

## Acceptance conditions for hazardous waste

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**Under waste legislation, anyone who generates hazardous waste (special waste) is responsible for its proper handling and disposal.**

Hazardous waste is defined as substances that are or contain hazardous substances according to §2 of the Hazardous Substances Ordinance (GefStoffV), for example: solvents, chemical residues, laboratory waste, paint and varnish residues, adhesives, batteries, oils, mercury, etc.

Rules and laws apply to their storage, packaging, transportation and disposal in order to contain the potential hazards of the waste.

To facilitate disposal for the TU Darmstadt and its employees, the university operates a central interim storage facility for hazardous waste, the **disposal centre (Entsorgungszentrum)** (Peter-Grünberg-Straße 14, L2|66). Here you can dispose of your waste properly. In addition, the employees of the waste disposal centre advise on all questions concerning waste at TU Darmstadt.

**Please contact us if any questions arise!**

We will be happy to help you choose the right waste containers and look at your waste on site if necessary. We can also arrange for an extra appointment for special disposal outside our regular opening hours upon request (regular **opening hours disposal centre: Tues. + Thurs., 10 a.m. - 11 a.m.**). Our contact details can be found at the end of this document.

We are subject to tight legal restrictions with our work, which serve the safety of all involved. Therefore, we **cannot accept the following types of waste:**

- a. Explosive or detonable preparations, substances and chemicals, and ammunition
- b. Waste from which there is a risk of infection
- c. Chemical warfare agents
- d. Radioactive waste

Please note: Allow your **waste to react fully**. Reactive waste creates incalculable hazards for our employees.

**Procedure for the disposal of chemicals and other hazardous waste through the disposal centre:**

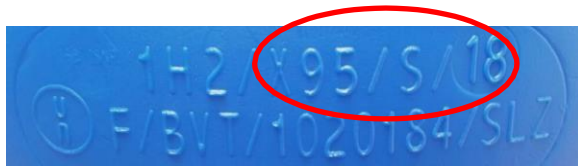
- 1) **Disposal application** (Application for disposal of hazardous substances) must be completed in full:
  - a. In case of **delivery** to the disposal centre: **bring** the disposal application
  - b. in case of **collection** by us: **send** disposal request in **writing** beforehand (mail, fax, in-house mail)

2) Use **suitable containers**:

- a. Food containers are **NOT** approved for chemical disposal.
- b. Suitability of the container for solid or liquid waste:
  - i. Container approved for **liquid waste**: Specification of test density (in the example: 1.9) and test pressure for liquid pressure test (in the example 250: kPa)



- ii. Container approved for **solid waste**: Indication of maximum filling in kg (in the example: 95, please note point d.ii.!) and the marking "S"



- c. The **usability period** of plastic containers is **maximally 5 years** after their year and month of manufacture!

**Exceptions with reduced useful life** of two years: HF (60-85%), HNO<sub>3</sub> (>55%).

**5L plastic canister:**



Year of manufacture of the canister: 2017  
Usable until: 2022



Test clock with year of manufacture (2018) and month (1=January)

**60L drum:**



Year of manufacture of the drum: 2018  
Usable until: 2023

- d. **Packing group** (letter after the first horizontal bar, X in the picture)

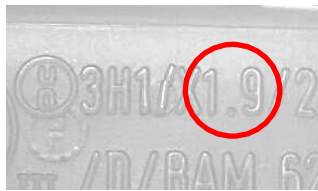


Chemicals are assigned to packing groups X (highest safety level), Y and Z (lowest safety level) according to their hazardousness. Please observe when filling the canister:

- i. if the **packing group** (VG) is **unknown or in case of doubt**, always select a container with **VG X** as a precaution
- ii. consult the disposal centre when **using an original container** → only fill waste with VG of the original substance
- iii. Containers with **VG X** are **provided free of charge by the disposal centre** (for trouble-free contact: application for the supply of transport containers for the disposal of hazardous waste)

- e. maximum filling

- i. **Liquids:** Number by packing group=relative density of waste (relative to water) for which the container is tested



Relative density of the test substance when tested = 1.9 (corresponds to approx. sulfuric acid)

at a density less than/equal to the test density **maximum filling: 90% of the canister volume**

**if the density of the waste is greater than the test density → fill less than 90%!**

- ii. **Solids: fill in max. 60kg** (specification by disposal company)

- 3) The containers must be...

- a. **undamaged,**
- b. **tightly sealed**
- c. **and be free from external adhesions.**

- 4) The contents of the containers must have **completely reacted!**
- deactivate** particularly **reactive substances** (BuLi, alkali metals, Raney nickel, etc.) in a suitable manner
  - no** release of gases
  - no** self-igniting components

- 5) The **contents of the container** must be **clearly marked!**
- designation** and **hazardous substance labelling according to GHS**
  - for new filling: **remove old labelling completely**
  - for many types of waste: **ready labels available for marking in the disposal centre**

- 6) especially for **solid laboratory waste** (see also: **disposal note for solid laboratory waste** and **disposal note for glass waste**)

- The following lists the assignment of waste to a waste type (disposal application) and the correct waste container in each case. Laboratory chemicals are a separate subitem and will be covered later.

I have ...	Waste type	
empty chemical containers	empty containers	plastic box
glass breakage	glass breakage	60 L plastic drum (blue drum)
contaminated hoses, filter papers, protective clothing, absorbent materials, wipes, in small quantities also silica gels	solids	30 L screw lid bucket (white drum with blue lid and white bag)
as in previous field, additionally syringes, cannulas and plastic pipette tips	solids	60 L plastic drum (blue drum)
syringes, cannulas and plastic pipette tips	solids	2 L screw cap can (white can)
Silica gel	Silica gel	60 L plastic drum (blue drum) or in original container in plastic box
glassware and bottles made from Duran glass	empty containers	plastic box

- The **waste bags** from the white solid waste drums may only be **transported in the drums** or in a closed transport cart (danger of tearing open and releasing laboratory waste)!

- c. **No sharp objects** may be thrown into the **white screw-top buckets with bags**. Otherwise, there is a considerable **risk of injury** for the employees of the disposal centre. White screw cap cans and 60L plastic drums (blue drums) are available for syringes, cannulas and pipette tips.

7) especially for **liquid laboratory waste**

- a. For liquid laboratory waste, **5L and 20L canisters** are available. **No liquids may be poured into the blue drums**.
- b. Make sure that the **canisters are tightly closed**. If released into the environment, liquids are particularly difficult to recover.

8) especially for **laboratory chemicals** (see also: **disposal note for laboratory chemicals**)

- a. **Ask us in case of uncertainties in advance**, as this is less problematic and safer for you and for us.
- b. Bring a **complete list of chemicals** contained in the boxes to the disposal appointment or reception.
- c. Be mindful of your **safety**, the **safety of our workers**, and **safety** from release when transporting chemical containers to the disposal centre. This means:
  1. Pack **damaged containers** tightly in a larger container (**consult the disposal centre beforehand!**)
  2. Pack only **chemically compatible substances together in a box** (e.g. do not pack acids and alkalis together)
  3. Pack **only one layer of containers in** the boxes. Stacking significantly increases the risk of breakage “if something happens”.
  4. **No rush during transport and packing!** Call the employees of the disposal centre, usually special appointments for the disposal of laboratory chemicals are possible without any problems. If you are unable to meet the “normal” reception times, we will find a solution together. For large quantities of laboratory chemicals, please contact us in advance and arrange a special appointment.
  5. **Inform the employees of the disposal centre in advance** if you wish to deliver **particularly critical chemicals** (e.g. when disposing of cooled chemicals or from the glovebox)

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### Contact person:

Questions concerning the disposal (+legal framework) of hazardous substances, university-internal disposal tasks → Disposal centre (L2|66)

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Additionally, you may send inquiries in **writing** at any time to:

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