Title: Anesthesia of Fish using Tricaine methane sulfonate (TMS, MS-222).

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OBJECTIVE
The objective of this Standard Operating Procedure is to describe a method of anesthetizing fish using Tricaine methane sulfonate (TMS, MS-222).

1.0 HEALTH AND SAFETY
All personnel will be enrolled in the Clemson University Medical Surveillance Program.
Gloves must be worn when mixing and using this solution.

2.0 PERSONNEL/TRAINING/RESPONSIBILITIES
Personnel who perform anesthesia must have appropriate certification and/or training and experience with the techniques to be used. This training and experience should include familiarity with the normal behavior of the species being anesthetized, how handling and restraint affects that behavior, and an understanding of the mechanism by which the selected technique induces unconsciousness. Prior to being assigned full responsibility for performing anesthesia, all personnel must have demonstrated proficiency in the use of the technique in a closely supervised environment.

3.0 PROCEDURE
An anesthesia solution is prepared by mixing 50-200 mg of TMS or MS-222 per liter of water, buffered to a pH of 7.0 to 7.5 with sodium bicarbonate (NaHCO₃).
The container should be of appropriate size for the species to assure free movement.
The fish is placed into the solution and closely monitor for desired level of narcosis.
The fish then can be removed.
After the procedure/treatment has been completed, the fish should be placed into untreated water and recovery monitored, and normal behavior assured, prior to placing it back into a multiple fish housing arrangement.

4.0 QUALITY CONTROL CHECKS AND ACCEPTANCE CRITERIA
All procedures are subject to review by the Quality Assurance Unit.