

UBC Animal Care Guidelines  
SOP-006 – Water Quality Control (Ammonia)  
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## **How to adjust ammonia in standalone aquariums for stickleback (*Gasterosteus aculeatus*) care**

### **Purpose**

This standard operating procedure (SOP) describes methods for decreasing ammonia to obtain ideal parameters to maintain stickleback in standalone lab aquaria.

### **Policy**

These parameters must be regularly checked and documented to ensure in compliance with CCAC. Failure to abide by the SOP may result in disciplinary action against the individual(s).

### **Responsibility**

Student, technical personnel, investigator who have successfully completed the ethic training requirements of the Canadian Council on Animal Care (CCAC) and National Institutional Animal User Training (NIAUT) Program.

### **Materials**

- ammonia test kit (i.e. API, Nutrafin)
- brush to remove algae
- hose for water change
- box filter to increase circulation

### **Procedure**

Test ammonia using manufacturer's instruction. Ammonia levels should be at 0 ppm (mg/L) any level above zero can harm fish. Ammonia (NH<sub>3</sub>) builds up due to the breakdown of organic waste and the nitrogen cycle and can be toxic to aquatic life. The presence of ammonia indicates possible overfeeding, too many fish, or inadequate biological filtration.

If the ammonia test reveals ammonia levels above 0 ppm, follow the instructions below:

**If ammonia is present:**

1. Scrub off excess algae with a brush and perform a 25% water change.
2. Ensure tank is seeded/developed with nitrogenous bacteria to break down ammonia.
3. Ensure that the filters are circulating water at a sufficiently high rate.
4. If the tank has only a foam filter, add a higher-flow (box) filter.
5. Lower the density of fish in the tank to decrease the amount of ammonia produced.
6. Test the water again after 24 hours.