ALIPHATICS

PCB Contamination Sharply Menacing Human Health

Polychlorinated biphenyl (PCB), a harmful chemical compound, becomes concentrated more than 1,000 times in a short time within plant plankton in the ocean, sharply menacing human health through a food chain, it was claimed recently.

Assistant Prof. Tamao Yoshida of Tokyo University of Fisheries revealed the mechanism of the PCB concentration within plant plankton at a meeting of the Oceanographical Society of Japan, now under way at the University.

Yoshida warned that the mechanism was endangering the existence of plankton, which plays a major role on the ecological reproduction in the ocean.

Yoshida had carried out a series of experiments on the PCB absorption in the diatom, a plant plankton popular in waters off coastal areas in Japan, in an attempt to find out the mechanism of PCB pollution.

In the experiments, he put diatom samples in a culture fluid containing 0.5 parts per billion (PPB) of PCB.

The results showed that in about three hours PCB become concentrated within the diatoms by about 1,200 times the density registered before the experiment.

The PCB content in ocean waters reportedly ranges from 0.01 PPB to 0.001 PPB. But PCB detected in fish and shellfish caught in the ocean usually shows an increase to more than 100,000 times the density of PCB in ocean waters.

In this connection, Yoshida said that the sharp PCB concentration in fish was caused by a food chain and not through the direct absorption of PCB from ocean waters.

Yoshida also reported that a diatom dies when the PCB content in it reaches 100 PCB.

Yoshida said his experiments indicated that PCB contamination is gradually destroying the ecological system in the ocean.

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