



**Standard
operating procedure**

Number: **CAM_{01.401}_{Device#}**

**Rigaku Smartlab
x-ray diffractometer**

The operations manager:
Prof. Martijn Kemerink

SCOPE

- determine the crystallographic structure of a material

HAZARDS FOR EMPLOYEES AND ENVIRONMENT



- Risk of ionizing radiation.
- Danger through high voltage.
- Risk of poisoning
- Pinching hazard due to remodeling of components.
- Danger due to hot surfaces.



PREVENTATIVE MEASURES AND RULES OF CONDUCT

- Only authorized and trained personnel is allowed to operate the machine.
- Modifications to the device are not permitted. Do not remove covers or cables, do not remove or disassemble the X-ray tube and detector (possible contact with beryllium).
- Before using the device, check that all device covers are correctly attached.
- To protect against X-rays, only use the device with a functional interlock function.
- Only open the sample and measuring chamber if no radiation can escape (X-ray source switched off or, when the source is switched on, the shutter from the X-ray source to the chamber is closed), the interlock function eliminates the risk of X-ray radiation.
- Do not touch the rotary pump to avoid burns.

BEHAVIOUR IN CASE OF EMERGENCY



- You may only operate the machine in perfect condition.
- In case of malfunction, inform the person responsible for the device (06221-54-886) or the radiation protection officer Olaf Skibbe (06221-54-890) immediately.
- In case of a situation that is considered dangerous by non-instructed persons, use the red "emergency-off" button. The person responsible for the instrument must be informed immediately.

FIRST AID



- Provide first aid as far as possible, rescue the injured from the danger area, call for help.
- Stay calm, always get institute first aider, report injury to supervisor
- Attend to smaller wounds immediately, in case of major injuries call emergency doctor: 112
- Always make an entry into the first aid book and notify safety coordinator: Lisa Veith (06221-54-19886)
- Medical help: medical officer: 06221 / 56-0, surgical ambulance: 06221 / 56-6220

MAINTENANCE AND DISPOSAL

- Regular periodic technical/electrical inspection
- Maintenance and repairs only by qualified personnel