



**Biological and  
Agricultural  
Engineering  
Department**

Disclosures: 1024, 1025

## **Ballast Water Purification Method**

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### **Description:**

This invention relates to methods to purify ballast water in ships. These structures cycle water in and out of the ocean and can introduce organisms or chemicals into foreign ecosystems, which leads to environmental problems. Heating and ultrasonic processing have been demonstrated to address this problem. The heating method pumps the ballast water through a novel system that kills organisms and cycles the treated water back into the environment. The ultrasonic system kills organisms, cycles the treated water back into the environment and is particularly well suited for portable use. Neither process requires the use of chemicals, nor do they require any pre-processing or filtration of the ocean water.

### **Advantages:**

- Environmentally safe
- Kills more organisms
- Uses less energy

### **Commercial Uses:**

- Purification of ballast water

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