

## Safety in the Microbiology Laboratory

Although the organisms used in all *Science in the Real World: Microbes in Action* activities are not pathogenic for humans, students should be taught to handle them as they would if they were unsure about the dangers. In addition, students must practice safe laboratory techniques at all times.

1. Do not ingest microorganisms. Never use your mouth to fill pipettes. Always use a bulb or other pipetting device to fill pipettes.
2. Do not eat, drink, or smoke while doing lab activities.
3. Keep work areas clear and clean. Use disinfectant to clean work areas. There are many effective disinfectants available, including 10% bleach. (Be cautious with bleach since it will ruin clothing.)
4. Wash your hands thoroughly with soap after working with microorganisms. Disinfectant soaps are useful, but any soap will remove surface bacteria.
5. Handle unknown bacteria with caution. Keep plates closed while observing growth from unknown samples. Transfer liquid cultures carefully.
6. Cover spilled cultures or broken tubes containing cultures with paper towels and then soak the paper towels with disinfectant. After about 15 minutes discard the towels.
7. Discard all cultures, plates, toothpicks and swabs into a container that can be sterilized before disposal.
8. Bunsen burners are a fire hazard. Do not place flammable liquids (such as alcohol) near the flame. Keep loose sleeves and long hair away from the flame. Know the location of the nearest fire extinguisher.
9. Know the locations of the nearest sink with running water and the eye-wash station. Spills of chemicals on the skin or in they eyes should be flushed immediately with cool water.
10. Hot plates and objects heated in a Bunsen burner (such as an inoculating loop or a microscope slide) can cause burns. Be careful not to touch hot surfaces. Treat minor burns with ice.
11. Do not place contaminated loops, swabs, pipettes or other instruments on the lab bench. These items should be sterilized in a Bunsen burner (inoculating loop) or placed in disinfectant solution (swabs or pipettes) to kill microorganisms.