

Institute: AAC

Work place: AAC Labs

Activity: Laboratory work

## EQUIPMENT

### LECO + Agilent 6890N GC

#### DANGERS FOR HUMANS AND ENVIRONMENT



- High temperature in the GC oven, the jet port of flame ionization detector (FID), the transfer line (connected to mass spectrometry).
- Capillary easily to be broken during being adjusted or cut.
- Sharp and fast moving needle of the syringe of the auto sampler.
- High pressure in the tank containing liquid nitrogen for the modulation.
- High voltage in the exposed cable.
- Gas such as explosive hydrogen, large amount of nitrogen.
- Chemicals or volatile compounds used.

#### PROTECTIVE MEASURES AND RULES OF CONDUCT



- While the system running, it is not allowed to touch the FID part, the transfer line or open the gate of GC.
- While dealing with the capillary, the protection like wearing glasses, gloves and lab coat is necessary. The cleaving stone for capillary cutting needs to hold carefully because of keenness.
- While the auto sampler taking samples from the vials, it is not allowed to touch the needle of the syringe at all conditions.
- While filling, installing or checking the liquid nitrogen tank, the protection like wearing glasses, anti-freezing gloves and lab coat is necessary
- It is not allowed to touch the electric wire without being disconnected from electricity, especially with wet hands
- Check the safety instructions on the security manual before using gases like hydrogen, nitrogen, helium.
- Check the safety instructions on the chemical registry system such as DaMaRIS, GESTIS-Substance Data Base before using chemicals, especially for volatile or toxic compounds.

## RESPONSE TO MALFUNCTIONS



- Shut down device immediately, faults must be reported to:  
Maria Madani, if not present O. Schmitz, M. Sulkowski,  
F.Uteschil, S. Meckelmann.

## BEHAVIOUR IN CASE OF ACCIDENT / FIRST AID



- Keep calm.
- Call first responders.
- Emergency call: 0112
- Report accident.

## MAINTENANCE / DISPOSAL

- Maintenance only by authorized, competent persons.
- Switch off the device and disconnect it from the mains.
- Regular inspection of wearing parts.