# Institutional Biosafety Committee

## Safety Precautions for Laboratories Using recombinant DNA (rDNA)

### Laboratory Access

Only authorized persons may enter the laboratory. An authorized person must understand the safety precautions of a recombinant DNA laboratory or be accompanied by one who does. Laboratory doors should be kept closed and locked except when a laboratory worker is present. All entrances to the laboratory from the hallway should be marked with contact information regarding the faculty member(s) in charge for the use of emergency personnel

### Protective clothing

**Goggles or safety glasses** should be worn in the laboratory by all personnel at all times.
**Closed Toe Footware** should be worn in the laboratory by all personnel at all times. No sandals, flip-flops, etc.
**Laboratory coats** should be worn in the laboratory whenever rDNA work is being done. Do not wear these coats into areas in which food or drink may be consumed. Isolate them in a plastic bag when taking them to the laundry.
**Disposable gloves** must be worn when handling microorganisms or nucleic acids. Change gloves immediately after obvious contamination or tears. Do not leave the laboratory and handle door-knobs, etc. while still wearing gloves. Wash your hands before leaving.
**Goggles or safety glasses <u>with a UV-protective coating</u>** are required whenever gels are observed on an ultraviolet transilluminator. Both goggles AND a face shield are required for longer exposures, such as cutting out bands. Eye damage and serious facial "sunburn" may result if these precautions are ignored.
**Masks** should be worn when weighing out or cleaning up dangerous powders such as ethidium bromide, acrylamide and SDS. Always read labels before handling chemicals.

### Laboratory behavior

Food, drink, gum-chewing, smoking, and application of cosmetics are prohibited in the laboratory.
No food or drink may be stored in refrigerators or elsewhere in the laboratory.
Mouth pipetting is prohibited.

### Work Surfaces and Spills

**Bench surfaces and microcentrifuges** must be disinfected with a suitable agent (such as 70% ethanol, Lysol, bleach) after use and after any spill of viable material. An absorbant lab mat may be used on areas in which spills are possible; place any contaminated lab mat in the autoclave buckets.
**Spills of microorganisms** should be cleaned by absorption into paper towels followed by disinfection of the surface with a suitable disinfectant. Place all soiled paper towels and gloves used during spill clean-up into autoclave buckets. If a spill is too large for simple clean-up, such as a broken culture flask, leave a warning sign and contact the laboratory supervisor.
**Contaminated clothing** should be removed and replaced with emergency scrubs kept in the laboratory. Use the bag from the scrubs to store clothing until it can be laundered (with a suitable disinfectant, such as bleach) or disposed.
**If material gets on skin**, wash skin thoroughly with soap and water. If material gets in the eyes, rinse for fifteen minutes with saline solution or eye wash. Contact laboratory supervisor.

### Waste disposal

**Solid wastes** contaminated by microorganisms or rDNA, including used gloves, pipette tips, petri dishes, and paper products, must be placed in an autoclave bucket lined with paper towels or in an autoclavable biohazard waste bag. These wastes should be autoclaved at the P6 setting. Autoclavable bags should be placed in a bucket or tray for autoclaving. After autoclaving, solid wastes should be transferred to the green bin in GH10 for disposal. The bin is marked "Autoclaved Solid Wastes".

**Liquid cultures** in containers less than 250 ml/container should be decontaminated by autoclaving at P5 or P6. Liquid cultures in containers 250 ml and up must be autoclaved at P6. Alternatively, small quantities of liquid culture may be decontaminated by addition of one volume of bleach followed by soaking overnight. Decontaminated liquid waste may be washed down the drain.
**Sharps** such as scalpel blades and glass waste must be placed in a sharps container.
**Chemical wastes** must be placed in appropriate waste containers. Liquid wastes should be segregated as either aqueous, halogenic organic (like chloroform), or flammable organic waste. Solid wastes should be segregated as hazardous or non-hazardous. Gels containing ethidium bromide or similar mutagens should be placed in a labeled plastic bag and allowed to dry. Buffers containing ethidium bromide or similar mutagens should be passed through a sealed charcoal filter. Used filters and dried gels can be submitted to the Environmental Programs Office (X6408) as hazardous wastes.