TECHNISCHE UNIVERSITÄT CHEMNITZ
FAKULTÄT FÜR NATURWISSENSCHAFTEN
Physikalische Chemie
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Betriebsanweisung im Sinne des § 20 GefStoffV; Stand: 2006-02-06

Operation Instructions:

Activities with fire Hazards

1. Location:

All laboratories of Physical Chemistry, including lecture halls

2. Type of activities:

Handling of inflammable liquids & solids (almost all organic solvents and chemicals) and highly inflammable liquids (diethyl ether, pentane, petrol ether) and gases (methane, hydrogen, acetylene, carbon monoxide).

3. Danger:

Ignition of these substances can give rise to fires and explosions, injury by fire and intoxication by smoke or other by-products of fire.

4. Precautions:

Before commencing Your work: locate the three fire extinguishers nearest to Your workplace, locate the two nearest safety showers, make sure that the phone number of the fire-fighters and paramedics is on display close to the phone, make sure that there is a second person in calling distance to Your workplace, read the Materials Safety and Data Sheets for any chemical handled for the first time, comply with the safety handbook of the Institute of Chemistry.
Do not store quantities larger than needed for Your experiments. Containers larger than 2L require approval by the dept. head. Store inflammable liquids and gases only in the designated cabinet. Return storage containers back to the storage cabinet immediately after use. Protect pressurised gas cylinders from tipping over. Make sure, that all containers have a label indicating the content. Label all containers with Your name and date of purchase or synthesis. Organic chemicals older than 5 years and those obviously not needed any more have to be discarded.
Boil any organic liquid only in combination with a reflux condenser. Never pour liquids into a pre-heated setup. Inform Yourself about the dangers of peroxide formation in ethers. Boil highly inflammable liquids only in glassware filled with inert atmosphere (nitrogen, argon). Handle mixtures comprising potentially self-igniting chemicals like alkali metals, finely dispersed metals or hydrides only in glassware filled with inert atmosphere.

5. Actions in case of an emergency:

Fires beyond Your capabilities to control: rescue Your life, rescue others if possible without danger, call the fire-fighters (0-110 or 91-110).
A person's clothing in fire: call for help, extinguish the flames under the safety shower at the lab door.
Small fires: call for help, secure Your exit route, try to extinguish small fires yourself,
In case of a faulty pre-alarm – and only if You know the reason, why it is faulty – use the phone within the lab where the pre-alarm sounds and call 4444 to have the full alarm cancelled; .
In case of fire alarm in the building: vacate the building, meeting place is the bus stop in front of the railway station. Show up at the meeting point, even if the alarm does not cover the wing You are working in.

6. Actions in case of injury:

All small injuries have to be treated by a physician. In case of severe injuries, nausea or unconsciousness or if the person inhaled smoke, call a person trained in first aid and call the paramedics (0-112 or 91-112).

7. Maintenance / Disposal

Inspect the safety showers in Your laboratory once a month. Take care that any malfunction is repaired immediately. Do not cover, manipulate or tamper the automatic fire detectors. If a fire detector needs to be disabled temporarily: contact Dr. Baumann or Dr. Hemeltjen.
Dispose of inflammable chemicals and gases as described in the Materials Safety and Data sheets. Chemicals that may self-ignite upon contact with air or water (phosphorous, Li, Na, K, Cs, LiAH NaH) have to be destroyed under inert atmosphere prior to any further handling. Never dispose of chemicals using the public sewer system.

8. Consequences of non-compliance with these regulations:

Violating the regulations detailed above endangers not only You, but others (and public property) and thus may result in immediate annihilation of Your work contract and/or permission to work in the laboratories of Physical Chemistry.

Chemnitz, 2006-02-06 Prof. Dr. Werner A. Goedel Dr. Wolfgang Baumann