

## **Water protection in laboratories**

According to article 10 of the Waters Protection Ordinance (WPO) it is prohibited, to dispose of waste with the wastewater. If the waste cannot be reused or regenerated, it must be disposed of in accordance with the legal provisions and the instructions of the cantonal office for water and waste (AWA).

Hazardous waste within the meaning of the «Verordnung über den Verkehr mit Abfällen» (VeVa) such as chemicals, reagents, acidic or alkaline concentrates, chlorinated and non-chlorinated solvents, emulsions and mineral oil products have to be collected separately by type and handled, labeled and delivered in accordance with the VeVa.

If liquid waste from immunological assays contains alkylphenol ethoxylates (e.g. octylphenol ethoxylates in Triton X-100), these liquids are considered as special waste and must be disposed of accordingly.

Liquid waste from automated analyzers has to be generally collected and disposed of as special waste. If it can be demonstrated that the reagents used have no ecotoxic relevance and the legal limit values for pH (6.5 – 9.0), hydrocarbons (20 mg/L) and chlorinated hydrocarbons (0.1 mg/L) are complied with, they can be discharged into the sewage system.

Acidic and alkaline wastewater from the regeneration of water desalination plants must be neutralized in a suitable plant before being discharged into the sewage system. For smaller laboratories an external regeneration of ion exchangers is recommended.

Evaporation and distillation of solvents under vacuum must be carried out in such a way that no solvents get directly into the waste water. In such cases, cold traps must be applied to intercept the solvents and / or water-free pumps must be used.

If possible, chlorinated solvents should be replaced with non-chlorinated solvents. The use of solvents is to be kept to a minimum. If chlorinated solvents cannot be substituted, contact water (e.g. aqueous phases of liquid-liquid extractions) must be collected and disposed of as special waste.

All laboratory users must be made aware of the water protection regulations by binding instructions of their superiors.

*PLEASE NOTE THAT THIS VERSION IS A TRANSLATION OF THE GERMAN LEAFLET  
“GEWÄSSERSCHUTZ IN LABORATORIEN” BY B. STAUB, WATER PROTECTION INSPECTOR,  
BERN CITY LABORATORY, AND IS A REMINDER.*