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# Reproductive Protection Program

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University of Tampa Personnel

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*September 2018*

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Revision 1.1

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## RECORD OF AMENDMENTS

Date	Section	Amendment	Initial
08/22/16	All	Changed references to the Chemical Hygiene & Biological Safety Officer	LKJ
09/01/18	All	Changed document to conform to UT standard document format	LKJ

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**TABLE OF CONTENTS**

1. PURPOSE AND SCOPE ..... 3

    1.1 APPLICABLE..... 3

    1.2 REGULATORY STANDARDS AND REFERENCES ..... 3

    1.3 DEFINITIONS ..... 3

2. RESPONSIBILITIES..... 4

    2.1 EMPLOYEE OR STUDENT..... 4

    2.2 PRIMARY INVESTIGATOR OR DIRECT SUPERVISOR ..... 4

    2.3 HUMAN RESOURCES OR CHBO..... 4

3. IDENTIFY RISK..... 5

4. INFORMED DECISIONS ..... 7

    4.1 MITIGATE RISK..... 7

    4.2 LIMIT EXPOSURE TO PERMISSIBLE LIMITS..... 8

    4.3 REQUEST ALTERNATIVE ASSIGNMENT ..... 8

5. IMPLEMENTATION ..... 8

6. MEDICAL RECOMMENDATIONS ..... 9



The University Of

T A M P A.

## Reproductive Protection Program

Effective August 2018

### 1. PURPOSE AND SCOPE

The Reproductive Hazard Protection Program is designed to protect workers who handle substances that may impact their reproductive health. These substances may be chemical, biological, radiological or physical in nature. The goal of this program is to:

- 1) Identify known or suspected reproductive and developmental hazards to which employees or students may be exposed;
- 2) Inform affected person of exposure potential;
- 3) Implement exposure minimization using all available technological resources; or
- 4) Mitigate exposure by eliminating risk.

#### 1.1 APPLICABLE

This document is intended for all University of Tampa personnel; However, students may be included if they are enrolled in academic courses that involve handling these same substances that are known or suspected of reproductive and developmental risks. Academic programs may include but are not limited to chemistry, biological sciences, art and human performance sciences.

#### 1.2 REGULATORY STANDARDS AND REFERENCES

OSHA requires employers to inform employees of health hazards associated with work place chemicals. The following regulations specify these requirements:

29 Code of Federal Regulations [CFR] 1904 – The Occupational Safety and Health Administration [US-DOL/OSHA] standards under the General Duty Clause provide workplace standards for exposure to reproductive health hazards in the work place.

29 CFR 1910.1200 - Hazard Communication Standard

29 CFR 1910.1450 - Laboratory Standard

#### 1.3 DEFINITIONS

**Reproductive Hazard** – A chemical substance or physical agent that interferes with or prevents conception.

**Developmental Hazard** -- A chemical substance or physical agent that produces structural abnormalities, functional defects, alterations in growth or cellular death.

**Mutagen** - A chemical substance or physical agent that causes a genetic mutation.

**Teratogen** – A chemical substance or physical agent that causes malformation of an embryo.

**Exposure** – Inhalation and skin exposure are expected to be the greatest risks at this facility. Ingestion of chemical agents is less likely if following proper standard operating procedures of laboratory/studio safety.

## **2. RESPONSIBILITIES**

Reproductive toxins can be found in the general campus laboratory or studio environment and they also can be ubiquitous in the general environment. Affected employee and students who are concerned with imminent reproductive risks should pay close attention to the chemical agents within their weekly routine. The affected employee and student shall consult with their supervisor (i.e. principal investigator, department chair or dean) or the Chemical Hygiene & Biological Safety Officer [CHBO] to assist with the chemical agent screening process.

### **2.1 EMPLOYEE OR STUDENT**

The employee or student is responsible for reviewing all safety data sheets [SDS] to identify the suspected reproductive chemical agents, follow standard work practices to minimize exposure, and diligently use protective engineering controls.

### **2.2 PRIMARY INVESTIGATOR OR DIRECT SUPERVISOR**

The lead instructor should maintain the chemical inventory in the work place and provide the SDSs at a reasonable time prior to employee or students potential exposure. They should also monitor the studio or lab exhaust ventilation, safety equipment, and personal protective equipment supplies to ensure that all participants are adequately provisioned.

### **2.3 HUMAN RESOURCES OR CHBO**

These individuals will work discreetly to ensure the safety of the employee or student is achieved to the level possible in each unique situation. They will provide necessary academic support should a pregnancy dictate the requirement of alternative assignments or schedules. They will

work to ensure there is no discrimination shown to employees or students requesting alternative assignments.

The UT CHBO will take the lead role to work collaboratively with the affected employee or student to minimize risks or mitigate exposure depending on each unique case. The CHBO will engage with a professional experienced in chemical agent exposure to assist with the implementation of this University Policy.

### **3. IDENTIFY RISK**

Substances that affect the ability to have healthy children are called reproductive hazards. Radiation, many chemicals, drugs (legal and illegal), cigarettes, and heat are examples of reproductive hazards. A reproductive hazard could cause one or more health effects, depending on when the exposure occurs. For example, exposure to harmful substances during the first 3 months of pregnancy might cause a birth defect or a miscarriage. During the last 6 months of pregnancy, exposure to reproductive hazards could slow the growth of the fetus, affect the development of its brain, or cause premature labor.

The Registry of Toxic Effects of Chemical Substances (RTECS) identifies the following seven major categories of reproductive toxicants:

- 1) Cause adverse paternal effects;
- 2) Cause adverse maternal effects;
- 3) Effects fertility;
- 4) Effects embryo or fetus;
- 5) Developmental changes;
- 6) Tumorigenic effects; and
- 7) Effects upon the newborn organism.

Reproductive hazards may not affect every worker or every pregnancy. Chemical agent effects depend on how much of the hazard they are exposed to, how long they are exposed, how they are exposed, and other personal factors.

Certain substances unintentionally brought home by a worker may affect the reproductive system of others in the shared household or the health of an unborn child. For example, lead brought home from the workplace on a worker's skin, hair, clothes, shoes, tool box, or car can cause



The University Of

T A M P A.

## Reproductive Protection Program

*Effective August 2018*

severe lead poisoning among family members and can cause neurobehavioral and growth effects in a fetus.

There is no complete list of reproductive hazards in the workplace. Scientists are just beginning to understand how these chemical agent hazards affect the reproductive system. Although more than 1,000 workplace chemicals have been shown to have reproductive effects on animals, most have not been studied in humans. In addition, most of the 4 million other chemical mixtures in commercial use remain untested.

The safety and health of employees and students is the primary concern at the University of Tampa. The course syllabus and mandatory chemical inventory process enables the collection of Safety Data Sheets [SDS] to determine risk factors on a routine basis. SDSs will identify three hazard categories for reproductive toxicity (plus an additional one for lactation effects). Categories 1a and 1b are assigned to substances known to have produced an adverse effect in humans based on epidemiological evidence (1a) or presumed to produce an adverse effect based on animal studies (1b). Both hazard categories carry the same hazard statement H360, "*May damage fertility or the unborn child.*" H361, "*Suspected of damaging fertility or the unborn child,*" is used for category 2, denoting that there is some evidence from humans or experimental animals of an adverse effect.

In addition to the information obtained on the SDS the chemical inventory data should be compared with the following reliable sources of known or suspected reproductive hazards:

- US Department of Labor OSHA National Occupational Research Agenda- DHHS (NIOSH) [Publication No. 96-115](#) Reproductive Toxins
- CDC/NIOSH website:  
<http://www.cdc.gov/niosh/topics/repro/femaleHealthImpact.html>.
- California's Proposition 65 List of chemical agents known to cause birth defects<sup>1</sup>;
- Patty's Toxicology [ISBN 9780471125471]

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<sup>1</sup><https://www.p65warnings.ca.gov/>



The University Of  
T A M P A.

## Reproductive Protection Program *Effective August 2018*

- Sittig's Handbook of Toxic and Hazardous Chemicals [ISBN 9781437778694]
- Prudent Practices in the Laboratory: Handling and Management of Chemical Hazards, Updated Edition<sup>2</sup>.
- Registry of Toxic Effects of Chemical Substances (RTECS)—Comprehensive Guide to the RTECS, DHHS (NIOSH) Publication No. 97-119, 1997.
- Quigley, D. et al. *Variations in Reproductive and Developmental Toxicant Identification*. Journal of Chem Health & Safety. 2010 17, 29-53.

*Note: There is no one source of known reproductive toxins and every effort must be made to identify possible sources in each workplace setting.*

## 4. INFORMED DECISIONS

Employees or students should use these program elements to make informed decisions regarding their exposure to reproductive and developmental toxins. Informed decisions include students who are enrolled in courses where chemicals are used in a variety of common educational activities including, quantitative analysis of unknown samples and mixtures, preservation of laboratory specimens and advanced chemical research.

### 4.1 MITIGATE RISK

The best management practices to eliminate over exposure of the known or suspected reproductive toxin or chemical agents are:

- Eliminate or substitution for alternative chemicals
- Verify engineering controls are readily available to minimize risks
- Use administrative controls to reduce exposure
- Confirm proper personal protective equipment [PPE] is available for use in trained individuals.

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<sup>2</sup><https://www.nap.edu/catalog/12654/prudent-practices-in-the-laboratory-handling-and-management-of-chemical>

Educational curriculum often dictates the use of chemical agents that are included on the lists of known or suspected reproductive agents. The University of Tampa recommends that the given chemical process or educational activity eliminate or substitute the adverse reagent when at all possible. Engineering Controls and Administrative Controls may not adequately eliminate the hazard for every possible exposure scenario but should be established in written standard operating procedure and performance tested when practical. Mandatory use of personal protective equipment [PPE] should be provided in written evaluations and include an exposure risk assessment.

#### **4.2 LIMIT EXPOSURE TO PERMISSIBLE LIMITS**

OSHA requires limiting the potential risk to permissible exposure levels [PELs] found in 29 CFR 1910.1000. These risk levels are based upon the average 154-pound male worker within a traditional 40-hour work week. Reproductive chemical exposure levels are not well documented and often we find no information available specific to developmental affects. Therefore, the OSHA PELs are not intended to directly compare with reproductive risk assessments or apply to the health and well-being of a fetus.

#### **4.3 REQUEST ALTERNATIVE ASSIGNMENT**

The University of Tampa Human Resources Agent or the CHBO are authorized representatives to seek guidance for alternative assignments or removal from exposure situations. Employers and educators may choose to provide alternative academic course-work, but it is not a requirement.

### **5. IMPLEMENTATION**

Employees, staff or students who are pregnant or planning a pregnancy, and who are working with potential reproductive toxins that might affect the fetus, must notify, the Human Resources Director or the Chemical Hygiene & Biological Safety Officer [CHBO]. Students may notify the Instructor/Principal Investigator, who will then notify the CHBO. The preferred method of notification to the CHBO is via email [skucera@ut.edu](mailto:skucera@ut.edu).

Every effort will be made to ensure the privacy of the person and with the expectation that the disclosure will be kept confidential.





*The University Of*

**T A M P A.**

## **Reproductive Protection Program**

*Effective August 2018*

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The CHBO will assess potential exposure(s) and work with the employee or student and, in consultation with the laboratory supervisor, determine what reasonable accommodations may or may not be possible.

### **6. MEDICAL RECOMMENDATIONS**

Human Resources or their designate will proffer information to the employee or student's physician to assist with the risk assessment process. All privacy and confidentiality laws will be abided during this process.