

# Environmental Health and Safety

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## Introduction

UNMC requires training and special review for projects that involve radioactivity or biohazards. Investigators conducting research with any of these types of agents must submit their protocol for review by the Institutional Biosafety Committee (IBC).

The Biosafety Manual has been developed by the Office of Regulatory Affairs and the Institutional Biosafety Committee (IBC) at UNMC. The Biosafety Manual provides university-wide safety guidelines, policies, and procedures for the use and manipulation of biohazards. Access it at [unmc.edu/ibc/policies-procedures](http://unmc.edu/ibc/policies-procedures).

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## Submitting Research to the Institutional Biosafety Committee (IBC)

### Key Contacts

The Office of Regulatory Affairs (ORA) answers all questions and assists with the IBC submission process.

IBC Web page: [unmc.edu/ibc](http://unmc.edu/ibc)

Phone: 402-559-6463

### Institutional Biosafety Committee (IBC)

The Institutional Biosafety Committee has been charged by Federal law with planning and implementing the campus Biosafety Program to ensure the health and safety of all personnel working with biohazardous agents. The IBC makes certain that research conducted at the Institution is in compliance with the [NIH Guidelines for Research Involving Recombinant DNA Molecules](#), drafts campus biosafety policies and procedures, and reviews individual research

proposals for biosafety concerns.

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## Application and Approval Process

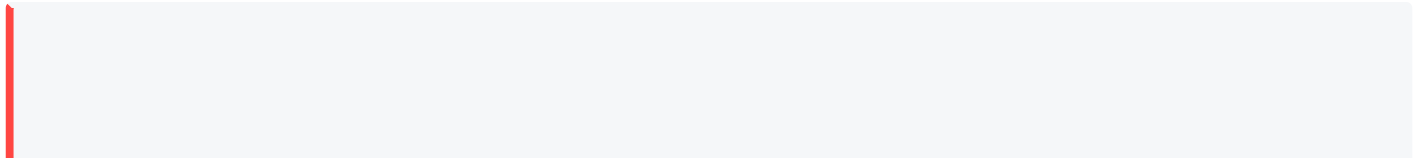
Research requiring IBC approval includes:

- the deliberate transfer of a drug resistance trait to microorganisms that are not known to acquire the trait naturally
  - the deliberate transfer of recombinant DNA, or DNA or RNA derived from recombinant DNA into human research participants (human gene transfer)
  - the deliberate formation of recombinant DNA containing genes for the biosynthesis of toxin molecules lethal for vertebrates at an LD50 of less than 100 nanograms per kilogram body weight
  - using risk group 1, risk group 2 or risk group 3 agents ([ABSA Risk Group Database](#)), as host-vector systems
  - the cloning of DNA from risk group 2 or risk group 3 agents into non-pathogenic prokaryotes or lower eukaryotic host-vector systems
  - the use of infectious or defective risk group 2 or risk group 3 agents
  - whole animals in which the animal's genome has been altered by stable introduction of recombinant DNA or DNA derived into the germ-line (transgenic animal)
  - viable recombinant DNA-modified microorganisms tested on whole animals
  - genetically engineered plants by recombinant DNA methods
  - culture of more than 10 liters of a biological agent
  - formation of recombinant DNA molecules containing no more than two-thirds of the genome of an eukaryotic virus
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## Environmental Health & Safety (EHS)

### Biosafety

A [Biosafety Manual](#) has been developed by the Office of Regulatory Affairs and the Institutional Biosafety Committee (IBC) at UNMC. The Biosafety Manual provides university-wide safety guidelines, policies, and procedures for the use and manipulation of biohazards. Additional information on policies and procedures pertaining to biological research can be found on the [UNMC IBC website](#).



**All individuals working with biohazardous materials must take Biosafety Training**  
. Additional training is required for work with risk group 3 organisms.

## Radiation Safety

Radiation Safety is responsible for the management of radioactive material and the use of radiation at UNMC in accordance with Nuclear Regulatory Commission (NRC) and Nebraska Department of Health and Human Services regulatory requirements. Additional services include responding to spills/releases on a 24-hour basis, conducting internal radiation safety audits and maintaining databases to comply with the recordkeeping requirement mandated by the regulations. Radiation Safety also manages the personnel radiation monitoring program (e.g., radiation badging, bioassays). Prior to working with radioactive material, please contact EHS at 402-559-6356 and see the Radiation Safety Manual. All individuals using radioactive material must be adequately trained. See link for training requirements Radiation Safety Training.

## Chemical Safety

Chemical Safety is responsible for the “cradle to grave” management of chemicals, in accordance with Occupational Health and Safety Administration (OSHA) and Environmental Protection Agency (EPA) Resource Conservation and Recovery Act (RCRA) regulatory requirements. Additional services include responding to spills/releases on a 24-hour basis, conducting internal OSHA/EPA/DOT audits and maintaining databases to comply with the recordkeeping requirements mandated by the regulations. Chemical Safety also monitors the reporting of “Chemicals of Interest”, pursuant to the Department of Homeland Security regulatory requirements and on-site chemical threshold planning quantities, related to the Emergency Planning and Community Right-to-Know Act (EPCRA). Please see Hazardous Material Fact Sheets for guidance on chemical disposal.

## Occupational Health and Safety

Campus Safety is responsible for occupational safety and health practices and strives to reduce work-related accidents and injuries through a formal injury and illness prevention plan, in accordance with Occupational Health and Safety Administration (OSHA) regulations. The program is built on the premise that each employee has the responsibility to: plan each job to assure proper safety equipment is available and used, know what actions to take in the event of emergencies, report any injuries or potential injuries and any unsafe conditions.

Additional services include helping UNMC administrators and staff to protect UNMC property and ensuring a safe environment for patients, visitors, students, and staff. Campus Safety does this by identifying safety hazards, consulting with departments to correct and prevent safety hazard deficiencies, unsafe conditions and acts, and providing occupational and personal safety education and information. Incidents, accidents and near misses must be reported in a timely manner using

the [Incident/accident reporting form](#).

## Lab Safety

All research laboratories are required to be in compliance with Federal, State and University policies and procedures. Please see the EHS [Laboratory Safety](#) page for guidance. Specific regulatory information and guidance can also be found in the [Laboratory Safety Manual](#) and the [Lab Safety Audit Guide](#). Safety Data sheets must be available for all chemicals in the lab and can be accessed on the [Safety Data Sheets page](#).

## Dangerous Goods/Hazardous Materials Shipping

The United States Department of Transportation (DOT) and the International Air Transport Association (IATA) have regulations related to the shipping of Hazardous Materials and Dangerous Goods. Hazardous Materials and Dangerous Goods include but are not limited to chemicals, radioactive material, infectious substances, biological specimens, regulated medical waste, dry ice, lithium batteries, and equipment containing lithium batteries. UNMC EHS is the point of contact for shipping all Hazardous Materials and Dangerous Goods. EHS can provide training to research coordinators or any other study personnel for shipments of infectious substance, biological specimens, dry ice, excepted quantities of material, and regulated medical waste. EHS personnel are trained to ship all Hazardous Materials and Dangerous Goods and will assist in shipping all other Hazardous Materials and Dangerous Goods that training is not available for. To register for DOT/IATA shipping training or for assistance with shipments, please contact EHS at 402-559-6356 and see the [UNMC Hazardous Material/Dangerous Good Shipping Plan](#) for more information.

## Patient Specimens and Cultures

Patient specimens are those collected directly from humans or animals, including but not limited to excreta, secreta, blood and its components, tissue, tissue fluid swabs, and body parts, transported for purposes such as research, diagnosis, investigational activities, disease treatment and prevention.

Cultures are the result of a process by which pathogens are intentionally propagated.

Patient specimens and cultures that are shipped or transported have the potential to be regulated as Infectious Substances (Category A or B), Exempt Human Specimen, or Exempt Animal Specimen. In order to be compliant with DOT and IATA regulations, research study coordinators or any other study personnel who package and ship study samples or transport study samples in company or personal vehicles, are required to complete training. Contracted couriers or transportation companies may be utilized to transport study samples if they are approved by EHS. To register for DOT/IATA shipping training, please contact EHS at 402-559-6356 and see the [UNMC Hazardous Material/Dangerous Good Shipping Plan](#) for more information.