



KTH's Routine for handling liquid chemical residues and aqueous solutions

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Purpose

KTH's official policy is that hazardous substances must not be poured out in sinks, and that chemical waste must be disposed of as hazardous waste. This procedure describes which liquid chemical residues and aqueous solutions can be exempted from this rule and are allowed to be poured into sinks connected to the municipal sewer system. Please note that KTH does not have any extra treatment of wastewater before it flows into the municipal sewer network.

Scope

This routine includes laboratory research and teaching activities within KTH's premises that are connected to Stockholm Water's wastewater treatment plant via the sewer network.

Responsibilities

Everyone who performs laboratory and teaching activities at KTH must follow this routine. The head of department/equivalent is responsible for their organisation's management of chemicals and emissions.



Implementation

Chemical waste

The official policy is that chemical waste **MUST** be collected in appropriate containers, properly labelled, and handed in as hazardous waste to the commissioned waste supplier.

Small amounts of liquid chemical residues can be diluted in the drain IF they meet ALL 5 requirements listed below:

- 1 The pH value must be at least 5 and no more than 11.5.** Highly acidic or alkaline solutions can damage the sewer pipes.
- 2 The chemical must NOT be classified as environmentally hazardous.** It cannot be marked with:
 - a. **H400-H413** hazard statements
 - b. **ED/ENV** (endocrine disrupting/endocrine disrupting properties, for the environment) **or EUH430 or EUH431**
 - c. **PBT** (persistent, bio accumulative or toxic) **or EUH440**
 - d. **vPvB** (very persistent and very bio accumulative) **or EUH441**
 - e. **PMT** (persistent, mobile, and toxic) **or EUH450**
 - f. **vPvM** (very persistent, very mobile) **or EUH451**
- 3 The chemical must not be carcinogenic, mutagenic, or toxic to reproduction.** It must not be labelled with hazard statements **H340, H341, H350, H351, H360 or H361.**
- 4 The chemical must not be classified as hazardous to health.** It must not be labelled with hazard statements **H300, H301, H310, H311, H330, H331, H334, H370-372, or EUH380.**
- 5 The chemical must not be strong-smelling.** Vapours can diffuse out through water traps downstream in the sewer line.
 - Residues of acetone and ethanol used to dry washed glass equipment may be discharged into the drain in small quantities. Ensure good ventilation.
 - Potential exemptions exist for diluted aqueous solutions of hazardous substances where collection is difficult to implement, or where the handling of the collected amounts of solution is deemed to constitute a greater environmental burden than the environmental benefit of disposal as hazardous waste. Contact the schools representative for chemical safety to investigate the possibilities for an exemption in these cases.



Biological Liquid Waste Handling

Microorganisms:

If genetically modified: Must be disposed of as hazardous waste unless inactivated/sterilized. Liquid residues that are inactivated can only be released into sinks if they do NOT contain other hazardous substances.

Wild type: Handled in accordance with the risk assessment. Take into account the risk of spreading infections with regard to health and the environment.

Antibiotic-containing waste

1. Biodegradable antibiotics: must be inactivated with a proven effective method **BEFORE** it is handled as chemical hazardous waste. The method must be documented in the risk assessment or in local routines.
Examples: Ampicillin, Carbenicillin, Chloramphenicol, Erythromycin, Penicillin Amphotericin (Fungizone), Geneticin (G418), Gentamycin, Neomycin, Puromycin, Streptomycin, Sulfadoxine and Tetracycline
2. Antibiotics that must always be disposed of as hazardous waste:
Blasticidin, Ciprofloxacin, Enrofloxacin, Kanamycin, Nalidixic acid, Vancomycin, Zeomycin and Zeozin

Radioactive solutions

Please note that radioactive water solutions may only be poured into the drain in accordance with rules defined by the Swedish Radiation Safety Authority (SSMFS 2018:1, 5 kap. §7-8 och SSMFS 2018:3) and only after consultation with KTH's radiation safety coordinator. Contact the radiation safety coordinator via radiationsafety@kth.se for further information.