

## Schools Animal Ethics Committee Operating Procedure

### Fish Euthanasia

Euthanasia is the bringing about of a gentle and easy death, without pain or distress, usually for an animal suffering from a terminal disease, but also in the case of harvesting fish for human consumption.

The ANZCCART (Australia and New Zealand Council for the Care of Animals in Research and Teaching) publication *Euthanasia of animals for scientific purposes* states that despite the differences in neural pathways between fish and mammals, the neuroanatomy of fish and their complement of neurotransmitters suggests that fish can feel pain. This must be taken into account when fish are being euthanised.

There are various methods for euthanising fish but there is agreement that an overdose of a fish anaesthetic is the most appropriate method to use in schools. The Schools Animal Ethics Committee recommends the use of a New Zealand product "AQUI-S", for fish anaesthesia and euthanasia. AQUI-S does not have a withholding period and is the only anaesthetic registered in Western Australia for use with fish destined for human consumption.

### AQUI-S®

AQUI-S® is a water-dispersible liquid anaesthetic for fin fish, crustacea and shellfish. It can be used for humane harvesting, transportation, grading, handling and other husbandry procedures as well as for euthanasia. Dose and exposure time depend on the species, application and the condition of the fish. AQUI-S is effective in both freshwater and saltwater aquaculture operations.

### Note:

- AQUI-S is not a scheduled drug so a veterinary script is not needed.
- AQUI-S is effective at concentrations of 5ppm (for transport) to 60ppm (for rapid anaesthesia). Fish harvesting and management procedures are usually in the range of 15-25ppm. The exact dose to be used depends on the specific procedure to be carried out and on fish factors.
- AQUI-S can be used to euthanize fish at concentrations of 150mg/Litre (150ppm)
- AQUI-S is biodegradable and non-toxic.
- AQUI-S is safe for use in food and aquarium fish.
- AQUI-S has a nil withholding period.
- The use of AQUI-S during the transportation of live fish and during health management practices lowers stress and reduces mortalities.

### Purchasing

AQUI-S is produced in New Zealand and is registered and distributed in Australia by Primo Aquaculture. It is available in 100 ml and 1 litre bottle sizes.

Contact:	Primo Aquaculture
Website:	<a href="http://www.primo.net.au">www.primo.net.au</a>
Phone:	+61 7 3817 9800
Moblie:	+61 467 778 636
Email:	<a href="mailto:primo@ridley.com.au">primo@ridley.com.au</a>

**References**

1. <http://www.aqui-s.com/>
2. <http://www.aqui-s.com/default.aspx?page=1466>

**Fish Euthanasia Procedure**

Requirements: a plastic container with lid to hold a known volume of water (usually between 10 Litres to 100 Litres depending on the number and size of fish to be euthanized), latex gloves to prevent skin infections from handling the fish, a net to harvest fish from the tank and a beaker or jug to mix the AQUI-S with fresh water.

- Fill the plastic euthanasia container with a known volume of water taken from the tank from which the fish have come. Ensure an adequate volume of water for the size and number of fish to be euthanized.
- Calculate the amount of AQUI-S required to achieve a final concentration of 150mg/Litre (150ppm) in the euthanasia container.
- Dilute the calculated amount of AQUI-S required with 10 times an amount of fresh water in the beaker or jug.
- Pour this diluted AQUI-S mixture into the euthanasia container and stir well to ensure an even distribution throughout the container.
- Use the net to harvest the fish from the fish tank and place them in the euthanasia container containing the AQUI-S.
- Put the lid on the container and leave for at least 30 minutes.
- Check that the fish are dead (no gill movement) before disposal.

**Note: Euthanasia of Crustaceans**

Crustaceans such as yabbies may also be euthanased with AQUI-S but at a higher dose of 200mg/Litre (200ppm) and for at least 1 hour.