



# CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY NEWS RELEASE

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## Department of Toxic Substances Control

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### **California Scientists Find Highest PBDE Levels In Wildlife In San Francisco Bay Area Seabird Eggs**

Berkeley, California, USA --- Scientists from the California Environmental Protection Agency (Cal/EPA) announced this week that they have found the highest levels in wildlife in the world of the chemical flame retardants polybrominated diphenyl ethers (PBDEs) in seabird eggs from the San Francisco Bay Area. The findings were announced by scientists from Cal/EPA's Department of Toxic Substances Control (DTSC) during the international Dioxin 2004 Conference currently underway in Berlin, Germany.

PBDEs have been used as flame retardants in a variety of products ranging from computers and electronics, to mattresses, seat cushions, couches, upholstery, office dividers, autos, and many other products. PBDEs are chemically similar to polychlorinated biphenyls (PCBs), a family of neurotoxic chemicals banned decades ago.

"Seabirds are useful for monitoring and assessing ecosystem health because they are high on the marine food web, are long-lived, and are generally localized near their breeding and non-breeding sites," explained Jianwen She, PhD, the DTSC scientist who is presenting the study at the Dioxin 2004 Conference. "The discovery of unusually high levels of PBDEs in tern eggs suggests that eggs, such as those from the tern and other fish-eating species, are valuable tools in monitoring persistent organic pollutants in the environment."

DTSC made the findings as part of a three-year study in collaboration with the United States Fish and Wildlife Service, where scientists, working in DTSC's laboratory in Berkeley, California, took measurements of PBDE levels from 45 seabird egg samples in 2003. The highest PBDE level measured in tern eggs from San Francisco Bay fish-eating seabirds was 63 part per million/lipid (per gram of fat). This is the highest PBDE level ever reported in animals to date.

In addition, DTSC scientists attending this week's conference announced they have found an unusual distribution pattern in the types of PBDE molecules measured in some breast milk samples from women in the United States (US), whose PBDE levels are 10-70 times higher than those in women in Europe and Japan, according to earlier studies conducted by DTSC scientists and their counterparts around the globe. Scientists are still not sure why this pattern shift is occurring.

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In August 2003, California became the first state in the U.S. to ban PBDEs after landmark legislation was signed, Assembly Bill 302 – Chan, prohibiting the sale and manufacturing of two industrial formulations of PBDEs in California by 2008. These two forms, PentaBDE and OctaBDE have been shown to accumulate disturbingly in animal and human tissue and in mother's milk. DTSC scientists have found the worlds highest levels of PBDEs in North American women including women from California, according to previously published research.

Several chemical makers and product manufacturers in the U.S. have voluntarily stopped making or using the two forms of PBDEs to be banned in California, and action similar to California's has been taken by the European Union. Several other states in the U.S. enacted, or are in the process of adopting, similar legislation to ban PBDEs, including Maine and Washington.

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**The Department of Toxic Substances Control's mission is to restore, protect, and enhance the environment and ensure public health, environmental quality and economic vitality by regulating hazardous waste, conducting and overseeing cleanups, and developing and promoting pollution prevention.**