

Reddy, C.M., Xu, L., Eglinton, T.I., Boon, J.P., and D. J. Faulkner , *Radiocarbon content of synthetic and natural semi-volatile halogenated organic compounds*, Environmental Pollution, 2002; v120, 163-168

Some halogenated org. compds., such as polychlorinated biphenyls (PCBs), polychlorinated dibenzo-p-dioxins (PCDDs) and polybrominated di-Ph ethers (PBDEs), probably have natural sources but sepg. these compds. from their com. synthesized counterparts is difficult. Mol.-level ^{14}C anal. may be beneficial since most synthetic compds. are manufd. from petrochems. (^{14}C -free) and natural compds. should have modern or contemporary ^{14}C levels. As a baseline study, the authors measured, for the 1st time, the ^{14}C abundance in com. PCB and PBDE mixts., a no. of organochlorine pesticides, as well as one natural product 2-(3', 5'-dibromo-2'-methoxyphenoxy)-3,5-dibromoanisole. The latter compd. was isolated from a marine sponge and is similar in structure to a PBDE. All of the synthetic compds. were ^{14}C -free except for the pesticide toxaphene, which had a modern ^{14}C abundance, as did the brominated natural compd. The result for toxaphene was not surprising since it was com. synthesized by the chlorination of camphene derived from pine trees. Probably measuring the ^{14}C content of halogenated org. compds. may be quite useful in establishing whether org. compds. encountered in the environment have natural or synthetic origins (or both) provided that any synthetic counterparts derive from petrochem. feedstock.