



OVERVIEW ON DIOXINS AND FURANS ATMOSPHERIC EMISSIONS IN ROMANIA

Raluca Vremera*, Diana Costinel, Roxana Elena Ionete, Gheorghe Titescu

National R&D Institute for Cryogenics and Isotopic Technologies, 4 Uzinei Street, 240050 Rm.Valcea, Romania

Abstract

Dioxins/furans and *dioxins* denote the group of 210 possible chlorine-substituted dibenzo-p-dioxins and dibenzofurans, that have similar structures and chemical properties. These compounds have no commercial use, they are only trace pollutants emitted by thermal processing of organic matter and chlorine or chlorinated organic compounds; as a result of incomplete combustion or chemical reactions. Being persistent organic pollutants (POPs) they are resistant to degradation in the environment, migrate through air and water far from the source, accumulate in terrestrial and aquatic ecosystems, with acute and chronic toxic effects on human and animal organisms.

The aim of this paper is to analyze the reported atmospheric emissions of dioxins in all 42 counties in Romania during 1999-2009. It was found that dioxin emission increased over time since 1999. The main source for dioxin emissions is the energy sector, as well as industry, transport, medical waste burning.

Key words: dioxin, furan, PCDD, PCDF

Received: September, 2010; Revised final: February, 2011; Accepted: February, 2011

* Author to whom all correspondence should be addressed: e-mail: vraluca@icsi.ro; Phone: + 4.0250.732.744; Fax: +4.0250.732.746