**Standard Operating Procedure**

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| **Chemical name/class:** | **Tamoxifen** | **CAS #: 10540-29-1** |
| **PI:** |  | **Date:** |
| **Building:** |  | **Room #:** |

1. **Circumstances of Use:**

***This SOP must be customized for each lab using Tamoxifen. Use this section to describe the circumstances of use, including concentration and quantity as well as identification of a designated work area.***

2. **Potential Hazards:**

 **Tamoxifen has been classified as *carcinogenic, mutagenic, and teratogenic.\****

 Tamoxifen has been classified as a Reproductive System toxin and a Developmental toxin (injures the unborn child in the womb). May cause harm to breastfeeding children.

 Pregnant women should not be exposed to or handle this chemical in any form.

 Tamoxifen is a toxic substance. See the Safety Data Sheet (SDS) for additional information

 Animals that are injected with Tamoxifen are considered hazardous for up to 72 hours post injection due to excretion of the drug that may create aerosols in poorly ventilated areas. **It is recommended that animals injected with Tamoxifen be quarantined in a fume hood or biosafety type II cabinet for 3 days after any**

**injections.**

3. **Engineering Controls:**

 All operations involving Tamoxifen (powder, granules, and solution) must be conducted in a certified ducted

Biological Safety Cabinet (BSC) or a certified chemical fume hood.

 Dose Preparation: Tamoxifen solutions must be prepared in a certified chemical fume hood.

 Dose Administration of Tamoxifen to rodents must be conducted in a certified chemical fume hood or a certified Class II biological safety cabinet. Syringes should be safety engineered (self-sheathing). Large Bore needles are recommended to minimize pressure and avoid creation of aerosols.

 Animal Housing: If possible, cover the cages housing animals with filter bonnets, or place in a chemical fume hood for three days post-injection.

 Cage change/dumping should be performed at 72 hours post-injection using local exhaust ventilation, after first removing the animal to a new cage. Bedding material is to be collected and managed as a hazardous waste.

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| 4. | **W** | **ork Practice Controls:** |
|  |  | *Laboratory-specific written procedures can be found at the end of this SOP.* |
|  |  | All tasks having potential for Tamoxifen exposure (mixing of doses, administering of injections, animal bedding change outs, etc.) will only be conducted by competent staff who have received appropriate training regarding the specific health risks of Tamoxifen and on this SOP. |
|  |  | All work surfaces during dose preparation and injections must be covered with absorbent, plastic backed, |

disposable bench paper. It is suggested to use disposable lab ware when preparing solutions of Tamoxifen.

 Extreme care must be taken when performing injections involving Tamoxifen, since accidental needle stick appears to present the greatest exposure threat.

 The cages used to house Tamoxifen injected animals must be labeled as such.

 Non-disposable lab ware is to be soaked in a 1:5 bleach to water solution overnight and cleaned.

5. **Personal protective equipment (PPE):**

 To prevent skin exposure – wear lab coats / disposable gowns, double-gloved chemical resistant gloves (nitrile), and close toed shoes. Wear the outer glove over the cuff of the lab coat.

 Wear ANSI approved safety glasses.

 For potential inhalation exposures to Tamoxifen outside of a certified ducted Biological Safety Cabinet (BSC)or chemical fume hood, appropriate respiratory protection must be worn. Contact EHS for respirator use qualification.

6. **Transportation and Storage:**

 Keep original container tightly closed in a dry and well-ventilated place. Light Sensitive.

 Avoid formation of dust and aerosols.

 If possible, avoid transporting solutions containing Tamoxifen. If it is necessary to do so, place container of the solution into an unbreakable, leak proof secondary container. Place an absorbent liner in the secondary container to avoid contaminating it if the original container fails or spills.

 Containers of Tamoxifen must be properly labeled during storage and transportation

7. **Waste Disposal:**

 All absorbent pads, disposable PPE, disposable labware, and animal bedding up to 72 hours post injection are to be collected, labeled and stored as a chemical hazardous waste and disposed of within 90 days with the University hazardous waste vendor.

 All sharps used for injections should be immediately collected in a properly labeled sharps container.

 If needed, contact EHS to establish a waste management plan for Tamoxifen waste.

8. **Exposures/Unintended contact:**

 Skin: If you are splashed on any part of your body, you must rinse the area with water for no less than 15 minutes. Gently and thoroughly wash the contaminated skin with non-abrasive soap.

 Eyes: Remove contact lenses. Find the nearest eyewash station and rinse for a full 15 minutes. Gain assistance from anyone nearby.

 Injection: This should not be an issue if safety needles are used. However, if accidental injection does occur, contact the Student Health Center immediately at 704-687-7400 for exposure-related advice.

 Call 911 from a campus phone or 704-687-2200 from any phone to request assistance if needed. Contact the Student Health Center at 704-687-7400 for exposure-related advice. If the Student Health Center is closed, obtain treatment at University Hospital.

The work-related injury or illness report found at:

<https://safety.uncc.edu/services/workers-compensation>

9. **Spill Procedure:**

 Dry Powder Spill (<250 mg): Wet paper towels with 10% bleach solution on place on top of the spilled powder.

While continuing to wear your PPE, carefully place the absorbent material in a sturdy leak-proof bag. Clean the area with a soap solution and place all materials in bag for collection as a hazardous waste.

 Liquid solution spill (<100 ml) : Notify all others in the area of the spill. Wearing two pairs of chemical resistant gloves, a suitable mask, lab coat and safety glasses, clean spill using suitable spill kit or absorbent material. Clean spill from outside to inside to avoid contamination. Dispose of all materials as a hazardous waste.

**Most large spills of Tamoxifen solutions that occur outside of a chemical fume hood should be referred to the**

**Campus Police by calling 911 from a campus phone or 704-687-2200 from any phone.**

10.  **Training of personnel:**

 All personnel are required to complete the UNC Charlotte EH&S Laboratory Environment Training Checklist.

This checklist includes an introduction to general chemical safety as well as review of the laboratory specific

safety plan. Furthermore, all personnel shall read and fully adhere to this SOP and the Safety Data Sheet (SDS)

when handling this chemical

**“I have read and understand this SOP. I agree to fully adhere to its requirements.”**

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