

## **Guidelines for Safe Use of MS-222 (Tricaine Methanesulfonate)**

### Summary

MS-222 is used for anesthesia or euthanasia of fish, amphibians and other aquatic, cold-blooded animals. It is typically purchased as a powder and dissolved in water prior to use. Overexposure to MS-222 in humans may cause skin, eye and respiratory irritation. There is one report in the literature of reversible retinal toxicity in a scientist with long-term exposure to MS-222 powder.

### Preparation of MS-222 Working Solutions

1. Wear a lab coat, nitrile exam gloves and safety glasses when handling powder.
2. Preparation in a fume hood may result in dispersal of the product due to air disturbances. Weigh the solid in an area free from drafts. Place wet paper towels around the balance to catch dropped powder.

### Working with Aquatic Animals Exposed to MS-222 Solutions

1. Wear disposable gloves when handling animals that have been exposed to MS-222 or when placing hands into tanks containing MS-222. If the animal has been thoroughly rinsed with clean water after exposure to MS-222, gloves are not necessary.

### Spills

#### Powder

1. Wearing lab coat, nitrile gloves and eye protection, cover powder with paper towels, spray lightly with water and scoop material and paper towels into a container for disposal as hazardous chemical waste by EHS.

#### Liquid

1. For small spills of liquid, clean with a paper towel and dispose into regular trash.
2. For larger spills (500 mls or greater), obtain absorbent material from an EHS spill kit. Place used absorbent material into a plastic bag and contact EHS for assistance with disposal and replacement of spill absorbent material.

### Disposal

1. Unused or expired powder and stock solutions must be disposed of as hazardous chemical waste through EHS.
2. Working solutions for anesthesia and euthanasia may be disposed of into the sanitary sewer.

3. If working with MS-222 in the field, working solutions should be diluted and disposed of in soil, away from storm drains, creeks, lakes or other bodies of water.

For additional information, contact: Environmental Health and Safety, 8-5294

#### References:

Conroy CJ, Papenfuss T, Parker J, Hahn NE. 2009. Use of Tricaine Methanesulfonate (MS222) for Euthanasia of Reptiles. *Journal of the American Association for Laboratory Animal Science*. Jan 48(1):28-32.