Georgia State University
Institutional Animal Care and Use Committee (IACUC)

It is the responsibility of the Georgia State University (GSU) Institutional Animal Care and Use Committee (IACUC) to ensure judicious and humane use of animals used in its teaching and research programs that is consistent with federal requirements.*

Use of Non-Pharmaceutical Grade Substances

The use of pharmaceutical-grade substances ensures that toxic or unwanted side effects are not introduced into studies conducted with experimental animals and ensures the health and welfare of the animals. Federal regulations require that investigators use pharmaceutical-grade substances in live animals being used in research and teaching whenever they are available, even in acute procedures. Pharmaceutical-grade substances are ones which are approved by the U.S. Food and Drug Administration or for which a chemical purity standard has been established by the United States Pharmacopeia-National Formulary or the British Pharmacopeia.

It is understood that the administration of non-pharmaceutical-grade substances may be necessary in order to meet the scientific goals of a project or when a veterinary or human pharmaceutical-grade product is not available. For instance, in studies seeking to test novel compounds, no pharmaceutical-grade compound would be available. In addition, it is recognized that, in some cases, the available human or veterinary drug is not concentrated enough to meet experimental requirements. The use of non-pharmaceutical-grade substances should be based on 1) scientific necessity, 2) non-availability of an acceptable veterinary or human pharmaceutical-grade compound, and 3) specific review and approval by the IACUC. Cost savings is not a justification for using non-pharmaceutical-grade compounds.

Preparation of Non-Pharmaceutical Grade Substances

- Filtering - filter through a 0.2µ membrane filter
- pH Testing - the pH should be between 6.8-7.2.
- Osmolarity Testing - the final solution should be isotonic, with an osmolarity around 300 mOsm.
- A sterile diluent should be used (e.g. sterile physiological saline)
- The substance should be stored in a sterile injection vial
- The injection vial must indicate the name of the substance, the concentration, and the date of expiration. Regarding date of expiration, please note the following: Single compounds: The date listed on the original bottle or box; Mixtures/Compounds: The earliest date listed on any agent which is mixed or compounded; Experimental compounds: Compounds without an expiration date will be discarded based on performance evaluation of the agent(s)
- Multiple-dose injectable vials should not be used if they contain particulate matter, precipitates, turbidity, or discoloration.

References

**Pertinent Regulations**
U.S. Government Principles for the Utilization and Care of Vertebrate Animals Used in Testing, Research, and Training
Public Health Service Policy
Guide for the Care and Use of Laboratory Animals
Animal Welfare Act (AWA) and AWA Regulations

**IACUC Approval Date:** 4/6/2015
**Signature IACUC Chair:**
**Revision Dates:**