



Chlorinated hydrocarbons are - apart from their health endangering effect - mainly chemicals that are dangerous to the environment and partly have a high toxicity for aquatic organisms.

Dichloromethane in particular is used in large quantities in the laboratories at the university (chloroform now plays a subordinate role). These are mainly used as solvents and extraction agents.

Laboratory wastewater is regularly tested at the university for compliance with limit values. Very strict wastewater regulations apply here.

For highly volatile halogenated hydrocarbons (LHKW) the limit value is currently 0.5 mg/l per individual substance, but in total ≤ 1 mg /l.

Occasionally, limit values were found to be exceeded, especially for the individual substance dichloromethane, in the laboratory wastewater of the chemical building. Repeated exceedances of limit values in the laboratory waste water can result in stricter official requirements for the university (e.g. also restrictions on the handling of these substances) with corresponding effort.

It is therefore essential to ensure that these substances are **used and disposed of carefully** so that **even small quantities do not** enter the wastewater. The following points must be observed:

- **Do not use** chlorinated hydrocarbons **for cleaning and degreasing purposes** and use less environmentally hazardous substitutes instead.
- Collect **all solvent waste, even small amounts (e.g. cell contents)**, in the designated and marked waste containers
- **Do not use water jet pumps** for distillations of dichloromethane and chloroform and also not for the extraction of solids from solutions containing these substances (e.g. diaphragm pumps must be used for this work).
- When extracting aqueous solutions using chloroform or dichloromethane, ensure that the **aqueous phases are disposed of carefully**. These contain a considerable amount of dissolved chloroform or dichloromethane. A **reprocessing of these aqueous phases** must be considered in the experimental design, e.g.
 - ❖ By subsequent **post-extraction** of the aqueous phase with little halogen-free solvent (e.g. petroleum ether) and subsequent disposal as waste containing halogen
 - ❖ By distillation of the aqueous phase on the rotary evaporator