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Abstract

We examined a risk assessment method of lead solder in Tokyo Bay using a numerical model. Three kinds of metal（Pb, Ag and Cu）contained in solders were evaluated. The ambient concentration of the metals was estimated by the model AIST-RAMTB（Aist - The Risk Assessment Model for Tokyo Bay）considering the atmosphere and seven major rivers as the supplying sources of metals. The Giant Pacific Oyster（*Crassostrea gigas*）was selected to evaluate the extinction risk. The growth inhibition concentration for 50％（EC_{50}）was used for Pb as 380 $\mu g \cdot L^{-1}$. Ag and Cu were evaluated based on the lethal concentration for 50％（LC_{50}）; 100 $\mu g \cdot L^{-1}$ for Ag and 560 $\mu g \cdot L^{-1}$ for Cu. Uncertainty factor（UF）was defined as 10. The result shows the maximum risk values of 5.57×10^{-6} for Pb, 1.40×10^{-6} for Ag and 4.09×10^{-8} for Cu. It suggested that the risk of solder lead was reduced by changing the lead solder to lead-free solder in Tokyo Bay.