

Chemical Hygiene Quiz Questions

- (1) Where is your personal copy of the Chemical Hygiene Plan? Demonstrate your familiarity with it by describing how it's organized and outlining its major sections.
- (2) Where can you find a copy of the OSHA Lab Standard?
- (3) Who is the EH&S Representative for your research group? What are his/her responsibilities?
- (4) Where is the Chemistry Department Library of Lab Safety? What's in it? What safety and chemical hygiene books are available in your research group library?
- (5) What is an MSDS? MSDS's are on file at MIT for **all** compounds purchased. Where would you go to obtain an MSDS for the compounds you are using?
- (6) Make a list of the ten reagents and solvents you used most recently. For each, describe what you know about its acute toxicity and hazards as a carcinogen and reproductive toxin.
- (7) According to the OSHA Lab Standard, what distinguishes a "particularly hazardous substance" from other hazardous chemicals?
- (8) Each research group is required to maintain certain inventory lists of hazardous substances. Where is your research group's inventory of hazardous chemicals? Where is your group's list of "particularly hazardous substances"?
- (9) What special measures and precautions are associated with particularly hazardous substances?
- (10) What is a designated area? What can and cannot be done in such an area?
- (11) For people working at lab hoods equipped with Phoenix Fume Hood Monitors: what does it mean when the red caution light goes on? What action should you take?
- (12) List all of the types of fire extinguishers available in your laboratory. Where is the nearest fire extinguisher to your lab bench? What type of extinguisher is it? Do you know exactly how to operate it without re-reading the instructions printed on it? What type of extinguisher would you use on a wastebasket paper trash fire? On an ether spill fire? A fire involving potassium metal or LAH? An electrical equipment fire?
- (13) Describe the procedures you use with regard to wearing gloves: do you always wear gloves? Do you ever wear two pairs? When? Do you always remove them before handling things like pens, telephones, doorknobs, etc.?
- (14) What rules govern solvent storage?
- (15) What are the rules governing working alone in the lab or at night?
- (16) What substances (if any) can be disposed of down the drain?
- (17) How do you dispose of waste mercury? Sodium? LiAlH_4 ?
- (18) What rules govern the purchase of chemicals in "lecture bottles"?
- (19) Consider the reactions you've run the last day or so, and the chemicals involved in each: describe exactly what you would have done in the event that the container holding each substance had broken and spilled its contents on the floor of your lab? What if the reaction flask had broken releasing its contents?
- (20) Does your group have a spill control kit? Where is it? What's in it?
- (21) Describe exactly what you would do in each case if your body and clothes were splashed with the various chemicals and mixtures you've worked with during the past several days.
- (22) What action would you take if a pint of diethyl ether spilled on the floor of your laboratory? How about a spill of concentrated sulfuric acid? Bromine?
- (23) What common solvents and compounds form peroxides? How do you test a sample for the presence of peroxides? What do you do if a solvent tests positive?
- (24) What would you do if your labmate's clothes were on fire?
- (25) What hazards are associated with using liquid nitrogen-cooled vacuum traps? What precautions should you take?
- (26) When must an accident report be filed? What does it consist of? Who does it go to?