

MS222

Introduction

PHARMAQ

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Presentation

A white powder for dissolution in water and subsequent topical application.

Uses

An aqueous solution of the product is used in an immersion bath for sedation, immobilization and anaesthesia of fish, both ornamental and those intended for human consumption. Indications for use include transportation, weighing, tagging, clipping, stripping of brood stock, blood sampling and surgical procedures.

Dosage and administration

An aqueous solution of the product is used in an immersion bath for sedation, immobilization and anaesthesia of fish, both ornamental and those intended for human consumption.

A number of factors influence the efficacy and safety of the product, including concentration of the drug in water, duration of exposure, temperature, oxygen content, salinity and hardness of water, size of fish (smaller are more susceptible) and density of biomass. Because of these variable factors it is strongly recommended that a test of the selected drug concentration and exposure time is conducted with a small group of representative fish before large numbers are medicated. The product should be dissolved in water of the same composition and characteristics as that to which the fish are accustomed. As the product has good aqueous solubility, it may be added directly to the container. Effects on the fish should be monitored as the product is gradually introduced.

Before anaesthesia or prolonged sedation, fish should be fasted for 12 to 24 hours. During treatment they should be stocked at a density not exceeding 80 g/litre. To minimize damage and loss when medicated for long periods for transport etc. the level of sedation should allow fish to maintain their equilibrium and swimming position. Aeration should be provided unless sedation, or anaesthesia, is of short duration. In anaesthesia loss of reflexes takes place in one to fifteen minutes after immersion, depending upon concentration employed. Narcotised fish should be removed from medicated water and returned to their normal environment as soon as possible, when recovery will take between one and thirty minutes.

The following examples of dose rates and exposure times are based on laboratory and field experience:

Species	Level of Anaesthesia	MS222 concentration mg/litre of water	Immersion time Time (mins)
Trout species (7-17°C)	Sedation	10-30	Up to 480
	Anaesthesia	30 - 180	Up to 30
Salmon species	Sedation	7-30	Up to 240
	Anaesthesia	30-100	Up to 10
Carp species	Sedation	20-30	Up to 1440
	Anaesthesia	30-200	Up to 8
Fresh water tropical fish	Sedation	30-50	Up to 1440

Contra-indications, warnings, etc

The product should not be used in the following tropical fish species: *Apistogramma ramirezi*, *Balantochelilus melanopterus*, *Etroplus surrantensis*, *Melanoteaenia macculochi*, *Monodactylus argenteus*, *Phenacogrammus interruptus* and *Salopagus argus*.

Withdrawal period

Fish may be slaughtered for human consumption only after 70 degree days from the last treatment.

Operator Safety

- People who are allergic to ester type anaesthetics such as tricaine mesilate (tricaine methane sulphonate) should not handle this product.
- Do not create dust when handling the powder or preparing the anaesthetic solution. In case of accidental inhalation of dust, move to fresh air and if breathing is affected, seek medical advice immediately and show the doctor the product label. In situations where dust is created, wear a disposable half mask respirator conforming to European standard EN 2149, FFP2 when handling the powder.
- Wear latex or rubber gloves when handling the product or solution.
- Avoid contact with skin and eyes. In case of accidental contact, immediately wash the affected area with plenty of clean running water. If irritation persists, seek medical advice.
- Do not eat, drink or smoke whilst handling the product

Pharmaceutical precautions

Do not store above 25°C. Store in a dry place. Re-seal open containers immediately after use. to exclude moisture. Store in tightly closed original container. The solution should only be used on the day of preparation and should be protected from sunlight until used. Protect from direct sunlight.

Legal category

POM-VPS

Packaging Quantities

25 g, 100 g or 1000 g, .

Further information

Nil.

Marketing authorisation number

Vm 11003/4013.