Uses: Environmental rooms are designed to control temperature and humidity. Cold rooms and walk-in freezers can function as low as -20°C and walk-in incubators can reach 48.9°C. They are primarily used for cell culture, but may also be used for general chemistry and biology.

Ventilation: Environmental rooms typically have a closed circulation system, which means there is NO ventilation. The only source of fresh air is when the door is opened and closed. Therefore, the contained atmosphere of an environmental room poses considerable safety concerns. A hazardous materials release, or vaporization poses potential occupational health and safety hazards to occupants and emergency responders.

USE AND STORAGE

Do not conduct work with or store the following materials and equipment in environmental rooms:

- **Particularly Hazardous Substances**: (i.e., acutely toxic chemicals, carcinogens, reproductive toxins): Can result in personnel exposure due to lack of exhaust ventilation.
- **Volatile flammable solvents**: Exposed circulation fan motors and electrical lab equipment are potential ignition sources.
- **Volatile acids**: Can corrode surfaces in refrigeration systems.
- **Asphyxiants**: (e.g., compressed gases such as nitrogen or carbon dioxide, dry ice): May displace oxygen due to limited ventilation rate, resulting in an oxygen-deficient environment.
- **Open Flame**: (e.g., Bunsen burners)
- **Food or Beverage for Human Consumption**: These items can become contaminated by chemicals or biological organisms, even in closed containers.

PREVENTING MOLD GROWTH

Unabated mold growth on environmental room surfaces may lead to mycological contamination of research materials, and pose potential health problems from the inhalation of spores. Spores can also be tracked out of the room, to be spread about other spaces. Minimizing mold growth requires control of moisture in the cold room, and periodic housekeeping. The below listed guidelines will help to minimize the risk of mold growth:

- Eliminate or minimize storage of paper or cardboard products.
- Keep door firmly shut – if left open, water condensation forms on surfaces due to high relative humidity. Keeping the door of a cold room open also increases the stress on the unit compressor, increasing the likeliness of mechanical problems.
- Immediately clean up any spilled liquids (e.g., buffers and media). Moisture may lead to rust, corrosion or degradation of environmental room integrity (e.g. shelves).
- Promptly dispose of any wet or damp organic materials (e.g., paper products, cardboard, miscellaneous trash, etc.)

INCIDENT REPORTING

- Leaks or maintenance issues should be reported to Columbia University Facilities:
  - Medical Center: 305-HELP
  - Morningside: 854-2222
- Health and safety concerns should be reported to Environmental Health & Safety:
  - Medical Center: 212-305-6780
  - Morningside: 212-854-8749