

COMMITTEE ON CARCINOGENICITY OF CHEMICALS IN FOOD, CONSUMER PRODUCTS AND THE ENVIRONMENT (COC)

WHO/IPCS HARMONIZATION PROJECT - RISK ASSESSMENT OF COMBINED EXPOSURES TO MULTIPLE CHEMICALS: FRAMEWORK DOCUMENT FOR REVIEW

1. In March 2007, attendees at an international workshop on current issues in aggregate/cumulative risk assessment discussed current methods for assessing the risk from exposure to more than one chemical agent with the aim of developing a framework for the risk assessment of combined exposures to multiple chemicals. The participants of the workshop were all experienced in and knowledgeable of the methods and approaches available for the risk assessment of chemical mixtures. Accordingly, a rigorous analysis of relevant information, including terminology, was undertaken and a series of comprehensive workshop abstracts were generated.

2. The workshop generated a framework proposal involving stepwise consideration of both exposure and hazard as a tiered approach. This document is now available for comment on the WHO website. The document is attached and is also available at:

http://www.who.int/ipcs/methods/harmonization/areas/combined_exposure/en/index.html.

3. According to the document, when considering the need for a framework analysis, the following sequential questions are considered:
- What is the nature of the exposure? Are the key components known? Are there data available on the hazard of the mixture itself?
 - Is exposure unlikely or very low, taking into account context?
 - Is there a likelihood of co-exposure with a relevant timeframe?
 - What is the rationale for considering compounds in an assessment group?

Four tiers of assessment are suggested (Tier 0 - Tier 3) with enhanced refinement at each stage with increasing exposure or hazard. Two case studies (worked examples), showing how the tiered approach is intended to be used, are presented. The case studies are a) polybrominated diphenyl ethers (PBDES) and b) carbamates.

4. It is noted that no specific references to carcinogenesis are made. Furthermore, the approach focuses on assessment of combined exposure to chemicals from the same common mechanism group. The document does not address potential interactions between chemicals from different chemical classes.

5. The Committee is invited to provide comments on the framework document which will be submitted to WHO by the secretariat.

Secretariat
July 2009