

**Effects of dissolved silver on two diatom species:  
*Thalassiosira oceanica* and *Thalassiosira pseudonana***

by

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## **Abstract**

Silver (Ag) is highly toxic to marine organisms. The recent increase in the use of silver nanoparticles in many consumer products has led to higher anthropogenic inputs of Ag into the ocean. In this study, the effects of dissolved Ag on two species of diatoms, *Thalassiosira oceanica* and *Thalassiosira pseudonana*, were investigated through growth rate, chlorophyll and elemental analyses. *Thalassiosira oceanica* was found to be unable to cope with the Ag concentrations used in this study (0.01 nM and 0.2 nM). For *T. pseudonana*, the detrimental effects of Ag on growth were significant only when cultivated in the higher Ag concentrations. An increase in Ag quotas as well as in Ag uptake rates were also observed. The results thus demonstrate that the presence and concentration of Ag can adversely affect phytoplankton.