

Reddy C.M., Quinn, J.G., and King, J. , *Free and bound benzotriazoles in marine and freshwater sediments.* , Env. Sci. & Technol., 2000; v34, 973-979

To study how some anthropogenic compds. are sequestered in sediments, we examd. the free and bound fractions of 6 different substituted benzotriazoles (BZTs) in sediment cores from the Pawtuxet River and Narragansett Bay. The free fraction was operationally defined as the fraction of BZTs that was removed with several org. solvent extns., and the bound fraction was that portion of BZTs removed by solvent extrn. after sapong. the sediment residue remaining from the initial solvent extns. The total concns. (free and bound) of BZTs were as large as 10 mg/g in the riverine core and 0.05 mg/g in the estuarine core. The percent bound of the BZTs was 0-9% of the total and varied with each compd., sediment depth, and location. BZTs that had alkyl substitution at the 3' position were less likely to be found in the bound fraction than compds. that did not have this substitution. It appears that these compds. may be chem. assocd. with the sediments, and this assocn. is hindered by alkyl substituents on some of the BZTs. These results have important implications in understanding the bioavailability and geochem. fate of org. contaminants in sediments as well as the basic reactions of sedimentary org. matter.