

Standard Operating Procedures for Doxorubicin

For an Emergency refer to the Safety Data Sheet

Hazards:

Carcinogen- known to cause cancer in humans

Reproductive hazard- may affect the ability to have health children

Teratogen- may cause birth defects

Target Organ Effect- eyes, skin, mucous membranes, upper respiratory tract

Chemical handling instructions:

Personal Protective Equipment (PPE):

Those handling Doxorubicin must wear chemically resistant gloves (not latex), lab coat, eye protection, and appropriate lab attire (pants, closed-toe shoes). Double gloving is recommended when working with high concentrations or during long exposure times so that the outer gloves can be changed frequently.

Preparing Doxorubicin solutions:

1. Those preparing Doxorubicin solutions must always handle it inside a certified chemical fume hood or ducted biosafety cabinet.
2. The work area should be prepared by laying down an absorbent work surface with the absorbent material facing up. Tape the edges of the absorbent material to prevent its movement in the fume hood.
3. Care should be taken to not generate any aerosol during the preparation or injection procedure. Always wash hands after removing gloves following handling Doxorubicin.
4. To clean areas where Doxorubicin has been handled, wash the area with soap and paper towels after removing the absorbent material.
5. Any contaminated paper towels should then be placed into a container for hazardous waste, appropriately labeled for waste removal and placed in a designated area for disposal.

Waste Disposal:

1. Any leftover/unused Doxorubicin should be collected for disposal as chemical waste.
2. All disposable materials contaminated with the chemical and residual chemical must be disposed of as hazardous waste.
3. Re-useable glassware and other non-porous materials can be decontaminated by soaking in 10% bleach for 24 hours.
4. Used needles/syringes should be disposed in a sharps container destined for incineration.
5. Contact the Safety Office at x2697 or SafetyOffice@unthsc.edu for hazardous waste pickup.

Animal Experiments

Research staff must inform DLAM in advance that Doxorubicin will be used, and arrangements will be made for appropriate animal housing.

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Injecting animals with Doxorubicin:

1. Animals must be injected with Doxorubicin within a Class II Type B Biosafety cabinet or designated fume hood.
2. Animal handler must wear PPE as above with a 2nd pair of gloves (double-glove).
3. All needles must be disposed of in sharps container – do not recap or bend needles.
4. Dispose of waste as described above.

Cage handling:

1. DLAM staff should be made aware of Doxorubicin use and cage cards should be labeled with “Doxorubicin” after injection.
2. Animal cages and bedding are considered hazardous after an injection of Doxorubicin.
3. The bedding is considered contaminated and requires special handling. All bedding changes should be handled using procedures that minimize aerosolization.
4. Dispose of all contaminated bedding and animal carcasses in a waste container to be incinerated.