

Safety. Disposal

- S37/39 • Wear suitable gloves and eye/face protection.
- S47/49 • Keep only in the original container at a temperature not exceeding - °C (to be specified by the manufacturer).

Disposal of Laboratory Waste

Avoid contamination of the water

Elimination of residue through the drain is strictly forbidden. You have to bear in mind, that many chemicals shall not be reduced by the waste water plants and shall contaminate the environment.

Residue in the laboratory

We highly recommend naming a person in charge of the residue of your company. This person should be informed of the laws and regulations regulating the waste of residue in your own country. In order to hand over the residue to a treatment plant, it is necessary to organize the collection and storage previously.

Collection of residue in the laboratory

The material of the residue containers has to comply with the following conditions:

1. One has to be able to close the containers hermetically and the material has to be resistant to the contents. Plastic containers should not form toxic fumes when disposed of through burning.
2. Generally, plastic containers are being used.
3. Corrosive products should be collected in metal drums with inner plastic lining, like our Combi drum (Ref. 055-0C0025).
4. Inflammable or oxidizing products should be collected in metal or plastic drums resistant to the solvent.
5. For products that produce gases or vapours, special containers with a security valve are required, in order to avoid the danger of explosions.

If the collection containers are handed over to a transport agency, they have to carry the UN number that approves them for transport by road.

Hazardous chemicals

In this handbook risk phrases (R-phrases), safety phrases (S-phrases) and hazard symbols are added in accordance with the EU Directive (67/548) and (83/467). The absence of R- and/or S-phrases or hazard symbols does not mean that those substances are harmless.

The normal safety precautions for handling chemicals should always be observed.

General Waste - Disposal procedures

The disposal methods outlined below are intended as a guideline for the technician. We do not assume responsibility of their use. Careful consideration must be given to the chemical and physical properties of the substance. In addition, local laws and regulations may preclude the use of these methods which were primarily designed for the quantities we list. Observe all Federal, State and local laws concerning health and pollution.

All procedures require the use of goggles or face shield, gloves and apron. Gas masks or self-contained breathing units may also be required.

1. Neutralize the bases with diluted sulphuric acid, then flush neutral solution down the drain with an abundance of water.
2. Treat the aldehydes or peracids with an excess of sodium bisulfite solution. Use starch iodide paper to ensure complete reduction of any peracid. Flush the resulting solution down the drain with an abundance of water.
3. The compound should be burned. Ideally, all hydrocarbons and related solvents should be burned in an approved presence of sodium carbonate and calcium hydroxide (slaked lime). The solid or the liquid absorbed on vermiculite should be wrapped in paper and burned in an approved incinerator.
4. Bury in an approved chemical and hazardous-waste sand fill site, well away from streams, rivers or wells.
5. Azides and azo-compounds should be treated with dilute ceric ammonium nitrate solution with cooling. Solutions may be discarded upon completion of the reaction. Mixtures should be separated and the organic portion burned.
6. Treat with an alcohol such as ethanol or butanol in an appropriate solvent. The chemical reaction may be vigorous and/or exothermic. Provisions must be made for venting of large volumes of highly flammable hydrogen and/or hydrocarbon gases. Neutralize the solution with aqueous acid. Filter off any solid residue for disposal as hazardous waste. Burn residual organic materials in an incinerator equipped with an afterburner and scrubber.