SAFETY REGULATIONS OF BIOCHEMICAL LABORATORIES

1. Order, tidiness and disciplined behavior are essential conditions of laboratory work. Smoking or eating is prohibited in the lab!
2. Always wear a buttoned lab coat when doing manual work. Briefcases and handbags should not be kept on the laboratory bench!
3. Every student must be familiar with the appropriate usage of gas-burners (how to adjust optimal ratio of gas and air, etc.). Immediately open the windows and inform your instructor if smelling gas!
4. Explosive and flammable material must not be brought near a naked flame! It may only be warmed in a water bath or on electric plates.
5. Never pipette concentrated acids and alkali by mouth! Only the so called "poison (safety) pipettes" can be used for this purpose.
6. While pouring chemical agents do not lean over the vessel to avoid squirting on your face or clothes! When diluting concentrated sulphuric acid add this to the pre-made diluent. Never add water to concentrated sulphuric acid!
7. Do not hold the orifice of a test tube in anybody's direction while heating since the liquid might squirt. If you warm a liquid over a naked flame be careful that the tube does not crack initially (use a small flame first) - it may easily happen to thick walled glassware, especially when it's just taken out of the refrigerator and still vaporous. If you are not sure about heat resistance consult your instructor.
8. Be careful when shaking up the content of a test tube; avoid dripping on your skin: some chemicals (e.g. trichloroacetic acid) might cause severe inflammation.
9. You never should take a smell at the releasing gases or fumes by leaning over it. The best way is fanning the air from the vessel towards your nose.
10. Because of the enhanced danger of misadventures all kinds of "individual" experiments must be avoided!
11. When finishing laboratory work the content of all vessels - except the organic solvents - should be poured down the drain along with a continuous flow of water. Used vessels and pipettes should be rinsed under running water and put into the plastic containers supplied specially for this purpose.
12. Before leaving the laboratory check if gas- and water-taps are turned off.

1. FIRST-AID APPLICATION IN CASE OF LABORATORY ACCIDENTS

In biochemical laboratories most accidents are caused by concentrated acids and alkali so we outline the fundamental principles of the quick first-aid application of the injured person. Besides every injury must immediately be reported to the instructor who can provide information for the cases not mentioned here, as well (e.g. electric shock, fractures, etc.).

1. First-aid in the caustic effects of acids

1. Acids dripped on the skin: very quickly rinse the affected region with lots of water (sulphuric acid must be wiped down first!), then wash with cold 2% borax solution.
2. If the eyes are affected: rinse extensively with (possibly lukewarm) water followed by 2 % borax solution (2% Na-tetraborate). Further treatment must be introduced by a specialist!

3. If swallowing acid: wash mouth with water and have the person drink milk or if not available, water. Never induce vomiting!

2. First-aid in case of an accidental casualty with alkali

1. In case of skin injuries: abundantly rinse the surface with water and neutralize by washing several times with 0.5 % acetic acid. effect
2. In case of ocular injury: thoroughly rinse the eye with water and neutralize with 2% boric acid. Further treatment must be done by a specialist!
3. In case of swallowing alkali: rinse mouth cave with water and let the person drink water. Depending on the quantity swallowed medical treatment may be required.

3. If any organic solvent was swallowed paraffin oil must be drunk.