

2 November 2017

GCAQE critique of the European Chemicals Agency (ECHA) Decision:

- Decision On Substance Evaluation Pursuant To Article 46(1) Of Regulation (EC) NO 1907/2006 For Tris (methylphenyl) phosphate, CAS No 1330-78-5 (EC No 809-930-9) (previously registered with EC No 215-548-B) – 26 July, 2016

On behalf of the Global Cabin Air Quality Executive (GCAQE), a number of concerns are raised regarding the ECHA decision on the substance evaluation for Tris (methylphenyl) phosphate, CAS No 1330-78-5. We submitted our concerns regarding aircrew, passenger and aviation worker exposures to this product in the aircraft environment as part of the ECHA review and we recently were given a presentation of the ECHA review to date at the recent Aircraft Cabin Air Conference in London by an RIVM representative.

Our concerns specifically relate to the following areas:

**1. Toxicity – In vitro dermal & 90 day repeated dose inhalation neurotoxicity testing:** While the decision covers Tris (methylphenyl) phosphate, CAS No 1330-78-5, the TCP commercial formulation used in aviation lubricants are not restricted to the 10 isomers of TCP. Rather, the commercial formulation is made up of complex mixture of triarylphosphate isomers (phenols and xylenols and cresols)<sup>1-3</sup>, and not just the 10 generally recognized TCP isomers.<sup>3</sup> The composition tested should reflect the substance/formulation (TCP) used in the aviation lubricants. Additionally:

## **2. Worker exposure:**

**A) Aircrew exposure to TCP in flight:** As acknowledged in the ECHA decision document, the registrants have not to date assessed in flight exposure to crew as part of their risk assessment. This is very concerning given that the manufacturers and users of TCP have consistently suggested there are no neurotoxic effects possible in the cabin environment, yet they fail to accept that oil and TCP will leak at lower levels as a function of normal engine operation.<sup>4-6</sup>

- It is concerning that the registrants will consult with the aviation industry as downstream users regarding the inclusion of an exposure assessment for the aircraft environment. It is well documented that the downstream users (manufacturers/airlines) are under-recognizing the risk and all studies undertaken by them are suggested to show no concern. For example, the European Commission and EASA have recently reported cabin air quality to be of good quality in normal operations with oil studies reporting no concerns.<sup>7,8,9</sup> Ongoing concerns by the GCAQE and independent scientists<sup>10-13</sup> remain ignored and therefore a balanced view on exposure assessment is not available. Most recently concerns have been raised about OPs piggybacking across the BBB when attached to UFPs, identified as part of the oil fume exposures in aircraft.<sup>14,15</sup>

**B) Information on questionnaires, medical and clinical investigations and industrial hygiene assessments amongst TCP exposed workers and the study of a possible causal relationship between TCP exposure and neurotoxic complaints:**

The establishment of concern section (p 14) states “*there is a concern on the potential neurotoxicity of TCP. Neurotoxic effects are described in pilots and cabin crew.*” The concern is linked to continual low-dose exposure to TCP for long periods for aircrew and workers during manufacturing and formulation of TCP.

Information relevant to aircrew TCP exposures and a possible causal mechanism cannot be obtained by:

- Limiting the review to TCP exposed manufacturer workers based on an annual assessment;
- Limiting industrial hygiene assessments related to TCP manufacturing workers.

We do not agree:

- Information obtained from the TCP manufacturing workers environment will be relevant to aircrew TCP exposure assessments;
- Reviewing aircrew TCP exposed workers is not within the scope of a ‘proportionate’ response. We disagree with ECHA’s acceptance that an epidemiological cohort study is too complex and expensive and not currently within the EUs remit. There is extensive peer reviewed data available already on aircrew exposure to the oils including TCP that is being ignored by the aviation industry and the EC;
- That industrial hygiene assessment based on TCP exposed manufacturing or formulation workers is relevant to exposure assessments in the aircraft environment. Exposure to low-level fugitive oil emissions containing TCP in normal flight are recognized,<sup>4,10</sup> with current technology detection limits failing to identify this accepted background TCP exposure;<sup>7</sup>
- The ECHA acceptance that the draft ECHA decision was amended based on the registrants suggested monitoring of ground based TCP manufacturing and formulation workers represents TCP exposed workers. This does not represent aircrew TCP exposure.

## Conclusion:

The ECHA TCP decision fails to adequately assess aircrew TCP exposure scenarios, instead relying on a non-related exposure scenario and views weighted toward industry.

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A global coalition of health and safety advocates committed to raising awareness and finding solutions to poor air quality in aircraft

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