

Abstract

This chapter introduces selected organohalogen chemicals such as polychlorinated biphenyls (PCBs), polychlorinated biphenyls (PBBs), and brominated flame retardants (BFRs) with emphasis on the background, physicochemical properties, environmental levels, health effects and possible modes of action. Since the focus of this chapter is on biomarkers, three well-known mechanisms are postulated as biomarkers of exposure and effect. Thyroid hormone disruption, perturbed calcium homeostasis and kinase signaling and induction of cytochrome-P450 enzymes are described in detail as biomarkers of exposure and effect of PCBs, PBBs and BFRs in exposed organisms. Although there have been other biochemical effects reported with these chemicals, only these three pathways were discussed in this chapter. Further research is needed in order to identify specific biomarkers of exposure and effect for these groups of chemicals.