



NEW JERSEY INSTITUTE OF TECHNOLOGY

**LABORATORY HAZARD ASSESSMENT  
FOR NEW OR MODIFIED PROCESSES OR  
PROCEDURES\***

Date of Request: \_\_\_\_\_

Requestor: \_\_\_\_\_

Telephone: \_\_\_\_\_ E-mail: \_\_\_\_\_

Name of Project: \_\_\_\_\_

Department Chair: \_\_\_\_\_ Department: \_\_\_\_\_

Building / Room \_\_\_\_\_

Chair Telephone \_\_\_\_\_ E-mail \_\_\_\_\_

**PERSONNEL PROPOSED FOR THIS PROJECT**

All personnel authorized to handle hazardous materials, biological agents or radiological material must complete NJIT safety training. List the personnel participating in the proposed activity and the required training:

Personnel	Training Completion Date	Other Applicable Training

**LABORATORY OPERATIONS, PROCEDURES OR ACTIVITY**

Briefly describe the operation, procedures or activity. You can also attach activity description or other NJIT Laboratory Application.

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29 CFR 1910.1450- "The circumstances under which a particular laboratory operation, procedure or activity shall require prior approval from the employer or the employer's designee(s) before implementation"

## POTENTIAL HAZARDS

Review the Hazard Description of each Exposure Condition and check the ones that are present (column 1). For every condition present, review the Examples of Engineering Controls and Personal Protective Equipment and complete the Specific Engineering Controls and PPE that you intend to use to reduce or eliminate the hazard.

Check if Present	Exposure Condition	Hazard Description	Examples of Engineering Controls and Personal Protective Equipment (PPE)	Specific Engineering Controls and Personal Protective Equipment (PPE)
<b>Biological Hazards (All components may require IBC approval.)</b>				
	Animals (vertebrate)	Splash, bites, exposure to animal body fluids; injuries due to animal size, caging, allergies, and disease transmission	Requires approval by IACUC.	
	Animals (invertebrate)	Splash, bites, exposure to animal body fluids; injuries due to animal size, caging, allergies, development of allergies, and disease transmission	Lab-specific controls and equipment	
	Carcinogens	Cancer causing agent	Posted work areas, glove box, fume hood, special handling, and gloves	
	Human Blood or other potentially infectious materials	Disease transmission	Blood-borne Pathogen training and Universal Precautions. May require IRB approval.	
	Infectious Pathogens	Disease transmission	Good microbiological methods, engineering controls, gloves	
	Nano-particles	Unknown health hazards due to small size	Containment, respirators	

Check if Present	Exposure Condition	Hazard Description	Examples of Engineering Controls and Personal Protective Equipment (PPE)	Specific Engineering Controls and Personal Protective Equipment (PPE)
	Recombinant DNA	Depends on nature of DNA segments, host vector systems. Introduction of foreign genetic materials into personnel or environment	Good microbiological methods, engineering controls, gloves	
	Select agents and toxins	Infectious agents and toxins with potential to pose a severe threat to human health.	Contact EHS. See <a href="http://www.selectagents.gov">www.selectagents.gov</a>	

### Chemical Hazards

	Chemicals, low hazard with low splash probability	Skin and eye irritation	Safety glasses, chemical resistant gloves, lab coat, closed shoe of good structure, long pants; Be aware of the nearest eyewash and shower	
	Compressed gases	Asphyxiation, accidental tip over, content release, and pinch points	Gas cylinders must be secured to stationary objects in a safe location away from danger or impact; Safety glasses and gloves	
	Controlled Substances	Drugs and certain other chemicals (narcotic and non-narcotic)	Proper training, handling & dispensing procedures, recordkeeping, safety glasses; Under the jurisdiction of federal and state laws	
	Corrosive liquids w/reasonable probability of splash	Skin and eye damage	Chemical splash goggles or face shield, neoprene gloves, lab coat, closed shoes, chemical resistant apron	
	Cryogenic liquids, ultra-cold freezers, dry ice	Asphyxiation, skin, eye and tissue damage, frostbite	Ventilation, safety glasses, goggles or face shields for splash hazards, insulated gloves, closed shoes	

Check if Present	Exposure Condition	Hazard Description	Examples of Engineering Controls and Personal Protective Equipment (PPE)	Specific Engineering Controls and Personal Protective Equipment (PPE)
	Organic solvents	Skin/eye damage, absorption through skin, organ damage	Chemical splash goggles or face shield, heavy resistant gloves, lab coat, closed shoes, chemical resistant apron, eyewash and shower	
	Volatile hazardous or highly hazardous chemicals	Inhalation of toxic vapors, skin contact	Fume hood, glove box, safety glasses, and gloves	
	Regulated Wastes	Exposure, environmental release	Safety glasses, gloves, proper storage and disposal procedures; Training and safe handling procedures	
	Special cleaning agents	Exposure, allergies	Material Safety Data Sheets, hazard communication training, proper procedures, gloves, safety glasses	
	Toxic Substances	Poisons, neurotoxins, teratogens, mutagens, carcinogens, and subsequent environmental impact.	Proper training, procedures, storage, and disposal	
	Washing glassware	Skin lacerations from broken glass	Safety glasses, rubber gloves, lab coat.	
<b>Radiological Hazards</b>				
	Ionizing Radiation	Cancer, teratogenic	Time, distance, shielding; Permit and controls approved by Radiation Safety Committee	

Check if Present	Exposure Condition	Hazard Description	Examples of Engineering Controls and Personal Protective Equipment (PPE)	Specific Engineering Controls and Personal Protective Equipment (PPE)
	Non-Ionizing Radiation	Eye or skin damage, burns, heat, cancer.	Training, curtains (welding), signage, interlocks, beam blocks, safety eyewear	
<b>Physical Hazards</b>				
	Compression (pressure)	Injury from sudden release of energy from valves, compression chambers	Energy control, safety classes, shields, body position	
	Confined Spaces	Exposure, falls, dangerous atmospheres, asphyxiation, noise, vibration	Buddy system, lanyards, ventilation, monitoring	
	Elevated heights	Fall injury	Tethers, anchors	
	Energized Equipment	Pinch, crush, caught, pulled in, electrocution	Energy control, signage, guards, no jewelry, tie back long hair	
	Extreme Environmental Conditions	Hypothermia (cold), frostbite (cold), heat exhaustion (heat) or heat stroke.	Training, physiological monitoring. Rest cycles and fluid replacement	
	Impact	Injury to head or body	Hard hat, impact resistant toed shoes, body position	

Check if Present	Exposure Condition	Hazard Description	Examples of Engineering Controls and Personal Protective Equipment (PPE)	Specific Engineering Controls and Personal Protective Equipment (PPE)
	Manipulation of large objects	Injury, death	Training, proper lifting equipment, procedures, inspections, buddy system	
	Material Handling	Physical injury, strains, sprains	Training, buddy system, gloves, standard operating procedures	
	Noise	Deafness, hearing damage, inability to communicate	Noise monitoring, hearing protection, training, and engineering controls (e.g., enclosures, baffles, mufflers)	
	Penetration	Injection, wounds	Training, padding of surfaces, signage, and body position	
	Respirable Dust	Lung damage	Local exhaust ventilation, monitoring, respirator	
	Vibrating Equipment	Cumulative trauma disorders.	Gloves, protective shoes, hearing protection	

**Additional notes and information:**

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**CHEMICAL/BIOLOGICAL/RADIOLOGICAL MATERIALS TO BE USED**

Name	CAS #	Synonym	Storage Location	Frequency of Use	Maximum Quantity Stored	Hazard

**Attach Safety Data Sheet for each listed material.**

**CONTROL PROCEDURES** - Describe controls that will be employed to protect the individuals participating in this research or attach IBC application.

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**DECONTAMINATION PROCEDURES** (surfaces, materials, instruments, personnel, equipment, etc.) or reference IBC application:

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**DISPOSAL PROCEDURES** (wastes and unused stock):

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The information above is accurate and complete. I agree to abide to all applicable NJIT, federal, state and local regulatory requirements.

Requestor: \_\_\_\_\_

Signature: \_\_\_\_\_

Reviewed by Department Head (Required)

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Reviewed by EHS (Required)

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Reviewed by Vice Provost for Research (If applicable)

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Reviewed by Facilities (If applicable)

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Reviewed by IBC (If applicable)

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Reviewed by IRB (If applicable)

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Reviewed by IACUC (If applicable)

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Reviewed by Risk Management (If applicable)

Name: \_\_\_\_\_

Date: \_\_\_\_\_



**Approval Conditions**  
(To be verified by EHS Department)

- 1) \_\_\_\_\_
- 2) \_\_\_\_\_
- 3) \_\_\_\_\_
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- 5) \_\_\_\_\_

**See Attachment for additional conditions.**