Policy and Procedure on Preparation and Storage of Tricaine Methanesulfonate (MS 222)

1.0 Policy Scope and Application

Tricaine methanesulfonate (MS-222) is an anesthetic agent used for the sedation, anesthesia, and euthanasia of fish, amphibians, and other aquatic animals. For Principal Investigators approved to use MS-222 in animal studies, the following procedures must be followed. It is the responsibility of the Principal Investigator to provide this information, along with the product safety data sheet and the protocol Standard Operating Procedure for mixing, handling and using the material, to research staff and students working with MS-222 in his/her laboratory or in the field.

Standard Operating Procedures

- When preparing MS-222 stock solutions, personnel must wear appropriate chemical protective gloves, protective clothing (lab coat), and eye protection as a minimum.

- In the laboratory, preparation of MS-222 stock solutions must be done in a properly exhausted chemical fume hood, biosafety cabinet, ventilated work station, or while wearing a N-95 filtering face piece (dust mask) respirator. Surgical masks are not sufficient and are not respirators. If respiratory protection, such as a N-95 respirator is required or voluntarily worn, personnel must undergo assessment by KU-EHS to assure necessary medical evaluation, respirator selection, fit testing, and receive EHS training prior to use.

- In the field, preparation of MS-222 must be done in an area away from others with adequate ventilation. Pay attention to wind or air currents so as not to get material into breathing zone. Preparer must wear nitrile gloves, protective clothing, and eye protection. Due to lack of engineering controls in the field, it is recommended by KU-EHS that preparer also wear a N-95 filtering face piece (dust mask) respirator. Surgical masks are not sufficient and are not respirators. If respiratory protection, such as a N-95 respirator is required or voluntarily worn, personnel must undergo assessment by KU-EHS to assure necessary medical evaluation, respirator selection, fit testing, and receive EHS training prior to use.

- MS-222 is acidic when in solution and must be buffered with sodium bicarbonate resulting in a solution of pH 7.0 - 7.5, or the natural environment of the organism, before being used in work with animals.

- Once mixed, stock solution containers must be properly labeled and dated to expire no longer then one month after preparation. The solution must be replaced any time a brown color is observed in the liquid.

- The stock solution should be stored in in a manner that protects it from light (dark or opaque container) and either refrigerated or frozen.

Approved by the IACUC: December 2017