



## **Lab Safety**

# HAZARD COMMUNICATION TRAINING PROGRAM

E.A. Conway Medical Center

July 2013

# INTRODUCTION

- Hazardous materials (chemical products) are everywhere. It has been estimated that over half million chemical products are used by business and industry every year. Some of these chemicals pose little danger, while others are deadly.



# YOU HAVE A RIGHT TO KNOW

- In 1983, the Federal Government established the OSHA Hazard Communication Standard. This standard is designed to protect employees who use hazardous materials on the job and/or exposed to hazardous waste as part of their job duties.
- The Hazard Communication Standard states that companies which produce and use hazardous materials must provide their employees with information and training on the proper handling and use of these materials.
- You as an employee, have the Right to Know about the hazardous materials used in your work area and the potential effects of these materials upon your health and safety.



## ABOUT THE PLAN:

### Location and availability of Hazard Communication Plan

- The hazard communication plan is located in the red safety manual that is located in each department. It is available to all employees in each department.
- It is reviewed annually by the Safety Officer and changes made as needed.

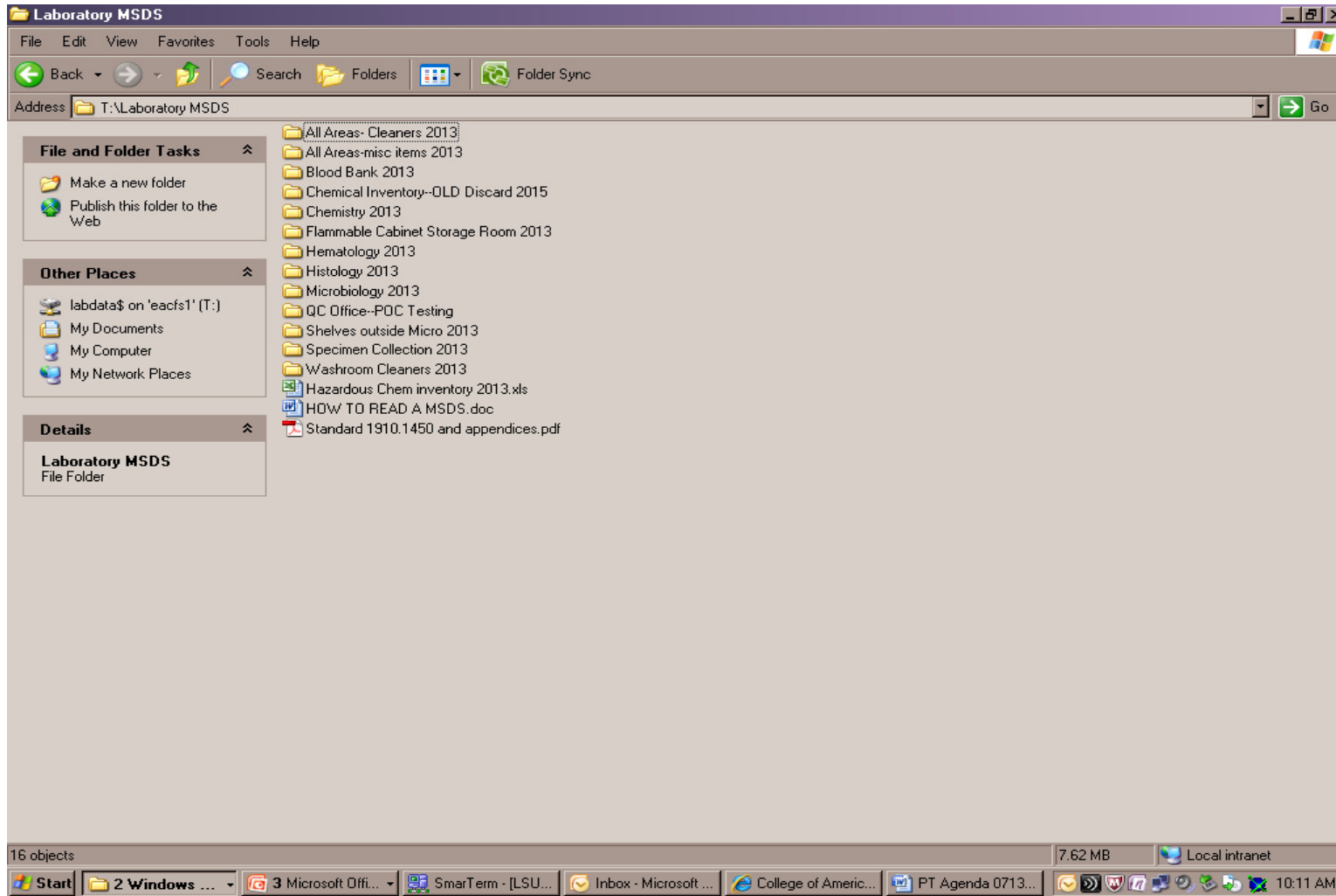


# ABOUT THE CHEMICALS IN YOUR DEPARTMENT:

- Each department has a chemical inventory and is available to all employees.
- This inventory is monitored by the department manager and chemicals/products are added as needed.
- MSDS sheets are kept for each chemical/product in a binder in the department. There are also five master copies of MSDS sheets located in the hospital. (Risk Manager's office, Emergency Room, Central Supply, Security, Warehouse). MSDS sheets for the Laboratory are located on the T: Drive.
- All chemicals not used in their original containers must have that container labeled with the name of the chemical and hazards associated with it.



# LABORATORY CHEMICAL INVENTORY AND MSDS ARE FOUND ON THE T: DRIVE



# YOUR RESPONSIBILITY AS AN EMPLOYEE

- Read the manufacturers' labels and MSDS sheets and follow instructions and warnings.
- Access the pertinent safety information through your supervisor.
- Report any potential hazards to your supervisor.



# EMPLOYER'S RESPONSIBILITY

- Educate you about chemical hazards and safety procedures



**Safety matters**





# LABELING OF CHEMICALS

- The OSHA Hazard Communication Standard requires that ALL hazardous materials be labeled. Labels must appear on the container.
- Each department is responsible for ensuring proper labeling and identification of all hazardous materials and waste within their department or area. All containers in the Medical Center must be labeled with a clear, complete conspicuous and durable label identifying the hazardous material or chemical. The Medical Center will not accept any containers that are leaking or with defaced labels.
- When any chemical is removed from its original container the replacement container will clearly identify the material and any dangers that it imposes as well as storage requirements.



# HOW TO READ AND UNDERSTAND LABELS:

- **Labels on product containers:**
- OSHA requires that the following information be included on ALL labels:
  1. The product name.
  2. A warning statement, message or symbol.
  3. Safe handling procedures.
  4. Manufacturer's name and address.
  5. Storage responsibilities.



**HEALTH HAZARD**  
 4 - Deadly  
 3 - Extreme danger  
 2 - Hazardous  
 1 - Slightly hazardous  
 0 - Normal material

**FIRE HAZARD**  
 Flash Points  
 4 - Below 73 F  
 3 - Below 100 F  
 2 - Below 200 F  
 1 - Above 200 F  
 0 - Will not burn

**SPECIFIC HAZARD**  
 Oxidizer OXY  
 Acid ACID  
 Alkali ALK  
 Corrosive COR  
 Use No WATER W  
 Radiation Hazard R  
 Polymerizes P

**INSTABILITY**  
 4 - May detonate  
 3 - Shock and heat may detonate  
 2 - Violent chemical change  
 1 - Unstable if heated  
 0 - stable

CONSULT MSDS FOR FURTHER INSTRUCTIONS

RATING EXPLANATION GUIDE		
HEALTH	FLAMMABLE	INSTABILITY
4 Deadly	4 Extremely flammable	4 May detonate under normal conditions
3 Extreme danger	3 Highly flammable	3 May detonate with shock or heat
2 Hazardous	2 Flammable liquid or solid	2 Violent chemical change but does not detonate
1 Slightly hazardous	1 Flammable gas	1 Not stable if heated over 200°F (93°C)
0 Normal material	0 Non-flammable	0 Normally stable

**HAZARDOUS WASTE**

ACCUMULATION  
 START DATE \_\_\_\_\_  
 CONTENTS \_\_\_\_\_

**HANDLE WITH CARE!**  
 CONTAINS HAZARDOUS OR TOXIC WASTES



## HOW TO READ AND UNDERSTAND LABELS:

- **In house labels (labels used when a product/chemical is transferred to a secondary container):**
- OSHA requires that the following information be included on ALL secondary containers:
  1. The product name.
  2. Hazard class. (health, flammability, reactivity, PPE, special hazards)

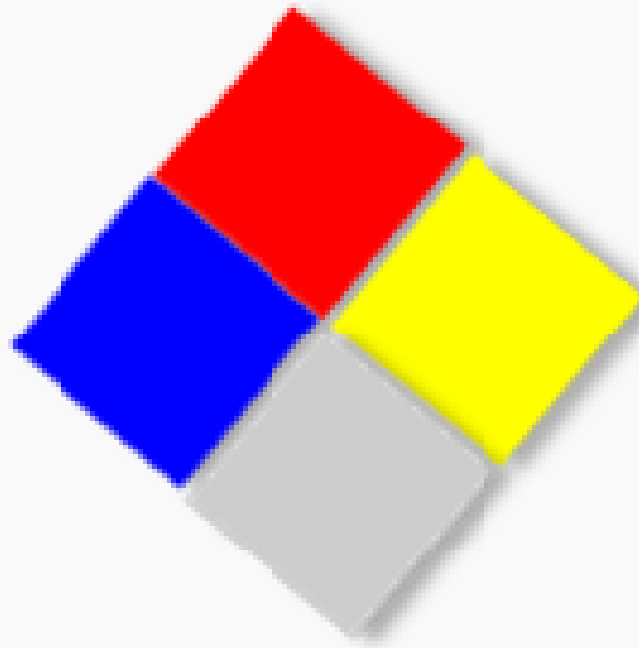


## NUMERICAL RANKING

- The National Fire Protection Agency (NFPA) ranks chemicals numerically according to the hazards associated with them.
  - Health hazards – 0 to 4 ranking, with zero being lowest hazard and four being highest.
  - Fire hazards – 0 to 4 ranking, with zero being lowest and four being highest.
  - Reactivity – 0 to 4 ranking, with zero being lowest and four being highest.
  - Special hazards – reactions with water, oxygen, acid, or radioactive.



**M**aterial  
**S**afety  
**D**ata  
**S**heets



# MATERIAL SAFETY DATA SHEETS (MSDS)

- While labels are an effective way to display information about hazardous materials, there will be times when you will want more information than can be included on a label.
- You can find additional information about the hazardous materials you work with in what is called a Material Safety Data Sheet. You should take time to read and understand the MSDSs describing the hazardous materials present in your work area.
- Before working...you should:
  - Review MSDS before working with a chemical
  - Identify any health hazard associated with the chemical
  - Identify any personal protective equipment that you must wear.



## HOW TO READ A MSDS:

- MSDS contain the following information:
  - Identity (name of substance)
  - Physical Hazards (target organ)
  - Health Hazards
  - Routes of body entry
  - Permissible Exposure Limits
  - Carcinogenic Factors (cancer causing)
  - Safe – handling procedures
  - Date of Sheet Preparation
  - Control Measures (PPE)
  - Emergency First Aid
  - Contact Information
  - Special Instructions

MSDS should be used whenever you need additional information about a hazardous material.





# MANAGEMENT OF SPILL & DISPOSAL

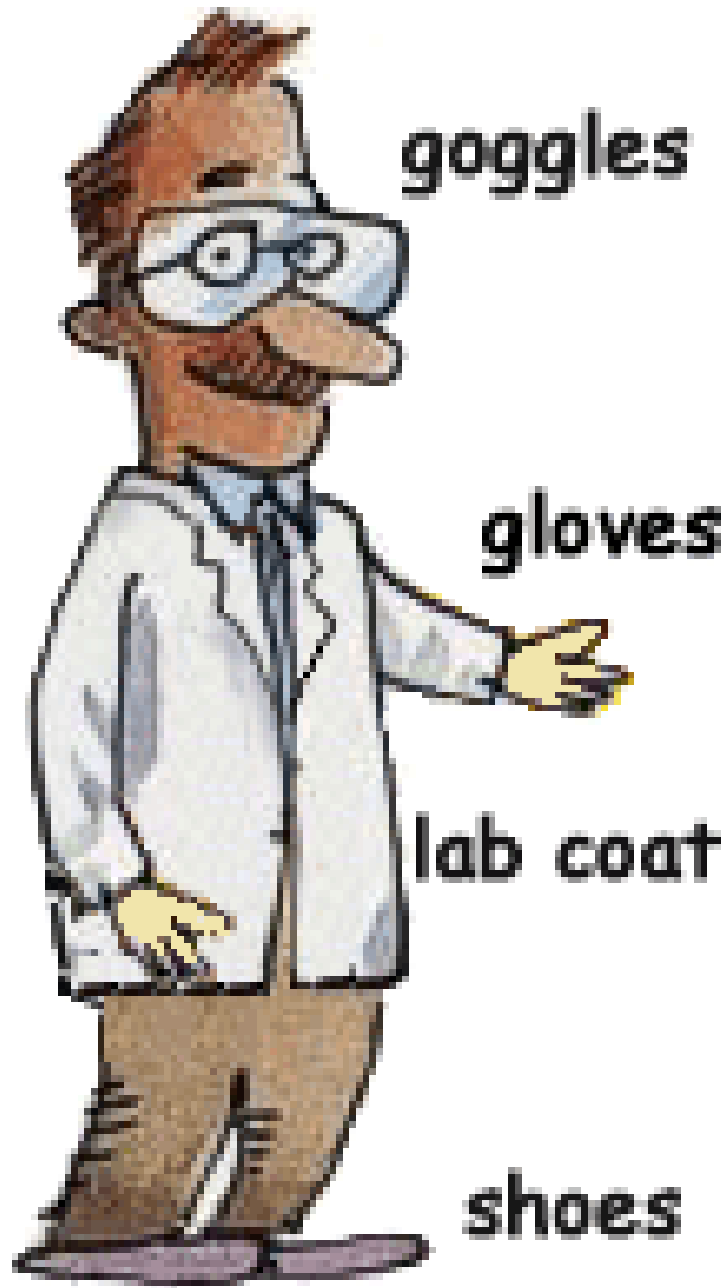
- **Small spill:** Small spills of non-acutely hazardous materials will be cleaned up by the department.
- **Large spill:** If the supervisor determines the spill to consist of an acutely hazardous substance or that it is a large spill, then she/he will instruct the switchboard to call the hospital clean up teams. The area of the spill should be blocked off to prevent access by unauthorized persons and to have all sources of ignition removed.
- Any spill that results, or has a high potential to release hazardous waste or hazardous waste constituents which could threaten human health or the environment, will be immediately reported to the safety director.
- Spills of hazardous materials can cause harm to the body, even in small quantities. If you are unsure about cleaning up a small spill, contact your supervisor or safety officer immediately. Do not touch any spill without proper personal protective equipment.



# PERSONAL PROTECTIVE EQUIPMENT

- Personal Protective Equipment is an essential way to protect you from the dangers of chemicals.
- You will find on the label or MSDS exactly what kinds of clothing, gloves and coverings you will need to keep yourself safe. Also the Hospital's Hazardous Material and Waste Plan will include information about necessary personal protective equipment and engineering controls that will reduce your exposure to hazardous chemicals.
- At a minimum, safety goggles and rubber or nitrile gloves are necessary parts of your personal protective equipment.





## **METHODS AND OBSERVATION TECHNIQUES USED TO DETECT THE PRESENCE OF HAZARDOUS CHEMICAL RELEASE.**

- Certain chemicals, such as formaldehyde, used in the laboratory setting or radiation used in the Radiology department can be monitored by the use of monitoring badges. These badges will monitor the amount of hazardous material that you have been exposed to over a period of time.
- Based on the results of the monitoring, additional personal safety measures, such as ventilation or face fitted masks may be implemented for your protection.



## COMMON SENSE RULES

- Identify hazards before you start a job.
- Don't take chances
- Ask your supervisor when in doubt.
- Be prepared!
- Know how and where to get help.



## HOW TO LESSEN OR PREVENT EXPOSURE TO THESE HAZARDOUS CHEMICALS THROUGH USAGE OF CONTROLS, WORK PRACTICES, AND PPE.

- Eliminate hazards through environmental changes, such as using proper storage containers for proper chemicals.
- Use job safety analysis to train employees on the correct usage of certain hazardous chemicals.
- Always use proper PPE when dealing with hazardous material.





**THE END!**

Don't forget to sign the safety roster.