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## OPERATING INSTRUCTIONS

According to Betriebs-sicherheitsverordnung

UNIVERSITÄT  
DUISBURG  
ESSEN

Offen im Denken  
Faculty of Chemistry

Institute: AAC

Work place: AAC Labs

Activity: Laboratory work

### EQUIPMENT

#### Agilent Technologies 6560 Ion Mobility Q-TOF LC/MS System

### DANGERS FOR HUMANS AND ENVIRONMENT



- High weight, hazards due to unadjusted handling
- Electric shock with partially dismantled housing.
- The special features of the chromatographic systems serving as the source must be observed.

### PROTECTIVE MEASURES AND RULES OF CONDUCT



#### **The device should not be moved or even raised!**

- Due to the size and weight of the pipe, at least four people are needed to transport and set up the unit. If the flight tube is dropped during construction, the mirror suffers severe damage.
- If it is unavoidable to move or lift the unit after installation, do not lift the unit without the help of another three persons as the Q-TOF weighs more than 144 kg. Lift from your knees, not from your back. Keep your back straight while bending your knees. The same rule applies to the IM housing. The module weighs over 95 kg.
- Do not install the unit on a worktop less than 91 cm high and in a laboratory lower than 2,74 m. Agilent Field Service engineers can not remove ceiling tiles from the ceiling so that the structure of the flight tube complies with fire safety regulations. Make sure that the working surface height is low enough to allow the flight tube to be built without having to disassemble ceiling panels.
- The installation of the device can not be completed without the conditioning of the high voltage electronics.
- Never change the fuse while the unit is switched on at the mains. You risk an electrical shock.
- Use of improper fuses or short-circuiting fuses may present a risk of electrical shock to the user and may damage the device. Only replace fuses with others with identical ampacity and identical type.

- When the device is switched on, dangerous voltages are present on all electronic components, on all wires and cables connected to these components and on all wires for heating sources. These components are covered by a housing. It ensures that you do not come in contact with the dangerous voltage. Therefore, never remove the case except in special cases and wear grounded wrist guards when removing these covers.
- If the power cord insulation is damaged, frayed or worn, replace the power cord. Contact the Agilent Service.
- Breaking the protective conductor inside and outside the device or switching off the protective conductor terminal can endanger the user and may damage the device. The device must therefore be connected to a grounded power outlet.
- Make sure the supplied plugs and cables meet the safety requirements of your country before using them.
- Strong fluctuations in the mains voltage involve a risk of electric shock. Make sure that the operating voltage does not deviate more than + 10% to -5% of the rated voltage.
- Never vent the flight tube when it is under pressure. Ventilating a pressurized flight tube can result in serious injury or death.
- If the unit is switched off for more than one day, disconnect the mains plug so that the turbopump power supplies do not overheat.
- Bring all exhaust fumes to where they can not circulate back into the room. Never transfer the gases to the laboratory.
- If you want to disconnect the system from data collection unit, shut it down properly and do not turn it simply off.
- Hand-tighten used bottles only. Turning them too tight could cause the bottle cap to break and leak. A leaking bottle can lead to evaporation of the contents.

Some components of the Q-TOF may become so hot that serious burns can result. If possible, you should cool down the parts you want to work on afterwards. Always cool heated components down to room temperature. Turn off this area or turn off the whole unit after it reaches the desired temperature. If you still have to work on hot components, it is necessary to use protective gloves or pliers. Switch off the device from the power supply.
- Only nitrogen may be used as drift gas. Compressed and liquid gases can cause hazards, please refer to the manufacturer's safety data sheets. Contact your gas supplier for more information on how to safely handle the gas you need.
- The exhaust vapors of the vacuum pumps contain certain amounts of chemicals that you analyze. Health hazards such

as chemical toxicity of solvents, buffers, samples and pump liquid vapor as well as potentially bio-hazardous aerosols of biological samples may exist. Therefore, ventilate outside the laboratory or in a fume hood. Contact your chemical supplier for handling the chemicals and the appropriate safety instructions.

- Some mobile phases can be dangerous. Treat them with the appropriate precautions.
- Leave the cleaning of the ion tunnel to qualified personnel. Cleaning and drying must be carried out in an approved fume hood with adequate air circulation, otherwise there is a risk of fire or explosion. The front slide of the fume hood must be closed. All other heaters, such as magnetic stirring plates, must be switched off.
- Never add pump fluid or never replace it with the pump turned on. Hot oil can spurt out and endanger people. Contact with the pump fluid should be avoided, it may pose health hazards.

#### RESPONSE TO MALFUNCTIONS



Disconnect device immediately, faults are to be reported to:

Maria Madani. In the absence of M. Madani Sven Meckelmann, Oliver Schmitz or Martin Sulkowski

#### BEHAVIOR IN CASE OF ACCIDENT / FIRST AID



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

#### MAINTENANCE / DISPOSAL

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