobic substances

\*Materials that are soluble only in acids etc. should be cleaned beforehand with a suitable solvent



Methanol is a toxic and hazardous substance, and an organic solvent. Acetone is a hazardous substance and an organic solvent. Please handle with care. Note that the cleaning properties of ethanol are insufficient.

## Hydrophilic substance in Regulations Relating to Drainage

### Hydrophobic substances

Trichloroethylene, tetrachloroethylene, dichloromethane, carbon tetrachloride, 1,2-dichloroethane, 1,1-dichloroethylene, cis-1,2-dichloroethylene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, 1,3-dichloropropene, benzene, 1,4-dioxane, crude oil, heavy oil, lubricating oil, light oil, kerosene, volatile oil, animal and vegetable oil

### Hydrophilic substance

Cadmium and its compounds, cyanogen compound, organic phosphorus compound, lead and its compounds, hexavalent chromium and its compounds, arsenic and its compounds, mercury, alkylmercury, other mercury compounds, polychlorinated biphenyl, thiram, simazine, thiobencarb, selenium and its compounds, boron and its compounds, fluorine and its compounds, dioxin, amine, ammonium compounds, nitrous acid compounds, nitrates

※Rinse harmful substances other than the above in the same way.

## May be accidentally leaked

### Experimental liquid waste tank and chemicals (including subdivided containers)



- Do not place around the sink. (There is a risk of falling)
- Display chemical substance names, etc. (In particular, color things that are easily confused with water.)

## 3. Be Careful Around Sinks (From past cases)

Spills Might Go Down the Drain

Be careful of outflow from the exhaust gas hose

Evaporator



Usage Prohibited with Legally Registered Harmful Chemicals

Store Waste Liquid as Experiment Waste

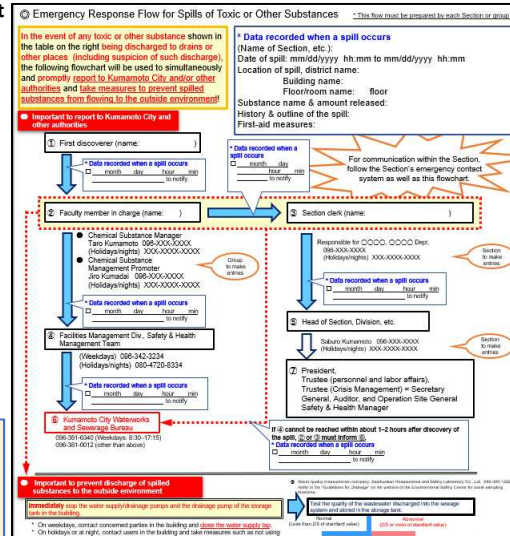
- Set the cooling temperature according to the solvent  
※ Keep it at least 40 °C lower than the temperature of the hot bath. (Example) When the hot bath is 30 °C (30 - 40 = -10) °C
- Install a secondary trap
- The exhaust gas hose must crawl on the ceiling and secure its tip to the receiving tank in the draft

In the event of Hazardous Substances in Regulations Relating to Drainage being discharged to drains or other places (including suspicion of such discharge)

Please respond based on the "Emergency Response Flow for Spills of Toxic or Other Substances" posted in each room.

- Report to Kumamoto City Waterworks and Sewerage Bureau and other authorities (Please contact Faculty member in charge, Section clerk, Facilities Management Div in that order, and if you cannot contact, please contact the next person)
- Prevent discharge of spilled substances to the outside environment (Stop the water supply/drainage pumps and the drainage pump of the storage tank in the building)

**Kumamoto University is unable to halt drainage. As such, if instructed by Kumamoto City to halt drainage, the incoming water supply will also be stopped.**



Contact

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Kumamoto University