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|  | **University of Houston-Downtown**  **Project Hazard Assessment** |  |

***Revised Sept 10, 2012***

***PURPOSE:***

*The Project Hazard Assessment (PHA) will be utilized to provide the Principal Investigator with the opportunity to review all safety aspects of the research project. The PHA shall list the hazards associated with the project and shall inform all personnel involved in the project the control methods which will be implemented to minimize the hazards.*

***SCOPE:***

*The PHA shall be completed by the Principal Investigator prior to the initiation of the project. The PHA shall describe all expected hazards and shall detail the engineering and administrative controls taken to protect the researchers, students, staff and the occupants of the building, as well as the environment.*

*The applicability of the PHA is limited to those research projects that involve hazards that are not routinely encountered in the course of normal, everyday departmental activities. The PHA of a research project which involves those hazards routinely encountered and accepted by the department may be a simple, formal statement of this fact.*

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| **Project Name:** | | |  | | | | | | | | | |  | | | |  | |  |
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| **Project Location:** | | | |  | | | | | | | | | **Project Date(s):** | | | |  | |  |
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| **Principal Investigator:** | | | | |  | | | | | | | | **Phone Number:** | | | |  | |  |
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| The attached Project Hazard Assessment (PHA) has been reviewed by the undersigned. All foreseeable hazards associated with the project have been outlined along with all control methods to be utilized to minimize personnel and environmental exposure to the hazards. The project will be conducted in a manner which is in accordance to all prudent practice standards.  (PHA forms must be approved by the Natural Sciences Safety Committee, then the Chair, Dean and EHS Manager. The faculty member will be notified when the form has all signatures. Copies of signed PHAs will be kept in the NS office. Forms must be signed prior to the start of research and once signed are good for one year. Any major modifications of equipment or procedures will require additional review of the members below. If a new research student is added to a laboratory he/she must sign the back and a new copy turned into the NS Office.) | | | | | | | | | | | | | | | | | | | |
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| **Principal Investigator:** | | | | | | | |  | | | | | | | | **Date:** | |  |  |
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| **Safety Committee Rep.:** | | | | | | | |  | | | | | | | | **Date:** | |  |  |
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| **Chair:** | | | | | | | |  | | | | | | | | **Date:** | |  |  |
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| **EHS Manager:** | | | | | | | |  | | | | | | | | **Date:** | |  |  |
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**1.0 Project Summary** (Provide a brief description of the project)

**2.0 Apparatuses Used in the Project**

2.1 Equipment (List all equipment used in the project)

**3.0 Procedures** (List detailed steps for experiments)

**4.0 Hazard Analysis**

4.1 Physical Hazards

List all physical hazards associated with this project

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| --- | --- |
| **Hazard** | **Source of Hazard** |
| Electrical Shock |  |
| Cuts / Abrasions |  |
| Noise |  |
| Slip / Trip / Fall |  |
| Puncture |  |
| Burns (heat or cold) |  |
| Animal |  |
| Other |  |

4.2 Chemical Hazards

Add more rows as needed

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| --- | --- | --- |
| **Chemical** | **Characteristics (i.e. acid, flammable etc)** | **Volume (ml)** |
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Where are the MSDS’s for the chemicals filed?

4.3 Biological Hazards

If any category below is selected, please make sure you have filed a Memorandum of Understanding and Agreement for Biosafety to be approved by the Institutional Biosafety Committee (IBC MUA). The IBC at UH currently approves all IBC MUAs for UHD and Dr. Jerry Johnson is our representative on that committee.

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| **Category** | **Agent** |
| Microbiological |  |
| Bacteriological |  |
| Other |  |
|  |  |

4.4 Recombinant DNA

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| --- | --- | --- |
| **Check One** | **Does this protocol involve:** | **Explanation (If needed)** |
| Yes /  No | The use, but not creation, of recombinant agents? |  |
| Yes /  No | Cloning in bacteria or yeast non-pathogenic to humans, plants, or animals? |  |
| Yes /  No | Cloning in bacteria or yeast potentially pathogenic  to humans, plants, or animals? |  |
| Yes /  No | Use of viral vectors? |  |
| Yes /  No | The creation of transgenic animals? |  |
| Yes /  No | The creation of transgenic plants? |  |
| Yes /  No | The use of transgenic animals or plants  (excluding the use of commercially obtained transgenic rodents kept at BL-1) ? |  |

If you answered “No” to ALL of the above question, skip to Section 5.0 below.

If you answered “Yes” to ANY of the above questions, you must enter information into the Table in Section 4.5.

* 1. Characteristics of Recombinant Agent(s)

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| --- | --- | --- |
| **Check One** | **Characteristics of Recombinant Agent(s)** | **Explanation (If needed)** |
| Yes /  No | From a Risk Group 2 Agent? |  |
| Yes /  No | From a Risk Group 3 or 4 Agent? |  |
| Yes /  No | From an animal or plant pathogen not affecting  humans? |  |
| Yes /  No | From a Select Agent or coding for a Select Toxin? |  |
| Yes /  No | Encodes for a known or suspected oncogene  Genez? |  |
| Yes /  No | Encodes for a toxin molecule (whole or partial)?  If yes, please describe the LD50 of the toxin and  whether the insert will code for an active toxin. |  |
| Yes /  No | Will antibiotic resistance be transferred to  microorganisms? If yes: Describe what antibiotic resistance genes will be transferred to which agents (microorganism?) |  |

If you answered “Yes” to ANY of the above questions, you must enter information into the Table in Section 4.6.

4.6 Risk Assessment

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| **Check One** | **Risk Assessment** | **Explanation (If needed)** |
| Yes /  No | Will any experimental procedures result in  acquisition of new characteristics such as  enhanced virulence, infectivity, or change in  host range? |  |
| Yes /  No | Will any procedures with the agent be conducted outside of a biological safety cabinet? |  |
| Yes /  No | Will any of the agents be transported outside of  the laboratory? |  |
| Yes /  No | Will more than 1 liter of agent be generated at  any one time? |  |
| Yes /  No | Will any of the agents be administered to animals?  If yes, please describe in detail how this will be  done (e.g. animal species, how is the agent given,  how long will the animal be followed?) |  |
| Yes /  No | Does this project involve the environmental  release of genetically engineered material? |  |
| Yes /  No | Does this project involve the environmental  release of pathogenic or potentially pathogenic  material (other than recombinant agents)?? |  |
| Yes /  No | Will human tissue or cells be transplanted into  animals? |  |
| Yes /  No | Will animal tissue or cells be transplanted into a  different species of animal? |  |
| Yes /  No | Do any of the agents you intend to work with  require pre-project serum samples, immunization,  medical monitoring, and/or health surveillance? |  |
| Yes /  No | Will the deliberate aerosolization of any agent  occur? |  |

**If you answered “Yes” to ANY of the above questions, please use the additional space provided below for your risk assessment (describe risk and mechanisms used to minimize that risk).**

**5.0 Control of Hazards**

5.1 Physical Hazards (List all hazards identified in 4.1 and list methods to control the hazard)

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| **Source of Hazard** | **Control of Physical Hazard** |
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5.2 Chemical Hazards (List all hazards identified in 4.2 and list methods to control the hazard)

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| **Chemical Hazard** | **Control of Chemical Hazard** |
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5.3 Biological Hazards (List all hazards identified in 4.3 and list methods to control the hazard)

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| **Biological Hazard** | **Control of Biological Hazard** |
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**6.0 Personal Protective Equipment (Check all that apply and *type* your examples to the right)**

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| **Category** | **Specific Type of Equipment** |
| Hand Protection | Example: Non-latex inner gloves with Nitrile outer gloves must be worn at  all times when handling solution. **Example:** |
| Eye Protection | Example: Splash resistant goggles must be worn at all times when handling solutions. Safety glasses may be worn when there is no exposure to hazardous materials. **Example:** |
| Mask / Respirator | Example: Dust / particulate mask must be worn while grinding samples. **Example:** |
| Body Protection | Example: Poly-coated Tyvek suit must be worn while mixing solutions. **Example:** |
| Ear Protection | Example: Ear plugs must be worn while operating electrical motor. **Example:** |
| Foot Protection | Example: Chemical resistant boots must be worn while obtaining field samples. Closed-toe shoes must be worn in. **Example:** |
| Head Protection | Example: Hard hats must be worn while conducting field operations. **Example:** |

**NOTICE: In accordance with UHD’s Laboratory Safety Manual open-toe shoes are prohibited from being worn inside the laboratory.**

**7.0 Hazardous Waste Disposal**

All hazardous waste generated during the project must be disposed of properly. The Principle Investigator is responsible for all expenses associated with the waste disposal. The EHS Office can assist in determining the disposal method and estimated disposal costs.

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| **Anticipated Waste-streams** | **Estimated**  **Volume** | **Disposal**  **Method** | **Estimated**  **Costs\*** |
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**\***This column will be filled in by members of the NS Laboratory Safety Committee.

**8.0 General Project Safety Procedures**

8.1 Utility or Equipment Failure

Identify the resulting hazards if there was a utility or equipment failure.

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| **Type of Failure** | **Result of Failure** |
| Electrical |  |
| Natural Gas |  |
| Compressed Air / Gas |  |
| Water |  |
| Vacuum Pump |  |
| Fume Hood |  |
| Mixing Equipment |  |
| Building’s HVAC system |  |
| Other |  |

Emergency shut-down procedures must be posted for experiments involving a particularly hazardous process or involving unique equipment.

8.2 Laboratory Safety Equipment

Indicate the type and location of safety equipment within the work area

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| **Safety Equipment** | **Location** |
| Emergency Shower / Eye wash |  |
| Fire Extinguisher |  |
| Chemical Spill Kit |  |
| Other |  |

**9.0 Acknowledgements**

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| **Personnel who are working on the project must read and sign the following statement:**  I have read and I understand the Project Hazard Assessment. I understand that this Project Hazard Assessment is provided as supplemental information to the university’s Chemical Hygiene Plan. I will adhere to the procedures as outlined in both documents. **\*** |

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**\*Any person who signs this form must be given a digital or hard copy of the form as completed by the principal investigator.**