# Appendix D

# Signs, Forms and Labels

# Laboratory Safety Signs, Forms and Labels

This manual includes acceptable chemical labeling practices and acceptable common abbreviations which may be used on chemical labels, and a laboratory safety evaluation form. The other signs, forms and labels below can be obtained from the ESD web site or by calling 706-542-5801.

I. Forms

- A. UGA Laboratory Safety Survey Form
- B. CAUTION Sign Request Form
- C. Fume Hood Certification Request Form
- D. Procedures for opening (commissioning) or closing (decommissioning) a laboratory. These procedures should be used in conjunction when adding additional laboratory space or moving from one laboratory to another laboratory.

II. Postings

- A. Emergency Phone Numbers (posted by lab phone)
- B. Eyewash Sign
- C. Safety Shower Sign
- D. Chemical Spill Kit Sign
- E. Chemical Storage Plan
- F. Gas Cylinder Tags
- G. Unattended Laboratory Operations

III. Labeling Systems

- A. Hazardous Chemical Container Labeling
- B. Acceptable Abbreviations for Primary Hazards
- C. Acceptable Chemical Abbreviations for Chemical Secondary Container Labeling

## Environmental Safety Division 542-5801 Laboratory Inspection Survey

| | |
|---|---|
| **Department**_____ | **Principal Investigator**_____ |
| **Building**_____<br>**Laboratory**_____<br>**Date:** / / | **Phone and Email Address:**_____<br>**Lab Contact and Email:** _____<br>**ESD Inspector**_____ |

| **Section 1 - Laboratory Postings** | **Sat** | **Unsat** | **N/A** | **Comments** |
|---|---|---|---|---|
| A. Door signs present/updated | | | | |
| B. Refrigerators have lab use only label | | | | |
| C. Emergency phone numbers posted in lab | | | | |
| **Section 2 - Chemical Storage** | **Sat** | **Unsat** | **N/A** | **Comments** |
| A. Chemicals stored by class/compatibility | | | | |
| B. Acids and bases in secondary containers | | | | |
| C. All chemicals properly labeled | | | | |
| D. No outdated peroxide formers present | | | | |
| E. Flammable liquids stored properly | | | | |
| F. Total flammable volume allowed in lab OK | | | | |
| G. Volume outside flammable cabinet OK | | | | |
| H. Explosion proof refrigerator for flammables | | | | |
| I. Waste containers properly labeled/stored | | | | |
| J. Waste containers properly closed | | | | |
| K. Gas cylinder properly labeled/anchored | | | | |
| L. Lecture bottles properly labeled/stored | | | | |
| **Section 3 - Emergency Equipment** | **Sat** | **Unsat** | **N/A** | **Comments** |
| A. Fire extinguishers present/inspected | | | | |
| B. Safety shower: tested/unobstructed | | | | |
| C. Safety shower location posted | | | | |
| D. Eye wash: tested/unobstructed | | | | |
| E. Eye wash location posted | | | | |
| F. First aid kit present | | | | |
| G. Spill kit appropriate for laboratory | | | | |
| **Section 4 - Laboratory Equipment** | **Sat** | **Unsat** | **N/A** | **Comments** |
| A. Belt guarded on motors and pumps | | | | |
| B. Equipment properly grounded | | | | |
| C. Electrical cords not frayed | | | | |
| D. Only UL 1449 rated power strips employed | | | | |
| E. 1449 strips used with computers & equip. | | | | |
| F. Outlet wiring correct | | | | |
| G. Extension devices used only temporarily | | | | |
| H. Fume hood rating (OK, Caution, Danger) | | | | |
| **Section 5 - Laboratory Conditions** | **Sat** | **Unsat** | **N/A** | **Comments** |
| A. Hand washing facilities available | | | | |
| B. Sink conditions OK | | | | |
| C. Corridors and exits unobstructed | | | | |
| D. Aisles unobstructed | | | | |
| E. Lab doors closed to main corridor | | | | |
| F. No eating etc around hazardous chemicals | | | | |
| G. Personal protective equip. available/used | | | | |
| **Section 6 - Laboratory Records** | **Sat** | **Unsat** | **N/A** | **Comments** |
| A. RTK records and MSDS maintained | | | | |
| B. Chemical inventory kept | | | | |
| Additional Comments: | | | | |

**Within two weeks, please address any items noted as unsatisfactory on this form, then contact your laboratory inspector at _____@esd.uga.edu.**

| | Laboratory Inspection Survey - page 2 (Lab Safety Manual References) | |
|---|---|---|
| **Section 1 - Laboratory Postings** | | **Manual Reference** |
| A. | Door signs present/updated | Sec.2.VIII; App.J-6 |
| B. | Refrigerators have lab use only label | Sec.2.VIII.B |
| C. | Emergency phone numbers posted in lab | Sec.2.VIII.C; App.J-1 |
| **Section 2 - Chemical Storage** | | **Manual Reference** |
| A. | Chemicals stored by class/compatibility | Sec.2.I.E.1; App.J-20 & 21 |
| B. | Acids and bases in secondary containers | Sec.2.I.E.4; App.J-20 & 21 |
| C. | All chemicals properly labeled | Sec.2.I.E.1; Sec.2.VIII.E.1; App.J-20 & 21 |
| D. | No outdated peroxide formers present | Sec.2.I.E.1; Sec.2.I.5; App.J-21; App.I-1 |
| E. | Flammable liquids stored properly | Sec.2.I.E.2; App.J-20 |
| F. | Total flammable volume allowed in lab OK | Sec.2.I.E.2; App.J-20 |
| G. | Volume outside flammable cabinet OK | Sec.2.I.E.2; App.J-20 |
| H. | Explosion proof refrigerator for flammables | Sec.2.I.E.2; App.J-20; Sec.2.VIII.B; Sec.2.I.E.2.G |
| I. | Waste containers properly labeled/stored | App.G |
| J. | Waste containers properly closed | App.G |
| K. | Gas cylinder properly labeled/anchored | App.C; Sec.2.I.3 |
| L. | Lecture bottles properly labeled/stored | App.C |
| **Section 3 - Emergency Equipment** | | **Manual Reference** |
| A. | Fire extinguishers present/inspected | NFPA 101 |
| B. | Safety shower: tested/unobstructed | Sec.2.V.C; Sec.3.I.F; App.J-17 |
| C. | Safety shower location posted | App.J-3 |
| D. | Eye wash: tested/unobstructed | Sec.2.V.C; Sec.3.I.E; App.J-16 |
| E. | Eye wash location posted | App.J-3 |
| F. | First aid kit present | Sec.2.III.P |
| G. | Spill Kit appropriate for laboratory | Sec.2.IX.C.1; App.J - 8 & 11; Sec.4.I.A.5 |
| **Section 4 - Laboratory Equipment** | | **Manual Reference** |
| A. | Belt guarded on motors and pumps | Sec.2.XI |
| B. | Equipment properly grounded | Sec.2.X |
| C. | Electrical cords not frayed | Sec.2.X |
| D. | Only UL 1449 rated power strips employed | Sec.2.X |
| E. | 1449 strips used with computers & equip. | Sec.2.X |
| F. | Outlet wiring correct | Sec.2.X |
| G. | Extension cords used temporarily | Sec.2.X |
| H. | Fume hood rating (OK, Caution, Danger) | Sec.2.IV; App.J-13; App.F |
| **Section 5 - Laboratory Conditions** | | **Manual Reference** |
| A. | Hand washing facilities available | Sec.2.III.G |
| B. | Sink conditions OK | Sec.3.I.E |
| C | Corridors and exits unobstructed | Sec.2.V.A; Sec.2.V.D & E |
| D. | Aisles unobstructed | Sec.2.V.A; Sec.2.V.D & E |
| E. | Lab doors closed to main corridor | Sec.2.V.E; Sec.3.I.H |
| F. | No eating etc around hazardous chemicals | Sec.2.III.D |
| G. | Personal protective equip. available/used | Sec.2.VI; Sec.4.I.A.3; App.J-12; Sec.2.III.K |
| **Section 6 - Laboratory Records** | | **Manual Reference** |
| A. | RTK records maintained | Sec.2.VII.C; App. D-4; RTK |
| B. | Chemical inventory kept | Sec.2.VII.A |

**Items marked by arrows are required by the UGA laboratory safety manual. Non marked items are suggestions for safe laboratory operations. Visit ESD on the web at: http://www.esd.uga.edu**

*Retain the original signed form in the employee's personnel file.*

# Employee On-going Chemical Specific Right to Know Training Record

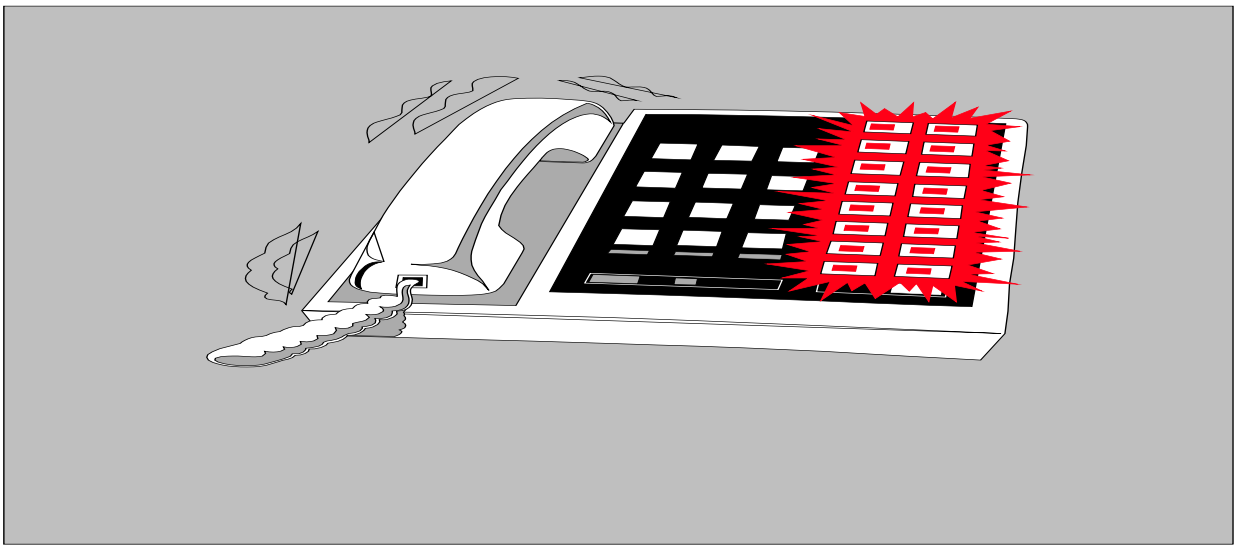
Employee Name: _____ _____

Review Period: _____ Work Location: _____

Job Assignment: _____ Supervisor: _____

**Training Included:Personal Protection, Emergency Procedures, Work Area Maintenance, Detection of Chemical Release, MSDS Review, and Labels.**

| Type of Training | | Brief Description of Training Method | Date | I acknowledge that I have been provided training covering the subject noted above and that I understand that training.<br><br>*Employee Signature and Date* |
|---|---|---|---|---|
| Annual Update | New Chemical/ Hazard Product | | | |
| | | | | |



# Emergency Phone Numbers

| | |
|---|---|
| U.G.A Police | 2-2200 |
| UGA Env. Safety | 2-5801 |
| **FIRE/AMBULANCE** | 9-911 |
| Poison Control | 9-1-800- 222 - 1222 |
| Lab Contact | _____ |
| Other | _____ |

# !!!!! WARNING !!!

# Unattended Laboratory Operations Authorized Personnel Only

In the event of an emergency contact:

_____

Name/Phone#

or the Laboratory Principal Investigator:

_____

Name/Phone#

or Environmental Safety Division
at 542-5801

## Acceptable Abbreviations for Primary Hazards, and Examples of In-House Secondary Container Labels

**Flammable** (FlA.)

**Corrosive** (Cor.)

**Toxic**

| | |
|---|---|
| Carcinogen | (Car.) |
| Mutagen | (Mut.) |
| Teratogen | (Ter.) |
| Irritant | (Irr.) |
| Poison | (Pois.) |

**Reactive**

| | |
|---|---|
| Air | (~~A~~) |
| Water | (~~W~~) |
| Oxidizer | (Oxid.) |
| Explosive | (Exp.) |

**Examples of In-house Labels:**

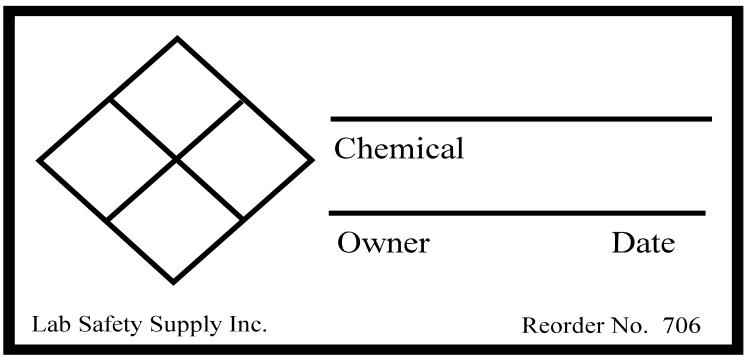
95 % Methanol
FLA./ Pois.
1/22/97

1 N HCL
Cor.
3/17/97

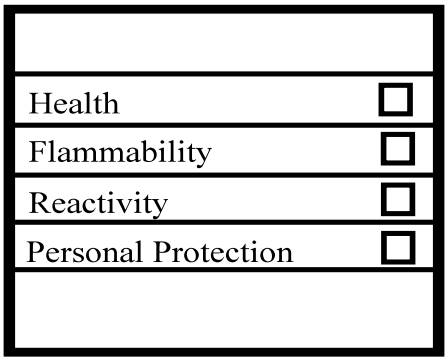
Sodium Medal
[redacted]
1/2/97

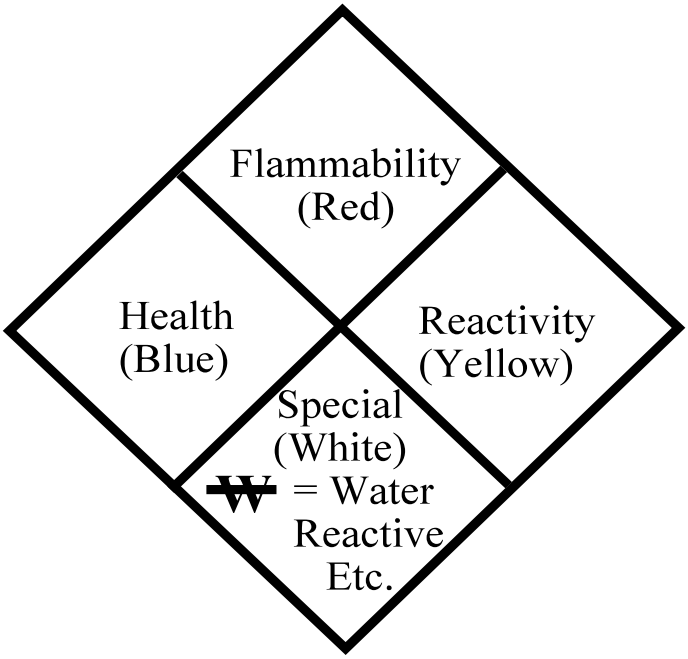
## Hazard Labels available through Central Research Stores

CRS # 848525

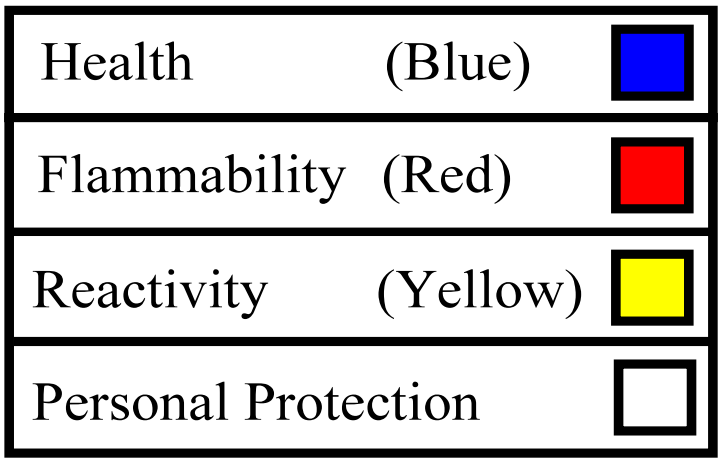



CRS # 848510, 848512






**NFPA Rating System**




**HMIS Rating System**

| **Number** | **Hazard Rating** |
|---|---|
| 0 | Minimal or None |
| 1 | Slight |
| 2 | Moderate |
| 3 | Serious |
| 4 | Severe |

**NFPA** and **HMIS** Systems
Numbers are placed in the appropriate boxes (Health, Flammability, or Reactivity) to indicate the hazard rating.

# Accepted Chemical Abbreviations for Chemical Secondary Container Labeling

| | |
|---|---|
| Acetic Acid | C2H4O2 |
| Benzene | C6H6 |
| Calcium Chloride | CaC12 |
| Carbon Tetrachloride | CC14 |
| Chloroform | CHC13 |
| Cupric Chloride | CuC12 |
| Ethylene Diamine Tetraacetic Acid | EDTA |
| Ethanol | EtOH |
| Water | H2O |
| Hydrogen Peroxide | H2O2 |
| Sulfuric Acid | H2SO4 |
| Hydrochloric Acid | HCL |
| Perchloric Acid | HC1O4 |
| Hydrofluoric Acid | HF |
| Nitric Acid | HNO3 |
| Potassium Chloride | KC1 |
| Potassium Chlorate | KC1O3 |
| Potassium Nitrite | KNO2 |
| Potassium Nitrate | KNO3 |
| Potassium Hydroxide | KOH |
| Potassium Phosphate | K3PO4 |
| Methylene Chloride | MeC12 or CH2C12 |
| Methanol | MeOH |
| Magnesium Chloride | MgC12 |
| Magnesium Sulfate | MgSO4 |
| 4-Morpholinepropanesulfonic Acid | MOPS buffer |
| Sodium Chloride | NaC1 |
| Sodium Chlorate | NaC1O3 |
| Sodium Nitrite | NaNO2 |
| Sodium Dodecyl Sulfate | SDS |
| Sodium Nitrate | NaNO3 |
| Sodium Hydroxide | NaOH |
| Sodium Phosphate | Na3PO4 |
| Trichloroethylene | TCE |
| Tetrahydrofuran | THF |