

## **POTENTIAL HAZARD INFORMATION & SIGNATURE SHEET**

Scientific research involves exposure to various hazards. When deciding to allow your child to participate in research projects conducted in University of Florida laboratories, greenhouses and animal facilities, you need to be aware of the potential hazards he or she may encounter. The following information provides the most common potential hazards, but is not intended to be an exhaustive list of all potential hazards.

### **Definitions**

Allergens – substances capable of producing an allergic reaction.

Carcinogens – substances capable of producing cancer.

Pathogens – bacteria, viruses, Prions, fungi, parasites capable of causing diseases.

Recombinant materials – DNA that has been genetically engineered (altered), usually incorporating DNA from more than one species of organism.

Transgenic – an organism that has had genes from another organism inserted into its genes.

Toxins – poisonous substances produced by living organisms, plants and animals.

Zoonotic diseases – diseases that can be passed from animals to humans.

### **Potential Hazards**

Your child's research project may involve one or more of the following potential hazards. A table is attached with examples.

Chemicals – can be unstable, making them reactive and prone to explosion. Potential injuries include skin and eye burns, respiratory problems, allergic reactions, skin, eye, and mucous membrane irritation, and illnesses.

Pathogens – found in human, animal and plant tissue can cause infections and acute or chronic illnesses.

Recombinant materials/technology – can interact with the human body and its cells and produce potentially hazardous results.

Mechanical/electrical equipment and instrumentation – can cause electrocution, burns, cuts, scrapes and injuries from pinch points. High noise levels can cause hearing loss.

Radiation/irradiation – can cause skin and eye damage, cellular damage and long-term health problems.

Animals – can bite, scratch, and transmit zoonotic diseases, such as rabies, toxoplasmosis, pox virus, cat bite fever, rat bite fever, and various parasitic infections or release allergens.

Gas cylinders/compressed gasses – gas cylinders with compressed gasses can explode, causing injury from high speed projectiles. Released gasses can cause eye and skin irritations, respiratory problems, light-headedness, asphyxiation and fainting.

I HAVE READ AND UNDERSTAND the Potential Hazard Information Sheet describing the potential risks and dangers associated with my child's research project.

I AGREE AND UNDERSTAND that my child's research project may be suspended at any time, at the discretion of the University of Florida and its officers, agents, and employees, if the safety of my child, the employees and other volunteers of the University of Florida become a concern.

\_\_\_\_\_  
Name of Child

\_\_\_\_\_  
Signature of Parent or Legal Guardian

\_\_\_\_\_  
Date

**Please return the signed sheet to Environmental Health & Safety by mail to P.O. Box 112190 or by fax to (352) 392-3647**

	<b>Definition</b>	<b>Hazards</b>	<b>Examples</b>
<b>Chemicals</b>	Refined compound that could be in the form of a solid, liquid or gas. These may or may not be hazardous. Some compounds may have numerous hazard classifications (flammable, toxin & carcinogen )	Carcinogens: may cause some sort of cancer with long term exposure - usually many years in the future	Benzene
		Teratogen: shown to affect the reproductive system of males & females & may cause birth defects in the developing fetus.	Alcohol, thalidomide, X-rays
		Neurotoxins: may affect the nervous system.	Ethidium Bromide, snake venom
		Flammables: will burn or explode	Acetone, Xylene, Alcohol
		Reactives: will react explosively	Peroxides, acrylamide
		Corrosives: will cause tissue damage with contact through inhalation, eye, skin, etc	Acids & bases
		Toxins: May cause illness or death on exposure.	Cyanide
<b>Compressed Gases</b>	High-pressure cylinders that hold gases. These are usually large & heavy. Gas may be harmless, toxic, corrosive, flammable	Physical hazard: Explosion hazard if they rupture Asphyxiant hazard if they vent the gas to the workplace & it displaces oxygen	Asphyxiant: Nitrogen, helium, any other non-oxygen gas Flammable: Hydrogen Toxic: Ammonia
<b>Radiation/Radio active Materials</b>	High energy particles (alpha & beta) or waves (X-rays)	Tissue & Organ damage with high doses	Uranium, Phosphorus32, Sodium35, X-rays
<b>Physical hazards</b>	Hazards from noise, machinery, heat, cold, etc.	Tissue damage, hearing loss	Scrapes, cuts Cold: liquid nitrogen, dry ice Heat: burners

	<b>Definition</b>	<b>Hazards</b>	<b>Examples</b>
<b>Biological Agents</b>	<p>Living organisms or products of living organisms such as Viruses, Bacteria, Fungi, Prions &amp; Parasites.</p> <p>Hazards from infection with these agents are organism dependent &amp; can range from mild treatable to severe untreatable.</p> <p>Classification of hazard in four groups called biological safety levels with level 1 as the least hazard &amp; level 4 as the extreme hazard.</p>	Level 1 - No hazard	Baker's Yeast & E. coli K12
		Level 2 - Mild to severe illness	Influenza, Polio & Salmonella
		Level 3 – Severe illness & possible death	Tuberculosis & AIDS
		Level 4 – Not allowed at the University of Florida	Haemorrhagic fever
<b>Recombinant DNA</b>	Genetically modified organisms with variations in genes within the organism.	Often unknown consequences once introduced to the human body.	Viral vectors like Adeno & Adeno-associated viruses used to transfect or express genes.
<b>Toxins – Microbial, Plant, Animal</b>	Poisons produced by plants, living organisms or animals.	Tissue & organ damage or death.	Plant – Ricin Animal – Fish & Snake venom Microbial – Staph, Tetanus

## RULES FOR MINORS WORKING IN LABORATORIES AND ANIMAL FACILITIES

1. Never work alone in any laboratory environment without direct, immediate adult supervision from the sponsor or someone designated by the sponsor.
2. Always follow the instructions of the sponsor or laboratory supervisor.
3. Always report any accident (regardless of severity) immediately to the sponsor or laboratory supervisor.
4. Always wear the personal protective equipment as directed and dispose of it appropriately. This personal protective equipment includes glasses, gloves, coats/gowns, and other face/body protection as dictated by the hazard being worked with or around.
5. Always keep your hands away from your face and wash them well with soap and water prior to leaving any laboratory area.
6. Never eat, drink, chew gum, apply lip balm, or touch contact lenses while in any laboratory environment.
7. Always wear closed-toe shoes while in any laboratory.
8. Always tie back long hair to keep it out of all the hazards listed above.
9. Always wear clothing that reduces the amount of exposed skin.
10. Always ask questions if you don't understand the safety requirements.