



FILIP BJURLID is a PhD candidate in environmental and analytical chemistry at the Environmental and Health Group of MTM Research Centre in Örebro University, Sweden. His main research focus is in the field of persistent organic pollutants (POPs), where brominated dioxins and furans are the compound groups of primary interest.

New materials, and increased used of materials, have placed new demands on fire safety, and flame retardants have emerged as a solution and brominated flame retardants (BFRs) are currently omnipresent in the environment. Moreover, BFRs are the major source for the unintentionally produced brominated dibenzo-*p*-dioxins (PBDDs) and brominated dibenzofurans (PBDFs). Compared to other persistent organic pollutants, the knowledge concerning PBDD/Fs are limited, even though PBDD/Fs show similar toxicity to their well-studied chlorinated analogous, polychlorinated dibenzo-*p*-dioxins and furans (PCDD/Fs), which are considered to be among the most toxic compounds that exists. PBDD/Fs may be formed in various ways such as in industrial processes, during photolysis of BFRs and from natural formation but the most common formation pathway is combustion related processes of materials treated with brominated flame retardants.

The overall aim of the thesis was to provide a better understanding of PBDD/Fs by investigating the occurrence and distribution of PBDD/Fs in different environments and matrices. This thesis includes studies of emissions of PBDD/Fs from accidental fire sites which are a typical point source of dioxins, marine mammals' exposure to PBDD/Fs, in both far remote areas close to the Faroe Islands as well as close to anthropogenic sources in the Baltic Sea, and finally human exposure was assessed by investigating the occurrence of PBDD/Fs in human milk.

ISSN 1651-4270
ISBN 978-91-7529-221-2



FILIP BJURLID Polybrominated dibenzo-*p*-dioxins and furans

FILIP BJURLID Polybrominated dibenzo-*p*-dioxins and furans

Doctoral Dissertation

Polybrominated dibenzo-*p*-dioxins and furans: from source of emission to human exposure

FILIP BJURLID
Chemistry

2017

Örebro Studies in Chemistry 20 | ÖREBRO 2017