

public health concerns about human enteric bacteria in drinking water supplies and the barriers to their practical analysis in spring water. Because spring water is directly uptaken into the human body in raw state and preserved in low temperature some period, in addition, exposed to atmosphere so it is a adorable growth condition for psychrophiles. The basic principle of water testing is that "frequent examination by simple method is more valuable than less frequent examination by a complex test or series of tests."

[PA3-14] [04/18/2002 (Thr) 14:00 - 17:00 / Hall E]

Acute and Chronic Risk Assessment on the Dietary Exposure of Chlorpyrifos

Lee Hyomin^o, Yoon Eunkyung, Choi Yoonho, Lee Gunyung, Yang Ki-Hwa

National Institute of Toxicological Research

Chlorpyrifos is an organophosphorus insecticide that has been widely used in the home and on the farm. This study was conducted to quantify acute and chronic dietary intake of chlorpyrifos using residue level in food which was previously investigated by KFDA during 1995~1999 and to identify risk level whether safe or not on the dietary exposure of chlorpyrifos.

For the quantification of acute dietary intake for chlorpyrifos, maximum food intake data on the commodities for adults presented by NHNS (National Health and nutrition Survey, 1999), maximum residue level and average body weight of adult (60kg) were regarded. For chronic exposure assessment, average intake data of adult (NHNS, 1999), average residue level of monitoring data which have been implemented from 1995 to 2000 and average body weight of adult were applied. Chronic dietary intake was estimated by summation of individual intakes.

Acute dietary intake for the single commodity was compared with acute reference dose (acute RfD) as 0.1mg/kg/day based on inhibition of erythrocyte acetylcholinesterase activity presented by WHO.

Chronic dietary intake for the sum of intakes was compared with RfD as 0.01 mg/kg/day based on inhibition of erythrocyte acetylcholinesterase activity in humans presented by WHO.

Acute dietary intake of chlorpyrifos through foods was estimated ranging from 3.2×10^{-8} mg/kg/day for millet to 3.7×10^{-5} mg/kg/day for sesame leaf. Chronic dietary intake was estimated as 5.0×10^{-6} mg/kg/day.

The risk level induced from acute dietary exposure assessment was ranged from 3.2×10^{-7} to 3.7×10^{-4} . The risk level induced from chronic dietary exposure assessment was 5.0×10^{-4} .

This value means that the hazardous impact of chlorpyrifos by acute or chronic dietary exposure would not be expected.

Poster Presentations – Field A4. Toxicology

[PA4-1] [04/18/2002 (Thr) 14:00 - 17:00 / Hall E]

Methamphetamine and Amphetamine Analysis in Hair Samples prepared by Cryogenic Mill

Sihn Young-Sihn^o, Baeck Seung-Kyung, Kim Sun-Chun, *Han Eun-Young, *Chung Hee-Sun

The National Institute of Scientific Investigation, Taejun, *Seoul

Hair is frequently used for the analysis of the abused drugs at present due to its relative advantages in many ways over urine or blood. The deposit drugs in hair are retained almost permanently but the drugs in blood or urine are remained only for about 3 days. Hair analysis informs us the long-term drug use history of the individuals in contrast to the short-term drug use history provided from urinalysis. When the first hair analysis is failed by random error a second sample can be collected without any sample deterioration.

However, in case of urine or blood the secondly collected urine or blood sample after several days is useless for the drug analysis. General sample preparation methods for hair analysis at present are 1) to use scissors to cut the hair in very small pieces and 2) to dissolve the hair in an alkaline solution. However, the scissoring and dissolving preparation methods are somewhat time consuming and the successive extraction of target drugs from these sample preparations are not perfect. We used new sample preparation method,