

1. What is the purpose of an MSDS label?

For proper storing and handling of chemicals

2. Summarize what it means to properly store chemicals.

“Always Store minimum quantities”. The less you have—the smaller your risk. “ Most chemical companies sell in smaller jars. This keeps the chemicals from contamination.

“Separate and isolate your most serious hazards.”

Flammable and corrosive should be in a separate cabinet

Acids and bases are kept separate from each other.

Keeping chemicals in separate storage cabinets will help with “secondary containment” and prevent further risk of chemical exposure.

3. How would a teacher go about cleaning up a concentrated acid spill (be overly specific)?

All labs should have sand, absorbing agents and a neutralizer. Sand provides traction if spill is on a hard floor. The absorbing agent absorbs the liquid (duh). Neutralizer is for an acid spill and is a base like sodium carbonate or calcium hydroxide. Neutralizer for a base spill would be citric acid.

4. Summarize what it means to use proper precautions with animals.

Don't mistreat animals. Keep animals in locked cages. Teach students how to properly handle animals. Allow students to use gloves, wash hands etc. Don't have poisonous animals (or animals with a bad temperament) in the class. Post instructions on washing hands.

5. Summarize what it means to use proper precautions with plants.

Don't keep poisonous plants in the class. Know if students have allergies associated with the plant. Don't burn plants. Don't let students taste plants without knowing if it is edible or not. Have students use gloves, wash hands etc.

6. What do you think are the two most important pieces of safety gear in a classroom? Justify your reasoning.

It depends on the type of class and the type of lab. For biology – gloves and sanitation supplies like hand soap and sinks. For chemistry, it may be goggles and aprons. All sciences should have first aid kits available.

7. Respond to the following three cases. Explain what went wrong, how it could've been prevented, and what you should do to address the situation:

Case 1: A student is engaged on a lab demonstrating basic titration techniques. He accidentally spills 35 mL of concentrated HCl on his left forearm.

Put sodium hydrogen carbonate on the arm

Case 2: A student is dissecting a frog in a laboratory on dissection techniques. She accidentally cuts herself with the scalpel and gets some of the frog blood into the cut.

Wash it out

Case 3: A student is engaged in a lab which utilizes the technique of evaporation to get a sample. After a few minutes of careful heating, the watch glass she is using cracks and explodes, launching the chemical sample and glass shards towards her eye.

Call 911 and send a student to notify school personnel. Wash out eye with continuous stream of water.

If contacts are stuck to the eye – don't take them out. If glass is stuck in the eye, don't take it out.

8. If you were to sum up all of the safety practices, rules, and guidelines into four statements; what would those four statements be?

Use common sense in the lab.

Know basic first aid.

Make sure the students use common sense in the lab.

Make sure students know that you won't tolerate "messing around."