

**Responsible Staff Member: George D. Cody**

*Purpose: Multiuse chemistry and molecular analysis.*

All users of this facility must review and sign this document. Signing of this document serves to record that the user is familiar with laboratory operational and safety protocols. Any breach of operational and safety protocols may lead to a loss of laboratory privileges.

## **1. Chemicals Standard Operational Protocol**

*1.1 Chemical Handling, storage, and disposal:* Study MSDA sheets on all chemicals that you work with.

Appropriate protection must be worn when transferring chemicals, including protective gloves and eye ware.

Date each chemical to record the day it was opened.

Only take what you need and do not return unused chemicals back to main reservoir. All chemicals must be stored in appropriate cabinets. Acids and Bases are never stored together.

Only dilute mineral acids may be discarded into marble chip baths. No chemicals may ever be poured into any sink or drain.

Chemicals that need to be disposed of shall be stored in appropriate cabinets until laboratory-wide storage removal is initiated (~ annually). When purchasing chemicals, try to buy as little as possible to minimize.

*1.2 Lab Chemicals: Where they are, how they are obtained for use:*

Familiarize your self with where the various chemicals are stored based on type, reactivity, and flammability.

*1.3 Sample Labeling:*

All samples must be labeled in such a way as to be immediately identifiable. The use notebook numbers or other schemes is not sufficient. Unlabeled vials constitutes a serious offense and can lead to loss of laboratory privileges.

*1.4 Torch operation and safety:* The use of the torch for flame sealing of glass ampules requires special training. Do not use until trained.

## **2. Instrument Standard Operational Protocol**

For all instruments: Daily Log books recording of all analyses is required, including the type of analyte/sample and solvents used, and instrument

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performance.

### 2.1 GC/MS # 1:

Access to this instrument is subject to scheduling. All users must be trained first before using this GC/MS Pyroprobe interface: This requires special training.

### 2.2 GC/MS # 2:

Access to this instrument is subject to scheduling. All users must be trained first before using this GC/MS

2.3 LC/MS-MS: Training is required before use.

## 3. Compressed Gasses, storage, and disposal

Appropriate regulators are required for compressed gasses.

### 3.1 Storage of new Tanks:

All compressed tanks must be stored in the storage area. Unused tanks must have end-caps securely fastened. Do not store H<sub>2</sub> in close proximity to O<sub>2</sub>. Do not use carbon monoxide

3.2 *Securing in-use Tanks:* All in-use tanks must be securely attached to fixed bodies, e.g. bench top.

### 3.3 Return of empty or long-term non-use tanks:

Empty tanks are to be labeled "EMPTY" and returned to the loading dock storage area for pickup. Specialty gasses from suppliers other than Roberts or Airgas will require special arrangements for pickup.

## 4. General Laboratory Safety Features:

### Lab Safety Rules:

4.1 *Eye-ware-protection:* Required for: All chemical reactions, distillations, chemical transfer

4.2 *Protective clothing:* Required for: All chemical reactions, distillations, chemical transfer  
Recommended for: sole-use operation of analytical instruments

### 4.3 Off-hours Operation:

#### 4.3.1 Any Chemistry:

Any chemistry performed in the hoods or on the bench that involve reactive compounds (e.g. flammable liquids, metals, strong acids or bases, strongly exothermic reactions or the potential for explosion) should be performed during standard working hours to ensure that if an accident should occur proper response will be promptly initiated. In order to perform any chemical reactions that involve potentially reactive substances or products(see above) or have the potential for explosion (e.g. distillations or vacuum evaporation)after hours requires that a second person must be identified who is

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1) in the building during such work 2) made clearly aware of the scope of the proposed work and the potential danger, and 3) is willing to check in at a frequency not less than once an hour to ensure safety.

## **5.0 General Lab Safety Features:**

The use of instruments after hours is not restricted. The repair of instruments after hours is subject to the same restrictions as after-hours chemical processing.

Fire extinguisher Emergency Shower Eye wash Emergency Power Off Switch

Keep Laboratory Doors Locked during off hours unless you are actively using the facility.

**I have read these safety notes and agree to follow them whenever working in this laboratory...**

Signed: \_\_\_\_\_ Date: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Institution (if not GL): \_\_\_\_\_

Supervisor/sponsor: \_\_\_\_\_ Date: \_\_\_\_\_