



Principal Investigator:

Doug Rumble (R-231, 202 478 8990)

Secondary Contacts:

Dionysis Foustoukos (R-241, ×8968)

Emergency Information:

Staff Member: (614) 680-5905 (cell / home)

BBR (Gary Bors): 202-510-8577

All other emergencies: 911

Purpose:

Room 228 houses four gas source, electron impact, magnetic sector mass spectrometers which measure the light stable isotope ratios of gases prepared from geologic and biological materials. (1) a Thermo-Fisher MAT 252 mass spectrometer is no longer supported by the manufacturer and is turned off and vented to the atmosphere. (2) a Thermo-Fisher MAT 253 mass spectrometer is supported by the manufacturer. The MAT 253 has been turned off and vented because there is currently no one at BBR who wishes to use it. Two instruments, a Thermo-Fisher Delta + XL (3) and a Thermo-Fisher Delta V (4) are maintained and operated by Dionysis Foustoukos.

All laboratories and facilities on the Broad Branch Rd. campus are controlled areas. Specific training must be completed and documented before working in this laboratory / facility.

(Laboratory-specific information)

This section should be customized for each laboratory and should include the information listed below. Be specific and comprehensive. This document will serve as a record that you have provided sufficient information regarding the known hazards and safety policies of your laboratory.

- Lab-specific hazards. (A) High-pressure gas cylinders containing Argon (Ar), Helium (He), Oxygen (O₂), Carbon Dioxide (CO₂), and Carbon Monoxide (CO). These are stored along the back wall of the room. Carbon Monoxide (CO) is stored in the fume hood. All of the gases are suffocation hazards but O₂ and CO pose additional hazards of fire and poisoning, respectively. High-pressure cylinders should be securely chained upright. There are also low pressure cylinders of SF₆ and CO₂ used as reference gases on mass spectrometer analyses. (B) A solid fluorine source, powdered K₃NiF₇, is stored in a nickel-metal container on an on-line vacuum preparatory system. Waste fluorine is passed over heated KBr to form solid KF and liquid Br₂. There are two Kel-F tubes with Br₂. Powdered K₃NiF₇ is an inhalation hazard. The compound produces HF if exposed to H₂O.
- The on-line fluorination vacuum preparatory lines are inactive and should not be used. The MAT 252 and 253 mass spectrometers are turned off and should not be used.
- Please refer to D. Rumble or D. Foustoukos for training in the use of the equipment.
- An emergency shower is located in R-228. A fire blanket and a fire extinguisher are in the hallway outside R-228.
- No one should be using equipment in R-228 without consulting D. Foustoukos or D. Rumble.



Laboratory User

I agree that I have thoroughly read and understood this laboratory safety document. I have access to this safety information at all times when I am working. I have been trained to be able to identify the hazards to which I may be exposed and to follow the work practices and procedures discussed in this document. I certify that I will conduct my research work safely and that I will be responsible for following stated safety policies.

User Name (Print)

User Signature

Date

Principal Investigator

I certify that the information presented in this safety document is accurate and complete. I agree to comply with all safety procedures and to fully train and supervise all researchers under my direction.

Douglas Rumble

24-April-2019

PI Signature

Date