

## Invasive Species Alert!

Zebra mussels have been detected within a variety of moss ball products designed for aquarium use, for example “Betta Buddy Marimo Balls”.

Zebra mussels (*Dreissena polymorpha*) are regarded as one of the most troublesome invasive species in North America. They are small, fingernail-sized mollusks native to the Caspian Sea region of Asia. Zebra mussels have three life stages – larval, juvenile, and adult. In the larval stage, the mussels live freely in the water column, allowing them to be easily transported. Adult zebra mussels can stay alive for several days outside of water and are common hitchhikers on boats, fishing equipment – and aquarium plants!

In spite of their small size, zebra mussels clog pipelines used for water filtration, render beaches unusable, and damage boats. They also negatively impact aquatic ecosystems by harming native organisms.

If you have recently purchased a moss ball aquatic plant product, we recommend that you take the following steps:

- 1) Decontaminate the moss ball using ONE of the following methods, ensuring that the disposal method you choose is in compliance with state laws and animal welfare regulations:
  - Place the moss ball into a sealable plastic bag and freeze for at least 24 hours, OR
  - Place the moss ball in boiling water for at least 1 full minute, OR
  - Submerge the moss ball in chlorine bleach, diluted to one cup of bleach per gallon of water, OR
  - Submerge the moss ball in undiluted white vinegar for 20 minutes.
- 2) Once step 2 is complete, place the moss ball and any of its packaging in a sealed plastic bag and dispose in the trash.
- 3) If vinegar, boiling water, or bleach was used, the liquid can be disposed down a household drain —never down a storm drain where it could enter and damage local waterways.



If the moss ball was placed in an aquarium, please take these additional steps:

- 1) Collect any fish or other living organisms and place them in another container, with water from a separate, uncontaminated water source.
- 2) Sterilize the contaminated aquarium water by adding  $\frac{1}{4}$  teaspoon bleach for each gallon of water. Let the water sit for 15 minutes and then dispose the sterilized water down a household drain.
- 3) Clean the aquarium and accessories using one of the following methods, ensuring that the disposal method you choose is in accordance with manufacturers' recommendations:
  - Boiling Method:
    - Use water that is 140 degrees F to flush and coat the tank and all accessory surfaces, OR
  - Disinfection Method:
    - Make a disinfection solution using  $\frac{1}{3}$  cup of bleach per gallon of water.
    - Soak the aquarium, substrate, rocks, décor, and filter media in the bleach water solution for 15 minutes.
    - Rinse off all items prior to setting up the aquarium.
    - Dispose of the previously used filter media and replace with new media.
    - Use a dechlorinating product to neutralize any residual chlorine prior to reintroducing aquatic life.
- 4) It is recommended that you do another water change within a week and continue to monitor the tank for any unusual or unexpected aquatic life.

**Thank you for helping to protect our waters from invasive species!**

These guidelines are preliminary or provisional and are subject to revision. They are being provided to meet the need for timely best science. If you have any question please contact your state's appropriate governing body for aquatic invasive species.



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