1. PURPOSE

This Standard Operating Procedure (SOP) intends to describe the safe use of urethane in laboratory animals.

2. RESPONSIBILITY

Principal investigator (PI) and their research staff.

3. HAZARD CONSIDERATIONS

3.1. Carcinogen - Known to cause cancer in humans
3.2. Irritant - eyes, mucous membranes, skin
3.3. Toxicity - Kidneys, liver, CNS

4. PERSONAL PROTECTIVE EQUIPMENT (PPE)

4.1. Those handling urethane must wear chemically resistant gloves, a lab coat, eye protection, and appropriate lab attire (pants, closed-toe shoes).
4.2. Urethane work should be done in a chemical fume hood.
4.3. If manipulations occur outside of a chemical fume hood, personnel must wear a respirator equipped with a multi-gas filter until an exposure assessment can be conducted

5. PREPARATION OF URETHANE SOLUTIONS

5.1. Those preparing urethane solutions must always handle it inside a certified chemical fume hood.
5.2. Care should not generate any aerosol during the preparation or injection procedure.
5.3. Personal handling urethane must wear protective equipment (section 4.1)

6. ENVIRONMENTAL CONSIDERATION

6.1. Work with Urethane only in a chemical fume hood or hard ducted (total exhaust hood in room 16 Building M9).
6.2. Care should be taken not to generate any aerosol during the preparation or injection.
6.3. Use a bench liner to contain the material. 
6.4. Any leftover/unused urethane should be collected for disposal as chemical/cytotoxic waste. 
6.5. Used needles/syringes should be disposed of in a sharp's container destined for incineration, a cytotoxic sharps container. 
6.5. Decontaminate the affected area with soap and water after absorbance in a spillover event.

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**7. ACCIDENT RESPONSE PROCEDURES**

7.1. If the skin is exposed, wash immediately with soap and water. Flush mucus membranes with large amounts of water. Use a wet shower in case of extensive contamination. 
    7.1.1. Use the spill kit and attire in cabinet 9A (next to room 16, building M9) to decontaminate the work area. 
    7.1.2. Report the incident to the supervisor. 
    7.1.3. Reports the accident/injury to the safety dept by online form. 
    7.1.4. Remove all sources of ignition from the spill area. 
    7.1.5. Spills in fume hood - use absorbent pads or vermiculite to clean up small fume hood spills—Clean up the spill area with additional pads or paper towels, followed by clean water. 
    7.1.6. Spills in the room – notify others of the spill and keep the spill confined.

7.2. Spills must be cleaned immediately by adequately protected and trained staff.

7.3. Respiratory protection is required to clean up urethane spills outside an operating fume hood, as well as a disposable lab coat, goggles, and two pairs of nitrile gloves.

7.4. Use the same procedure as "spill in the fume hood."

7.5. Label spill waste in a plastic bag as hazardous chemical waste.

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**8. REQUIRED AUTHORIZATION**

8.1. The chemical safety officer must approve the suitability of the location and equipment to use urethane and have a startup meeting with the PI and research team before procurement. 
8.2. The Principal Investigator (PI) must provide lab-specific training to all laboratory workers regarding the hazards (physical and health) involved in working with the substance, work area decontamination, and emergency procedures. 
8.3. The PI must provide a copy of the MSDS and this SOP to any lab work with any materials covered. 
8.4. The PI must ensure that all lab personnel has attended the required training and refresher training.

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**SOP 601 URETHANE**
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Approved by the BGU Animal Policy and Welfare Oversight Committee