
Committee on Carcinogenicity of Chemicals in Food, Consumer Products and the Environment (COC) and Committee on Mutagenicity of Chemicals in Food, Consumer Products and the Environment (COM)

Report for September 2018 HSAC meeting:

COC – meeting held in Chilton on 12th July 2018.

https://www.gov.uk/government/groups/committee-on-carcinogenicity-of-chemicals-in-food-consumer-products-and-the-environment-coc

Substantive items discussed -

Potential toxicological risks from electronic nicotine (and non-nicotine) delivery systems (EN(N)DS – e-cigarettes) – overview of available data on carcinogenicity. The Committee on Toxicity of Chemicals in Food, Consumer Products and the Environment (COT) is reviewing the possible human health effects of E(N)NDS. COT has asked COC to review the evidence on carcinogenicity of E(N)NDS to feed into the COT evaluation.

Members agreed that there is likely to be a reduced exposure to classical 'tobacco – carcinogens' however there is still an exposure to potentially carcinogenic chemicals and more information is needed as to the levels of exposure. These products are very varied and this adds to the uncertainties for general risk assessment.

Development of a framework (algorithm) for consideration of risk due to less than lifetime exposure: the Secretariat presented three examples PHE had to evaluate less than lifetime (LTL) exposure and carry out a risk assessment. Health-based guidance values are derived assuming lifetime exposure, thus risk assessments for short-term exposures are often challenging. This was a preliminary discussion paper and will be taken further in subsequent meetings. Members wish to make sure vulnerability, uncertainty and the methodologies in the Risk 21 project (http://risk21.org/) are considered during the discussions.

Risk Assessment of the Effects of Combined Exposures to Chemical Carcinogens - an update.

This was originally written as the COC Statement on the Risk Assessment of the Effects of Combined Exposures to Chemical Carcinogens in 2010 and has served as a guidance document since the COC website was migrated to www.gov.uk.

The objective of this item was to review and update this document. However, as many authoritative and regulatory bodies have developed risk assessment frameworks and/or guidance on chemical mixture assessments, the members agreed to shift their focus onto the stages/process of cancer and the effects of mixed-exposures along this continuum. This is a very novel way to look at mixtures' exposure and effects. COC will also respond to an EFSA Public Consultation on harmonised methodologies for risk assessment of combined exposure to multiple chemicals. This topic will be further discussed and reviewed at subsequent COC meetings.

Updated Guidance Statements: updates to a number of guidance statements were agreed for publication:

A Lay or non-technical introduction to the series

The Use of Biomarkers in Carcinogenic Risk Assessment (G04).

Cancer Risk Characterisation Methods (G06).

Defining a Point of Departure and Potency Estimates in Carcinogenic Dose Response (G05). It was agreed that the update would be published, but a full revision of this document will be discussed as part of the work programme for 2019 when a number of relevant international activities are expected to be completed.

The next meeting is on 8th November 2018.

COM - meeting held at APHA, Weybridge on 26th June 2018.

https://www.gov.uk/government/organisations/committee-on-mutagenicity-of-chemicals-in-food-consumer-products-and-the-environment

Substantive items discussed –

Genotoxicity of Para-chloroaniline (PCA), this item was taken under Reserved Business as commercially sensitive information was discussed. PCA is a metabolite of diflubenzuron a non-systemic insect growth regulator that affects chitin synthesis. In 2009, the COM concluded that PCA was an in vitro mutagen but could not conclude on its in vivo mutagenic potential.

COM will publish its review of data that are more current and its conclusions in due course.

Potential toxicological risks from electronic nicotine (or non-nicotine) delivery systems (e-cigarettes). Overview of available data on Genotoxicity. The COT requested COM to assess absolute genotoxic risks from E(N)NDS and relative genotoxic risk compared to conventional cigarettes and, if data are available, to heated tobacco products. The COM was asked to evaluate the methods used to determine Genotoxicity.

The Committee concluded that this limited evidence base did not indicate any specific mutagenic risks from E(N)NDS that were not observed with conventional cigarette products. However, members considered that greater consistency and demonstrable reproducibility in both product, exposure and methodologies were needed before any view could be taken on absolute risks of E(N)NDS products.

COM Guidance on a Strategy for Genotoxicity Testing of Chemical Substances - Update. The COM guidance document was reviewed in 2011 and now requires some update. In February 2018 the COM considered papers one on the use of (Q)SAR models to predict Genotoxicity and a how the COM Guidance could be updated. The members discussed the areas where there is a need to evaluate the current guidance and update as necessary. The guidance could be published in sections on the COM website which would facilitate more frequent update as necessary rather than update a complete guidance document. This is an aspect for the secretariat to take further with www.gov.uk web-publishing.

CRISPR gene editing technology. CRISPR (Clustered Regularly Interspaced Short Palindromic Repeats) technology has been developed to be used as a gene editing tool. A brief overview of CRISPR was presented, including use in disease research and therapy, and its potential ability to induce viral vector-mediated genotoxicity through the introduction of mutations. CRISPR technologies may have a potential for vector mediated genotoxicity. Members asked for a presentation from experts in this field in order for them to be able to evaluate the genotoxicity of CRISPR technologies. This item will be taken forward in subsequent meetings.

The Annual report for 2017 was completed.

Other aspects – COM will respond to an **EFSA public consultation a Statement on genotoxicity** assessment of chemical mixtures, this is a statement which is linked to the guidance document on harmonised risk assessment methodologies for assessment of combined exposure to multiple chemicals.

The next meeting is on 18th October 2018.