

PCDDs AND PCDFs LEVELS IN HUMAN ADIPOSE TISSUE FROM SPANISH POPULATION.

JIMENEZ, B¹, HERNANDEZ, L¹, GONZALEZ, M.J¹, BERENGUERAS, M², RIVERA, J²

1 Institute of Organic Chemistry (C.S.I.C.), Juan de la Cierva 3, S-28006 Madrid, SPAIN.

2 Research and Development Center (C.S.I.C.), Jordi Girona 18, S-08034 Barcelona, SPAIN.

INTRODUCTION

Over the last several years it has become clear that the entire population of the industrialized world carries a body burden of polychlorinated dibenzo-p-dioxins (PCDDs) and polychlorinated dibenzofurans (PCDFs).

This compounds can enter into the environment and subsequently into the human diet by a variety of routes as a result of human activity, e.g. as contaminants in the production and use of chlorophenol-based chemical products, and as products of combustion.

The persistent and bioaccumulative properties of these chemicals suggest that these pollutants may enter into the food chain and contaminate the human diet, eventually entering people, in whose bodies they are stored in adipose and other tissues.

In this paper we report PCDDs and PCDFs isomers specific analyses performed on 15 adipose tissue samples from spanish human specimens.

SAMPLING

15 Adipose tissue samples were taken from dead patients. Three to ten grams of sample were collected in sterilized polypropylene vials and kept frozen at -20° C until analyzed.

ANALYTICAL

Samples were defrosted and spiked with a mixture containing nine ¹³C₁₂ labelled PCDDs and PCDFs isomers. The extraction of organic compounds from the matrix was carried out with a mixture of acetone and hexane. Sulfuric acid was used for deproteinization of organic extract. Clean-up was carried out using an alumina column.

Analyses were conducted by capillary column gas chromatography-high resolution mass spectrometry. The results will be presented.

