Brine Shrimp

Carolina™ CareSheet

Note: *Many city water systems now treat tap water with chloramines. These compounds do not dissipate by aging the water, so removing them requires a dechlorinator (item #671939).* ***Brine shrimp eggs may not hatch in water that contains chloramines, so removing chloramines from tap water is critical.*** *For details, see our "General Guidelines on Living Materials from Carolina Biological Supply Company Care Sheet" at www.carolina.com/caresheets.*

Hatching brine shrimp eggs

For hatching, we recommend our Brine Shrimp Hatchery Kit (item #142214) or the following method.

In 1 liter of springwater or dechlorinated tap water, dissolve 2 tablespoonfuls of noniodized salt. The exact amount of salt is not critical. Synthetic sea salt is best, but rock salt also works. This is enough saltwater for hatching ¼ tablespoon to 1 level tablespoon of brine shrimp eggs. Hatching requires constant light, so you need a lamp. Drop in a coarse-bubbling air stone or other bubbler to provide needed circulation and oxygen.

The eggs hatch in 24 hours at temperatures of 26º to 28º C (80º to 82º F). Lower temperatures result in longer hatching times. Do not exceed 30º C (86º F), or the young may be damaged. When hatching concludes (not all eggs hatch), remove the air stone and direct the light to the middle of the bottle. The shells of hatched eggs float, unhatched eggs settle to the bottom, and the young shrimp (nauplii) concentrate in the light. You can skim off most of the empty shells and discard them.

The typical use for freshly hatched brine shrimp is as live food for fish and other aquatic organisms. Collect brine shrimp with a clean pipette or pour the culture through a net to capture masses. Before feeding brine shrimp to fish, rinse the nauplii under running water to remove salts and metabolites that might harm the fish. You can then feed them to either freshwater or marine fish. Brine shrimp survive in fresh water for 30 minutes or longer, but unless you overfeed, the fish snap them up long before then.

Culturing

Although most use brine shrimp as hatchlings, you can grow them to adulthood. To do so, transfer hatchlings to a clean container of saltwater. A shallow container with lots of surface area works best for large numbers of shrimp. If you must use a deeper container, adding an air stone helps aerate the water.

Brine shrimp are filter feeders and remove fine organic particles from the water as they swim. Unicellular algae and bacteria are natural foods. You can also powder fish food flakes and scatter the powder on the water's surface. A yeast suspension is also convenient food for shrimp. Make up a salt solution of the same salinity as the water in your shrimp culture. Stir in enough baker’s yeast to make the water appear "milky," and then store the solution in a refrigerator. Always agitate the solution before use to resuspend the yeast. Feed it to shrimp daily. Alternatively, crush grains of dry baker’s yeast on wax paper, then dust it on the surface of the brine shrimp culture. Avoid overfeeding. The water in the culture **should not** remain cloudy for more than 15 minutes after feeding.

Each week, draw off and discard about ¼ of the culture water, then replace it with new saltwater. Brine shrimp tolerate crowding but may require additional containers as they grow.

FAQs

I had many eggs that didn't hatch. What should I do with them?
Most of these eggs are slow hatchers. Mix up a new bottle of saltwater and add them to it. They should hatch on the second try.

How long does it take brine shrimp to reach adulthood?
Under good conditions, nauplii grow rapidly, reaching adulthood in 3 weeks. The adults average about 8 mm in body length but can be double that length.

How can I tell if my brine shrimp are healthy?
Shine a flashlight into the culture. The shrimp are healthy if they concentrate in the light. If they don't, and you can access a dissecting scope, examine the digestive tract (the straight tube running the length of the shrimp's body). It should be full of food, if not—feed them.

Can I refrigerate brine shrimp?
Yes. They can be refrigerated (not frozen) for several days. Feed them several hours before refrigeration.

Why are my brine shrimp dying?
They could be overcrowded. If so, divide the culture. There could be insufficient aeration, or you could be using a wooden air stone or other air stone that produces a fine "mist" of bubbles. These small bubbles can clog the shrimp's feeding system and starve them.

Problems?

We hope not, but if so, contact us. We want you to have a good experience.
Orders and replacements: Call 800.334.5551, then select Customer Service.
Technical support and questions: E-mail caresheets@carolina.com.

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