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Guidelines on the Treatment and Disposal of Waste at the University of Zurich

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Introduction

The Guidelines on the Treatment and Disposal of Waste apply to all organizational units housed in UZH properties and thus falling within the scope of its responsibility. Private waste, recyclable materials, equipment and household trash may not be disposed of at UZH.

Abbreviations used in this document:

- UZZ: University of Zurich City Campus
- UZI: University of Zurich, Irchel Campus
- ZZM: University of Zurich Center of Dental Medicine
- MUL: University of Zurich Procurement and Logistics
- OU: Organizational unit

1 Responsibilities

Waste is to be disposed of by the organizational unit that generates it. In the case of waste that requires particular monitoring, the heads of the individual organizational units (faculties, institutes, clinics, departments and administrative bodies) are responsible for:

- Ensuring that staff and students are familiar with these Guidelines
- Observing and complying with these Guidelines
- The proper treatment, collection and labeling of waste, and
- The proper transportation of waste to its interim storage location.

Those in charge must appoint competent members of staff within the individual organizational units to carry out the actual, proper disposal of chemical, radioactive, and biological waste.

The member of staff responsible within Safety, Security and Environment, S. Brentari, will be happy to advise (internal phone no. 54115).

2 Basic Principles

The best form of waste disposal is its avoidance in the first place, for example by consuming less, as well as through re-use and recycling. Please use resources sparingly, and where special waste in particular is concerned, consider using alternative materials and methods that produce less – and less problematic – waste. Where radioactive substances are concerned, this is explicitly required by Art. 25 para. 2 of the Radiological Protection Act in accordance with the ALARA principle: “As low as reasonably achievable”. All waste that can be re-used in some way (e.g. reference and analysis samples, base and interim products, containers of all types, metals, paper, plastic and glass) is to be recycled wherever possible.

3 Background and Statutory Basis

Proper waste disposal is important not only for environmental and economic reasons, but to a large extent also for your personal safety and that of third parties, such as your team and the cleaning staff. Hazardous substances must be disposed of or converted into a form in which they can be handed in for disposal, at the location in which they were produced. This is known in the broad sense as the “polluter pays” principle.

For safety reasons, steps must be taken to avoid placing third parties (such as janitorial or technical staff) at risk as a result of contact with such substances.

Hazardous substances may be destroyed, detoxified or converted into less harmful substances.



The University also produces a wide variety of laboratory waste, which differs in terms of its nature, physical properties, hazardousness, reactivity, and in particular also its volume. There must therefore be appropriate procedures in place to eliminate or recycle waste in a way that reflects the particular nature of that waste.

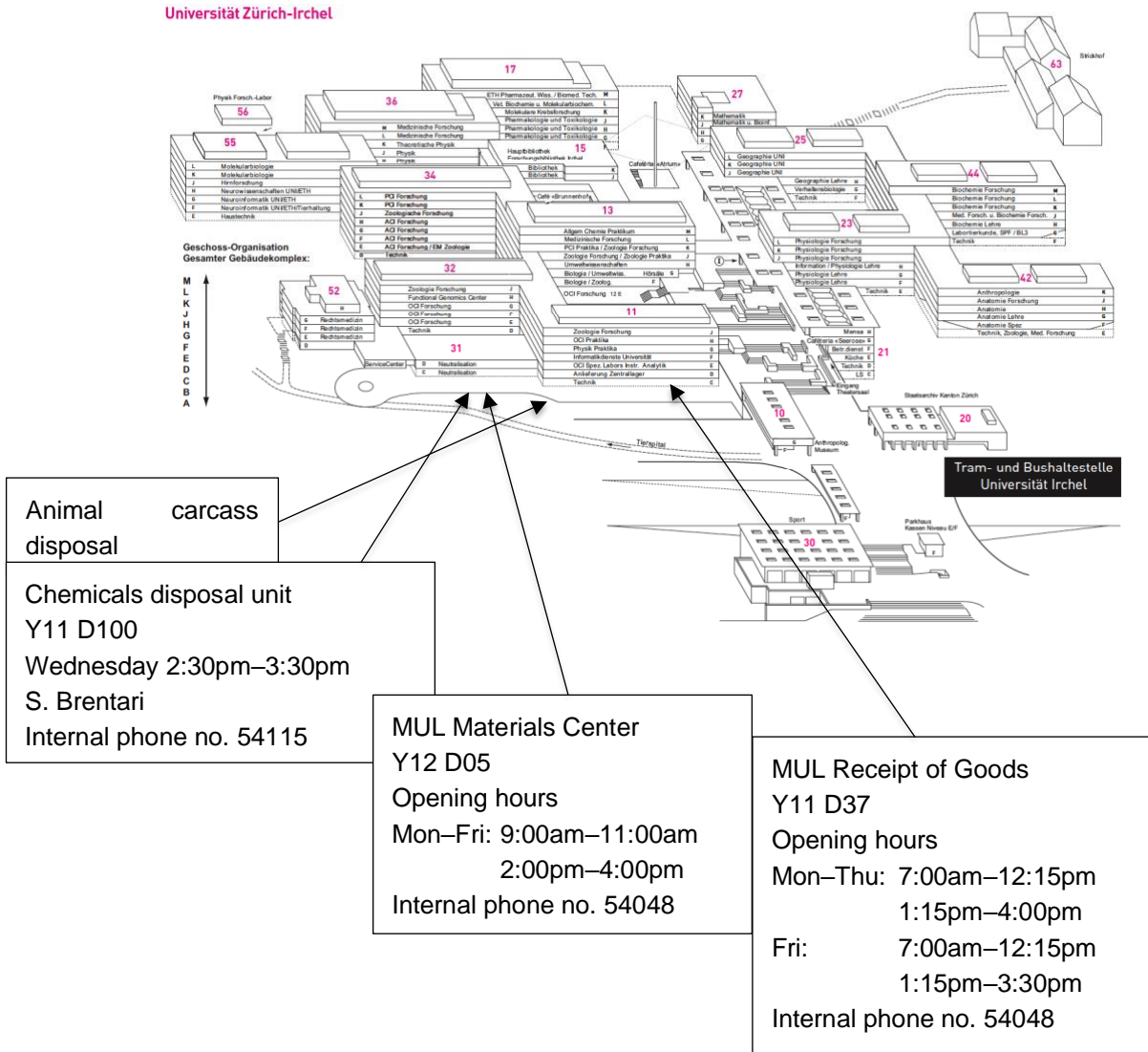
Disposing of hazardous substances in wastewater or directly into the sewerage system can have serious consequences and is therefore forbidden. Toxins, acids, and alkalis in wastewater can result in the long-term impairment, or even complete failure, of the biological treatment stage at the sewage treatment plant. The bacteria used for this treatment stage are killed off at pH values of above 9 and below 6, for example. This means that 100 cm³ of concentrated hydrochloric acid would have to be diluted with 1000 m³ of water to bring about a pH of 6. This violates the “no solution by dilution” principle of disposal.

Statutory foundations in Switzerland:

- Chemicals Act (ChemA, SR 813.1)
- Radiological Protection Act (RPA, SR 814.50)
- Radiological Protection Ordinance (RPO, SR 814.501)
- Ordinance of the Federal Department of Home Affairs on radioactive waste subject to mandatory surrender (*Verordnung des EDI über die ablieferungspflichtigen radioaktiven Abfälle*)
- Waters Protection Ordinance (WPO, SR 814.201)
- Ordinance on Air Pollution Control (OAPC, SR 814.318.142.1)
- Environmental Protection Act (EPA, SR 814.01)
- Waste Movements Ordinance (WMO, SR 814.610)
- Ordinance of 29 November 2002 on the Carriage of Dangerous Goods by Road (SDR, SR 741.621)

4 Locations

4.1 Overview Map of UZI





4.2 Location-Specific Waste Disposal Units and Information

4.2.1 General Waste (excl. Equipment and Special/Hazardous Waste)

<http://www.staff.uzh.ch/en/arbeitsplatz/reinigung-entsorgung/entsorgung-abfall.html>

4.2.2 Disposal of Equipment

<https://www.staff.uzh.ch/en/arbeitsplatz/reinigung-entsorgung/entsorgung-geraet.html>

4.2.3 Disposal of Special/Hazardous Waste

<https://www.staff.uzh.ch/en/arbeitsplatz/reinigung-entsorgung/entsorgung-sonderabfall.html>

5 Waste Disposal

For disposal purposes, the University defines a number of different categories of waste. These are listed below. They require different routes and means of disposal. Waste that does not fall into one of the categories listed below may be disposed of in accordance with the procedures defined by Safety, Security and Environment (internal phone no. 54115).

5.1 General Waste

5.1.1 Business Waste

Business waste may be disposed of in workplace trash bins.

Please note: While deemed business waste, completely empty packaging from hazardous substances may not be disposed of in workplace bins.

It must go straight into the larger business waste containers for the building in question.

5.1.2 Batteries

Batteries, both single-use and rechargeable, are classified as special, but not hazardous, waste. They must be collected separately and can be returned to the supplier (volumes of over 25 kg must be transported in accordance with the Waste Movements Ordinance).

UZZ: Batteries may be placed in the dedicated containers in break rooms and corridors.

UZI: Collected batteries are to be thrown in the dedicated containers.

Vetsuisse: In accordance with the instructions of Facility Management, R. Zehnder (internal phone no. 58144).

ZZM: Collected batteries are to be thrown in the dedicated containers.

Schlieren Campus (User Handbook): <http://www.staff.uzh.ch/en/arbeitsplatz/standortinfos.html>

Other locations: In accordance with the instructions of the facility management office concerned.

5.1.3 Glass

- **Regular glass waste** (drink bottles, etc., without the caps): Dispose of in the glass recycling container.
- Chemicals containers used for acutely toxic substances (GHS H codes 300, 310, 330) are treated as chemical waste and must be disposed of accordingly (see Point 4.2.1).
- Glassware containing hazardous residues that cannot be cleaned simply and safely is also deemed to be chemical waste and must thus be disposed of appropriately (see Point 4.2.1).



Otherwise, the following rules apply:

- **Chemicals containers for water-soluble substances** must be rinsed in water and then disposed of in a glass recycling container.
- **Chemicals containers for non-water-soluble substances** must be rinsed with a suitable solvent (the rinsing solution must be disposed of with halogenated solvent waste) and then disposed of in a glass recycling container.

UZI: 12 D 05, as well as further locations at which there is a blue collection container, see Point 4.2.1.

ZZM: Via the internal waste disposal unit, internal phone no. 43209.

Vetsuisse: In accordance with the instructions of Facility Management, R. Zehnder (internal phone no. 58144).

Schlieren Campus (User Handbook): <http://www.staff.uzh.ch/en/arbeitsplatz/standortinfos.html>

Other locations: In accordance with the instructions of the facility management office concerned.

5.1.4 Animal Carcasses

Carcasses must be brought to the official carcass collection points as quickly as possible and deposited in the dedicated containers there.

- If the carcasses contain the organisms described under Point 5.6 on bioactive waste, they must be treated as waste of this category before being brought to the collection point.
- Carcasses with radioactive markers and activity above the permitted limit are treated as radioactive waste and must be disposed of accordingly (see Point 5.5 on radioactive waste).

UZZ: Independently as at present, or in the same way as UZI.

UZI: In the chest freezer in Y11 D 23.

ZZM: In accordance with the instructions of Facility Management (internal phone no. 43209).

Vetsuisse: In accordance with the instructions of Facility Management, R. Zehnder (internal phone no. 58144).

Schlieren Campus: Drop off at Safety, Security and Environment (WAD D101c in even-numbered calendar weeks from 10:00am–11:00am).

5.1.5 Plastic/Polystyrene

Packaging from hazardous substances is considered special waste and must be disposed of according to the rules for its previous contents. In cases of doubt, always contact Safety, Security and Environment: S. Brentari, internal phone no. 54115.

Plastic (incl. polystyrene) may be dropped off at the respective trash disposal center.

UZZ: In accordance with the instructions of Facility Management, Service Center (internal phone no. 44444).

UZI: [Fact sheet on plastics collection point at Irchel Campus](#) (in German).

ZZM: In accordance with the instructions of Facility Management (internal phone no. 43209).

Vetsuisse: In accordance with the instructions of Facility Management, R. Zehnder (internal phone no. 58144).

Schlieren Campus (User Handbook): <https://www.staff.uzh.ch/en/arbeitsplatz/standortinfos.html>

Other locations: In accordance with the instructions of the facility management office concerned.

5.1.6 Fluorescent Tubes, Conventional Lightbulbs

Fluorescent tubes and conventional lightbulbs (mercury vapor lamps) are treated as special, but not hazardous waste, and are thus subject to the Waste Movements Ordinance. They must not be thrown



away with general business waste, but instead are supplied and disposed of by the individual facility management offices.

UZZ: In accordance with the instructions of Facility Management, Service Center (internal phone no. 44444).

UZI: In accordance with the instructions of Facility Management, Service Center (internal phone no. 54141).

ZZM: In accordance with the instructions of Facility Management (internal phone no. 43209).

Vetsuisse: In accordance with the instructions of Facility Management, R. Zehnder (internal phone no. 58144).

Other locations: In accordance with the instructions of the facility management office concerned.

5.1.7 Metal Waste

Metal waste is a valuable material and must be recycled.

UZZ: In accordance with the instructions of Facility Management, Service Center (internal phone no. 44444).

UZI: In accordance with the instructions of Facility Management, Service Center (internal phone no. 54141).

ZZM: In accordance with the instructions of Facility Management (internal phone no. 43209).

Vetsuisse: In accordance with the instructions of Facility Management, R. Zehnder (internal phone no. 58144).

Schlieren Campus (User Handbook): <http://www.staff.uzh.ch/en/arbeitsplatz/standortinfos.html>

Other locations: In accordance with the instructions of the facility management office concerned.

5.1.8 Paper, Cardboard

Cardboard is baled up or collected directly and recycled.

UZZ: In accordance with the instructions of Facility Management, Service Center (internal phone no. 44444).

UZI: In accordance with the instructions of Facility Management (paper collection points); cardboard is to be deposited at the collection points in the accessways.

Vetsuisse: In accordance with the instructions of Facility Management, R. Zehnder (internal phone no. 58144).

ZZM: In accordance with the instructions of Facility Management (internal phone no. 43209).

Schlieren Campus (User Handbook): <http://www.staff.uzh.ch/en/arbeitsplatz/standortinfos.html>

Other locations: In accordance with the instructions of the facility management office concerned.

5.1.9 Disposal of Amalgam at ZZM

All amalgam waste (residual putty, filling excess, filling fragments, extracted teeth containing amalgam fillings, cotton wads visibly soiled with amalgam, swabs, wooden wedges, molds, copper rings, fingerstalls, etc.) is collected in the dedicated red-topped containers (one per unit). Full containers can be exchanged for empty ones at the waste disposal unit (PLF U2-102) during opening hours.

5.1.10 Refrigerators, Freezers, Refrigeration Compressors

Old equipment and machinery must be disposed of via the facility management offices.

For lab equipment, a clearance declaration must be filled out and attached to the device concerned.



<https://su.uzh.ch/de/unsere-aufgaben/arbeitssicherheit-gesundheitsschutz/arbeitshygiene-arbeitssicherheit/doku.html>

Equipment or machinery that is in good condition but no longer needed can be given to the Procurement and Logistics (MUL) equipment exchange

(<https://www.uzh.ch/cmsssl/mul/de/dienstleistungen/geraeteboerse.html>), G. Köstinger, internal phone no. 53061.

To keep the environmental pollution caused by freons (the depletion of the ozone layer) to a minimum, our technical departments regenerates the coolants used in a wide variety of refrigerators. Old refrigerators, freezers and refrigeration compressors can be disposed of via the facility management offices.

UZI: By appointment only, please. Service Center, internal phone no. 54141.

UZZ: By appointment only, please. Service Center, internal phone no. 44444.

ZZM: In accordance with the instructions of Facility Management (internal phone no. 43209).

Vetsuisse: In accordance with the instructions of Facility Management, R. Zehnder (internal phone no. 58144).

Schlieren Campus (User Handbook): <http://www.staff.uzh.ch/en/arbeitsplatz/standortinfos.html>

Other locations: In accordance with the instructions of the facility management office concerned.

5.1.11 Equipment, Electronics

Old equipment and machinery must be disposed of via the facility management offices.

For lab equipment, a clearance declaration must be filled out and attached to the device concerned.

<https://su.uzh.ch/de/unsere-aufgaben/arbeitssicherheit-gesundheitsschutz/arbeitshygiene-arbeitssicherheit/doku.html>

Equipment or machinery that is in good condition but no longer needed can be given to the Procurement and Logistics (MUL) equipment exchange

(<https://www.uzh.ch/cmsssl/mul/de/dienstleistungen/geraeteboerse.html>), G. Köstinger, internal phone no. 53061.

UZI: By appointment only, please. Service Center, internal phone no. 54141.

UZZ: By appointment only, please. Service Center, internal phone no. 44444.

ZZM: In accordance with the instructions of Facility Management (internal phone no. 43209).

Vetsuisse: In accordance with the instructions of Facility Management, R. Zehnder (internal phone no. 58144).

Schlieren Campus (User Handbook): <http://www.staff.uzh.ch/en/arbeitsplatz/standortinfos.html>

Other locations: In accordance with the instructions of the facility management office concerned.

5.1.12 Empty Toner Cartridges

General: Empty toner cartridges can be accepted **only** in their original packaging.

UZI: Return to the Receipt of Goods office (Y11 D37). See Point 4.1 for opening hours.

Other locations: Return cartridges via internal mail, either at “Weibel AUS” or Unipost counters.

5.1.13 Empty Pipette Tip Racks

UZI: Return to the Receipt of Goods office (Y11 D37). See Point 4.1 for opening hours.

Other locations: Transport order to Irchel Campus via MUL transport service

<https://www.staff.uzh.ch/en/arbeitsplatz/post-transport/queter-transportieren/uzh-transportdienst.html>



5.1.14 Used Oil

Used oil is deemed special, but not hazardous, waste.

UZI: Hand in at the chemicals disposal unit (Y11 D100) on Wednesdays from 2:30pm–3:30pm.

Vetsuisse: In accordance with the instructions of Facility Management, R. Zehnder (internal phone no. 58144).

ZZM: In accordance with the instructions of Facility Management (internal phone no. 43209).

Schlieren Campus: Hand in at Safety, Security and Environment (WAD D101c in even-numbered calendar weeks from 10:00am–11:00am).

Other locations: Waste can be handed in by appointment at Safety, Security and Environment.

5.1.15 Sharp and Pointed Items, Other Sharps (e.g. Cannulas, Scalpels)

Sharp and pointed items must be collected in special puncture-proof containers. These can be obtained free of charge from the MUL Materials Center (UZI 12 D05).

If the collected items have been in contact with radioactive substances, the full containers must be disposed of as waste of that category.

If the collected items have been in contact with bioactive substances, the containers must be autoclaved before being handed in.

UZI: Full containers: Hand in at the chemicals disposal unit (Y11 D100) on Wednesdays from 2:30pm–3:30pm.

ZZM: Full disposal containers must be exchanged for new ones at the waste disposal unit (PLF U2-102). Sharps may be disposed of ONLY in the containers provided.

Vetsuisse: Full containers: Hand in at the chemicals disposal unit (TRE 00.20/21) on Thursdays from 1:30pm–2:00pm.

Schlieren Campus: Drop off full containers at Safety, Security and Environment (WAD D101c in even-numbered calendar weeks from 10:00am–11:00am).

IMM: In accordance with instructions, Walter Schneider, internal phone no. 42640

Other locations: Waste can be handed in by appointment at Safety, Security and Environment.

5.1.16 Confidential, Personal Records and X-Rays

Confidential, personal records and X-rays do not belong in the wastepaper basket, where they are still accessible to others. This can have a detrimental effect on the person concerned.

Depending on the confidentiality of the data in question, such records are to be shredded or thrown in a waste paper baler.

UZI: By appointment only, please. BDI, Service Center, internal phone no. 54141.

Schlieren Campus (User Handbook): <http://www.staff.uzh.ch/en/arbeitsplatz/standortinfos.html>

Other locations: In accordance with the instructions of the facility management office concerned.

5.2 Chemical Waste

Chemical waste is deemed special waste and is subject to the Waste Movements Ordinance. Under the Chemicals Act and the Environmental Protection Act, the owner of the chemicals in question has an obligation to render them harmless. If this is not possible, the waste must be correctly packed and precisely labeled before being handed in at the chemicals disposal unit.

Transportation of chemical waste:



Chemical waste is classified as a hazardous substance that is subject to the Ordinance on the Carriage of Dangerous Goods by Road.

The transport of hazardous materials through public spaces (this also applies to pedestrians and public transit users) requires approval by the University of Zurich Hazardous Materials Officer: S. Brentari, internal phone no. 54115.

Fact Sheet C4 on the transportation of chemicals

http://www.su.uzh.ch/activities/chemie/doku/MC4_Transport.pdf (in German) must be observed when transporting chemical waste within University of Zurich buildings.

5.2.1 Chemicals in Their Original Packaging

See also Point 4.1.1.

Where larger volumes are concerned (when clearing laboratories, etc.): Please call S. Brentari on internal phone no. 54115 to arrange an appointment.

UZI: Always contact Safety, Security and Environment in the case of substances that become an explosion hazard when stored (e.g. potassium or peroxide). Internal phone no. 54115.

Otherwise, hand in at the chemicals disposal unit (Y11 D100) on Wednesdays from 2:30pm–3:30pm.

ZZM: In the event of damaged/unsealed packaging or non-identifiable contents,

always contact Safety, Security and Environment, S. Brentari, internal phone no. 54115; otherwise: internal disposal unit, internal phone no. 43209.

Vetsuisse: In the event of damaged/unsealed packaging or non-identifiable contents, **always** contact Safety, Security and Environment, S. Brentari, internal phone no. 54115; otherwise: Hand in at the chemicals disposal unit (TRE 00.20/21) on Thursdays from 1:30pm–2:00pm.

Schlieren Campus: Hand in at Safety, Security and Environment (WAD D101c in even-numbered calendar weeks from 10:00am–11:00am).

Other locations: Waste can be handed in by appointment at Safety, Security and Environment, internal phone no. 54115.

5.2.2 Rejected Compounds, Interim Products, Acrylamide Solutions

To be destroyed by members of the organizational unit (competent individuals only¹), or allow the substances to complete their chemical reaction.

Acrylamide solutions (strong neurotoxin) must be diluted with water to a concentration of approximately 10%. They must then be left to polymerize overnight in batches (no more than 50 ml in a 200 ml beaker) in a neutral to weak alkaline environment (pH 7–8) with the addition of ammonium persulfate solution and tetramethylethylenediamine. The polymerized gels can then be disposed of with business waste.

UZI: Products to be destroyed: Hand in at the chemicals disposal unit (Y11 D100), Wednesdays 2:30pm–3:30pm.

ZZM: **Always** contact Safety, Security and Environment, S. Brentari, internal phone no. 54115.

Vetsuisse: **Always** contact Safety, Security and Environment, S. Brentari, internal phone no. 54115.

Schlieren Campus: Hand in at Safety, Security and Environment (WAD D101c in even-numbered calendar weeks from 10:00am–11:00am).

Other locations: Waste can be handed in by appointment at Safety, Security and Environment.

¹ If there is no competent person appointed for your organizational unit, contact Safety, Security and Environment, internal phone no. 54115.



5.2.3 Anorganic Acids (no HF, no Chromic Acid) and Alkaline Solutions Not Containing Heavy Metals

Up to approx. 1 litre may be neutralized in the laboratory by a competent individual¹ within the organizational unit.

Where larger volumes are concerned (when clearing laboratories, etc.): Please call S. Brentari on internal phone no. 54115 to arrange an appointment.

Whenever possible, waste is to be neutralized with waste.

5.2.4 Aqueous Solutions with Metal Salts

Collect in containers according to the fact sheet on "Disposal of liquid special waste" (in German): https://www.su.uzh.ch/dam/jcr:9dd87c50-4769-4df1-8e36-3da139d5fe66/Entsorgung%20flüssiger%20Sonderabfall_mit%20Farben.pdf

UZI: Hand in containers at the chemicals disposal unit (Y11 D100) on Wednesdays from 2:30pm–3:30pm.

ZZM: Hand in full containers and obtain new empty ones at the internal disposal unit, internal phone no. 43209.

Vetsuisse: Hand in full containers and obtain new empty ones at the chemical disposal unit (TRE 00.20/21) on Thursdays from 1:30pm–2:00pm.

Schlieren Campus: Hand in containers at Safety, Security and Environment (WAD D101c in even-numbered calendar weeks from 10:00am–11:00am).

Other locations: Hand in full containers by appointment at Safety, Security and Environment, internal phone no. 54115.

BOT: Hand in full containers and obtain new empty ones at the internal disposal unit, Reto Schild, internal phone no. 48311.

5.2.5 Hydrofluoric Acid, Chromic Acid, Concentrated Mineral Acids or Bases

UZI: Hand in at the chemicals disposal unit (Y11 D100) on Wednesdays from 2:30pm–3:30pm.

ZZM: **Always** contact Safety, Security and Environment, S. Brentari, internal phone no. 54115.

Vetsuisse: **Always** contact Safety, Security and Environment, S. Brentari, internal phone no. 54115.

Schlieren Campus: Hand in at Safety, Security and Environment (WAD D101c in even-numbered calendar weeks from 10:00am–11:00am).

Other locations: Waste can be handed in by appointment at Safety, Security and Environment, internal phone no. 54115.

5.2.6 Ethidium Bromide, Diatomaceous Earth Containing Heavy Metals or Acutely Toxic Substances

- Diatomaceous earth containing toxic substances, as well as needles, gels and cloths contaminated with ethidium bromide must be collected in special containers that can be obtained from Safety, Security and Environment.
- Decontaminate fluids containing ethidium bromide using activated carbon or collect them in suitable containers and then proceed in accordance with point 5.3.4.
Dispose of saturated activated carbon with solid gel waste.

UZI: Hand in containers at the chemicals disposal unit (Y11 D100) on Wednesdays from 2:30pm–3:30pm.

ZZM: Via the internal waste disposal unit, internal phone no. 43209.



Vetsuisse: Hand in at the chemicals disposal unit (TRE 00.20/21) on Thursdays from 1:30pm–2:00pm.

BOT: Deposit full containers and obtain new empty ones at the internal disposal unit, Reto Schild, internal phone no. 48311.

Schlieren Campus: Hand in at Safety, Security and Environment (WAD D101c in even-numbered calendar weeks from 10:00am–11:00am).

Other locations: Waste can be handed in by appointment at Safety, Security and Environment, internal phone no. 54115.

5.2.7 Photographic Chemicals: Fixers, Developers

Collect in containers that can be obtained from Safety, Security and Environment.

UZI: Containers are emptied at the chemicals disposal unit (Y11 D100) on Wednesdays from 2:30pm–3:30pm.

ZZM: Via the internal waste disposal unit, internal phone no. 43209.

Vetsuisse: Hand in containers at the chemicals disposal unit (TRE 00.20/21) on Thursdays from 1:30pm–2:00pm.

Schlieren Campus: Hand in containers at Safety, Security and Environment (WAD D101c in even-numbered calendar weeks from 10:00am–11:00am).

Other locations: Waste can be handed in by appointment at Safety, Security and Environment, internal phone no. 54115.

5.2.8 Organic Solvents, Not Halogenated

- Halogen content < 2%, non-sulfurous, no carboxylic acids.
- May not react with water.

UZI: Collect in containers provided by Safety, Security and Environment. Containers are pumped out at the chemicals disposal unit (Y11 D100) on Wednesdays from 2:30pm–3:30pm.

ZZM: Collect in containers according to the fact sheet on “disposal of liquid special waste” (in German): https://www.su.uzh.ch/dam/jcr:9dd87c50-4769-4df1-8e36-3da139d5fe66/Entsorgung%20flüssiger%20Sonderabfall_mit%20Farben.pdf

Hand in full containers and obtain new empty ones at the internal disposal unit, internal phone no. 43209.

Vetsuisse: Collect in containers according to the fact sheet on “disposal of liquid special waste” (in German): https://www.su.uzh.ch/dam/jcr:9dd87c50-4769-4df1-8e36-3da139d5fe66/Entsorgung%20flüssiger%20Sonderabfall_mit%20Farben.pdf

Hand in containers at the chemicals disposal unit (TRE 00.20/21) on Thursdays from 1:30pm–2:00pm.

Schlieren Campus: Collect in containers according to the fact sheet on “disposal of liquid special waste” (in German): https://www.su.uzh.ch/dam/jcr:9dd87c50-4769-4df1-8e36-3da139d5fe66/Entsorgung%20flüssiger%20Sonderabfall_mit%20Farben.pdf

Hand in full containers at Safety, Security and Environment (WAD D101c in even-numbered calendar weeks from 10:00am–11:00am).

Other locations: Waste can be handed in by appointment at Safety, Security and Environment, internal phone no. 54115.

BOT: Collect in containers according to the fact sheet on “Disposal of liquid special waste” (in German): https://www.su.uzh.ch/dam/jcr:9dd87c50-4769-4df1-8e36-3da139d5fe66/Entsorgung%20flüssiger%20Sonderabfall_mit%20Farben.pdf



Hand in full containers and obtain new empty ones at the internal disposal unit, Reto Schild, internal phone no. 48311.

IMM: In accordance with instructions, Walter Schneider, internal phone no. 42640.

5.2.9 Organic Solvents, Halogenated

- Halogen content > 2% or sulfurous, carboxylic acids.
- May not react with water.

UZI: Collect in containers provided by Safety, Security and Environment. Containers are pumped out at the chemicals disposal unit (Y11 D100) on Wednesdays from 2:30pm–3:30pm.

ZM: Collect in containers according to the fact sheet on “Disposal of liquid special waste” (in German): https://www.su.uzh.ch/dam/jcr:9dd87c50-4769-4df1-8e36-3da139d5fe66/Entsorgung%20flüssiger%20Sonderabfall_mit%20Farben.pdf

Hand in full containers and obtain new empty ones at the internal disposal unit, internal phone no. 43209.

Vetsuisse:

Hand in containers at the chemicals disposal unit (TRE 00.20/21) on Thursdays from 1:30pm–2:00pm.

Schlieren Campus: Collect in containers according to the fact sheet on “Disposal of liquid special waste” (in German): https://www.su.uzh.ch/dam/jcr:9dd87c50-4769-4df1-8e36-3da139d5fe66/Entsorgung%20flüssiger%20Sonderabfall_mit%20Farben.pdf

Hand in full containers at Safety, Security and Environment (WAD D101c in even-numbered calendar weeks from 10:00am–11:00am).

Other locations: Waste can be handed in by appointment at Safety, Security and Environment, internal phone no. 54115.

BOT: Collect in containers according to the fact sheet on “Disposal of liquid special waste” (in German): https://www.su.uzh.ch/dam/jcr:9dd87c50-4769-4df1-8e36-3da139d5fe66/Entsorgung%20flüssiger%20Sonderabfall_mit%20Farben.pdf

Hand in full containers and obtain new empty ones at the internal disposal unit, Reto Schild, internal phone no. 48311.

IMM: In accordance with instructions, Walter Schneider, internal phone no. 42640.

5.2.10 Vials, Needles, incl. Those Contaminated with Chemicals

Collect in the containers that can be obtained from Safety, Security and Environment.

UZI: Hand in containers at the chemicals disposal unit (Y11 D100) on Wednesdays from 2:30pm–3:30pm.

ZM: Via the internal waste disposal unit, internal phone no. 43209.

Vetsuisse: Hand in at the chemicals disposal unit (TRE 00.20/21) on Thursdays from 1:30pm–2:00pm.

Schlieren Campus: Hand in containers at Safety, Security and Environment (WAD D101c in even-numbered calendar weeks from 10:00am–11:00am).

BOT: Hand in full containers and obtain new empty ones at the internal disposal unit, Reto Schild, internal phone no. 48311.

Other locations: Waste can be handed in by appointment at Safety, Security and Environment, internal phone no. 54115.



5.3 Old Medication, Cytostatic Waste, Disinfecting Agents

These items are deemed special waste and are subject to the Waste Movements Ordinance. This waste must be collected separately and disposed of via a licensed waste disposal firm.

5.3.1 Old Medication

UZI: Hand in at the chemicals disposal unit (Y11 D100) on Wednesdays from 2:30pm–3:30pm.

ZZM: Via the internal waste disposal unit, internal phone no. 43209.

Vetsuisse: Hand in at the chemicals disposal unit (TRE 00.20/21) on Thursdays from 1:30pm–2:00pm.

Schlieren Campus: Hand in at Safety, Security and Environment (WAD D101c in even-numbered calendar weeks from 10:00am–11:00am).

BOT: Hand in at the internal waste disposal unit, Reto Schild, internal phone no. 48311.

Other locations: Waste can be handed in by appointment at Safety, Security and Environment, internal phone no. 54115.

5.3.2 Cytostatics

Cytostatics must be collected in special containers that can be obtained from Safety, Security and Environment. The containers can be handed in by appointment. Internal phone no. 54115. Bodily fluids from patients or laboratory animals that have been treated with cytostatics are no longer deemed to be cytostatics, but must be autoclaved prior to disposal (see also Point 4.5).

5.3.3 Disinfecting Agents

Concentrates or undiluted original solutions are deemed to be special waste and must be disposed of in the same way as old medication; see point 5.3.4 for used agents.

UZI: Hand in at the chemicals disposal unit (Y11 D100) on Wednesdays from 2:30pm–3:30pm.

ZZM: Via the internal waste disposal unit, internal phone no. 43209.

Vetsuisse: Hand in at the chemicals disposal unit (TRE 00.20/21) on Thursdays from 1:30pm–2:00pm.

Schlieren Campus: Hand in at Safety, Security and Environment (WAD D101c in even-numbered calendar weeks from 10:00am–11:00am).

BOT: Hand in at the internal waste disposal unit, Reto Schild, internal phone no. 48311.

Other locations: Waste can be handed in by appointment at Safety, Security and Environment, internal phone no. 54115.

5.3.4 Liquid Aqueous Waste (Toxic or Hazardous to Health or the Environment) Not Covered by Point 5.2.3 or 5.2.4

This refers primarily to:

- Biological waste that has been autoclaved and contains heat-stable antibiotics
- Biological waste that has been chemically* inactivated
- Liquid waste from agarose gel electrophoresis (c.f. Point 5.2.5)

* If you use javel water/chlorine bleach and your waste is non-hazardous and free of antibiotics, you can dispose of it (after neutralization with **thiosulfate** and pH-adjustment) as chemical wastewater in the drains.



Instructions:

1. Preparation of a Na₂S₂O₃ neutralizing solution:
Dissolve 40 g Na₂S₂O₃ or 65 g Na₂S₂O₃·5H₂O in 100 ml water.
2. The solution is stable and can thus be prepared in larger quantities for storage.
3. In a fume hood, stir the necessary amount of neutralizing solution into your biologically inactivated liquid bleach solution; 100 ml is sufficient to neutralize 1 liter of 15% bleach solution.
4. Let the mixture stand for approx. 1–2 minutes.
5. Test the mixture for chlorine (e.g., using potassium iodide starch paper or chlorine test strips).
6. Check the pH value: Where necessary, keep adding sodium carbonate until the value reaches at least 6.4 (warning: foaming may occur).

UZI: Hand in at the chemicals disposal unit (Y11 D100) on Wednesdays from 2:30pm–3:30pm.

ZZM: Collect in containers according to the fact sheet on “Disposal of liquid special waste” (in German): https://www.su.uzh.ch/dam/jcr:9dd87c50-4769-4df1-8e36-3da139d5fe66/Entsorgung%20flüssiger%20Sonderabfall_mit%20Farben.pdf

Hand in full containers and obtain new empty ones at the internal disposal unit, internal phone no. 43209.

Vetsuisse: Collect in containers according to the fact sheet on “disposal of liquid special waste” (in German): https://www.su.uzh.ch/dam/jcr:9dd87c50-4769-4df1-8e36-3da139d5fe66/Entsorgung%20flüssiger%20Sonderabfall_mit%20Farben.pdf

Hand in at the chemicals disposal unit (TRE 00.20/21) on Thursdays from 1:30pm–2:00pm.

Schlieren Campus: Collect in containers that can be obtained from Safety, Security and Environment; hand in full containers at Safety, Security and Environment (WAD D101c in even-numbered calendar weeks from 10:00am–11:00am).

https://www.su.uzh.ch/dam/jcr:9dd87c50-4769-4df1-8e36-3da139d5fe66/Entsorgung%20flüssiger%20Sonderabfall_mit%20Farben.pdf

BOT: Collect in containers according to the fact sheet on “Disposal of liquid special waste” (in German): https://www.su.uzh.ch/dam/jcr:9dd87c50-4769-4df1-8e36-3da139d5fe66/Entsorgung%20flüssiger%20Sonderabfall_mit%20Farben.pdf

Hand in full containers and obtain new empty ones at the internal disposal unit, Reto Schild, internal phone no. 48311.

IMM: In accordance with instructions, Walter Schneider, internal phone no. 42640.

Other locations: Waste can be handed in by appointment at Safety, Security and Environment, internal phone no. 54115.

5.4 Gases

- Render toxic gases harmless by means of absorption and/or adsorption (such as washing systems) at the location at which they arise. Always use gas washing bottles. Empty gas bottles must be disposed of via the company that sold them. Please arrange this with the supplier at the ordering stage, as there are few other disposal options, and those that do exist are extremely expensive.
- Never fully empty a gas bottle that is free of toxic gases.
- Always notify Safety, Security and Environment (internal phone no. 54115) if a gas bottle is faulty.

5.5 Radioactive Substances

All radioactive substances and waste must be collected separately. Solids are divided into “combustible” and “non-combustible” categories, and liquids into “aqueous” and “organic”. Nuclides may not be mixed. Waste must be treated and forwarded in accordance with the Ordinance on the

Collection and Transportation of Radioactive Waste, as well as the orders of Safety, Security and Environment.

Note: If radioactive waste is also bioactive (see Point 5.6), it may be autoclaved only under specific circumstances, as it is easy for some nuclides to escape. Safety, Security and Environment must always be contacted in such cases (internal phone no. 54190 or 54115).

Special collection containers and labels must be obtained from Safety, Security and Environment (internal phone no. 54115).

Required information to hand in open radioactive sources (substances) with a half-life of less than 100 days:

1. Radionuclide
2. Activity in Bq (measurement or estimate)
3. Date of drop off
4. Department or Institute
5. Group
6. Name of person responsible
7. Phone number

Liquid waste:

- Aqueous solutions and, where applicable, acid or alkali concentration (e.g., in 0.1N HCl)
- Organic solvent (type of solvent)
- Type of scintillation fluid

Solid waste:

- Specification of whether the material is flammable (e.g., gloves, paper) or non-flammable.

In addition to the above-mentioned details, further information may be required for radioactive waste with a half-life of longer than 100 days. Please contact the radiation protection coordinator at Safety, Security and Environment in this regard (Andreas Hurni / 5 41 90).



Image 1: Sticker for radioactive waste

Waste can be handed in by appointment at Safety, Security and Environment, internal phone no. 54115.

Transportation of radioactive waste:

Radioactive waste is classified as a hazardous substance that is subject to the Ordinance on the Carriage of Dangerous Goods by Road. The transport of hazardous materials through public spaces (this also applies to pedestrians and public transit users) requires approval by the University of Zurich



Hazardous Materials Officer:
S. Brentari, internal phone no. 54115.

5.6 Biologically Contaminated Waste

Waste contaminated with pathogens, genetically modified organisms or prions must be collected separately and inactivated before disposal. This must be done in accordance with the nature of the waste (solid consumables, contaminated glassware, cell culture supernatants, liquids, potentially contaminated laboratory animals), as well as the risk classification of the organisms it contains. Plastic waste contaminated with level 1 organisms must be collected in thick clear plastic bags. Special "Biohazard" bags must be used for waste that has come into contact with level 2 and 3 organisms. Waste must be inactivated by sterilization (steam at 121°C for 20 minutes). Inactivated waste can be added to business waste. Please note that the biohazard label must be removed or covered (with a sticker or second bag).

Contaminated laboratory glassware can be decontaminated in disinfection baths and then cleaned and disposed of in the same way as non-contaminated glassware.

Bacterial solutions and **cell culture supernatants**, as well as other contaminated liquids, must be collected in unbreakable containers. Suitable disinfecting solutions must be available for inactivation on site. Please note that the proteins contained in the solution, as well as greater dilutions of the disinfecting agent, will result in less efficient inactivation. To ensure complete inactivation, the liquids must then be autoclaved (steam at 121°C for 20 minutes).

Inactive liquids can then be disposed of in wastewater, providing they do not contain any solvents, toxic chemicals or thermally stable antibiotics. Any liquids contaminated in this way are still deemed to be special waste and must be disposed of in accordance with their hazard class. Liquids containing antibiotic residue may be poured in with solvents.

Animal carcasses contaminated with pathogens or genetically modified organisms must be decontaminated on site if possible. Perfusing the animals with a 4% formaldehyde solution, followed by external disinfection, has been found to be an appropriate method.

Decontaminated animals can then be brought to the animal carcass collection point. Please note: Contaminated cages must be packed in plastic bags and autoclaved before they can be washed and re-used.

Waste containing **prions** must be inactivated before disposal by being autoclaved for 20 minutes at at least 134°C.

Note: **Needles, scalpels and pipettes** or other sharp or pointed items that have come into contact with organisms must be collected in autoclavable, puncture-proof containers and autoclaved before disposal. Autoclaved containers must then be handed in as special waste at the waste disposal unit, Y11 D100. Suitable autoclavable containers can be obtained from Safety, Security and Environment.

If bioactive waste is also **radioactive** (see Point 5.5), it may be autoclaved only under specific circumstances, as it is easy for some nuclides to escape. In such cases, the waste must be inactivated whenever possible using a disinfecting agent before being collected with the relevant category of radioactive waste. Similarly, biowaste containing **toxic and carcinogenic chemicals** must be inactivated before being disposed of as special waste. Special collection containers and labels must be obtained from Safety, Security and Environment (internal phone no. 54115).

Organisms classified in group 2 and above are deemed to be hazardous substances. Their transportation is subject to the Ordinance on the Carriage of Dangerous Goods by Road. The transport of hazardous materials through public spaces (this also applies to pedestrians and public



transit users) is permitted only in consultation with the University of Zurich Hazardous Materials Officer (S. Brentari, 54115).

The specific safety regulations of the individual organizational units (institutes, clinics, and offices) must also be observed when handling pathogens and genetically modified microorganisms. Further information, such as a model disposal schedule for biologically contaminated waste, is available from Safety, Security and Environment.

5.6.1 Collection Point for GMO1, BL1 and BL2-Level Biowaste

As a general rule, this type of waste must be inactivated thermally or chemically on site. In exceptional cases, it may be collected and disposed of in special containers* that can be obtained from Safety, Security and Environment.

This method of disposal is not permitted for liquid waste and for all cultures and waste that remain hazardous as a result of radioactivity or acute toxicity.

* This method of disposal must be approved by the Federal Office of Public Health (FOPH) in accordance with the Ordinance on the Contained Use of Organisms. Please contact Jörg Frank on internal phone no. 54928 if you would like to use this method of disposal.

UZI: Empty containers can be obtained and full containers handed in at room 11 D 23.

Vetsuisse: In accordance with the instructions of Facility Management, R. Zehnder (internal phone no. 58144).

Schlieren Campus: Disposal is coordinated by Safety, Security and Environment, S. Brentari, internal phone no. 54115.

Other locations: Waste can be handed in by appointment at Safety, Security and Environment, internal phone no. 54115.

5.6.2 Medical Waste (Human or Veterinary Waste) Not Covered by Category 5.1.15 (Sharps)

Medical waste, such as consumables (gloves, paper towels, etc.) that have come into contact with bodily fluids, must be inactivated in accordance with Point 5.6. The same applies to waste associated with the care of animals, for which the risk of infection can be neither assumed nor ruled out, but which otherwise poses no other risk.

If this is not possible, it must be disposed of in accordance with Point 5.6.1.

6 Chemical Spills and Gas Leaks

If you require assistance following a spill of a radioactive or infectious substance, or if the event occurred outside the relevant laboratory, please alert the Service Center on internal phone no. 112, external phone no. 044 635 41 41. Otherwise, the following fact sheet applies: Fact Sheet C5 <http://www.su.uzh.ch/activities/chemie/doku/Spill.pdf> (in German).



7 Information & Links

Safety, Security and Environment
<http://www.su.uzh.ch>

University of Zurich Hazardous Materials Officer
Stefan Brentari, internal phone no. 54115

Kantonales Labor Zürich/Zurich Cantonal Laboratory:
<http://www.klzh.ch>
Chemicals Department
Fehrenstrasse 15
P.O. Box 1471
8032 Zurich
Phone: +41 043 244 71 00

Links:
Legal foundations:
<http://www.admin.ch>

Information on waste management
FOPH – Federal Office of Public Health
<http://www.bafu.admin.ch/abfall>

<http://www.abfall.ch>

Waste disposal points in Zurich:
ERZ – Entsorgung & Recycling Zürich
<http://www.erz.ch>

AWEL – Zurich cantonal office for waste, water, energy and air
<http://www.awel.zh.ch>

ZZM
<http://www.zzm.uzh.ch>