

ProLine™ Sodium Bicarbonate Instructions (Part No. SC12)

Sodium bicarbonate is used to raise the alkalinity and the pH of fish system water when conditions are right. Recirculating aquaculture systems typically require weekly or biweekly additions. ProLine™ sodium bicarbonate is FCC food-grade, complying with National Science Foundation Standard 60. It is powdered so that it dissolves quickly and completely.

Application

Sodium bicarbonate can be used in aquaculture to buffer against sudden pH changes and to increase the total alkalinity. We recommend maintaining a pH between 6.5 and 8.5, depending on the species. The total alkalinity is typically between 50–200 mg/l.

If the pH and alkalinity are lower than the suggested range, they can be corrected by adding sodium bicarbonate. The only way to accurately calculate the amount needed for a given change is to test a sample of the water to be adjusted. The procedure is as follows:

1. Collect 1 gallon of water to be adjusted.
2. Test pH and total alkalinity.
3. Add 1 gram of sodium bicarbonate to the gallon sample. Then mix thoroughly to dissolve.
4. Retest the gallon sample. If the pH has changed more than one unit, discard the sample. Redo steps 1 and 2, then add $\frac{1}{2}$ gram of sodium bicarbonate and retest. Continue to retest gallon samples, using smaller amounts of sodium bicarbonate until a specified amount changes the pH less than one unit.

Example: $\frac{1}{2}$ gram of sodium bicarbonate is added to one gallon of water and the pH increases .5 units. Multiply .5 grams times the number of gallons in the tank ($.5 \text{ g} \times 780 \text{ gal} = 390$). This means that 390 grams added to 780 gallons of tank water will increase the tank pH by .5 units.

Notes:

- Do not adjust the pH more than one unit every 24 hours.
- Do not adjust alkalinity more than 50 mg/l every 24 hours.
- It is better to add small amounts of sodium bicarbonate on a daily basis than a larger amount once a week.



AQUATIC ECO-SYSTEMS™