

**COMMITTEE ON TOXICITY OF CHEMICALS IN FOOD, CONSUMER PRODUCTS AND THE ENVIRONMENT (COT)**

**Potential toxicological risks from electronic nicotine (or non-nicotine) delivery systems (e-cigarettes). Paper 2: Exposure to metals present in the aerosol of E(N)NDS**

**Details of Literature search carried out by NCET at WRc/IEH-C**

The subsequent literature search was performed by NCET at WRc/IEH-C under contract to PHE on 05/10/17 using the following search terms in PubMed, Scopus and Web of Science. Search terms used were:

- e-cigarette OR electronic cigarette OR e-cig

AND

- aerosol OR vapor/vapour

AND

- particle OR particulate OR droplet OR metal OR element

YEAR 2010 to date

Total no. of papers retrieved (for screening) = 169

**Inclusion criteria**

Papers were selected if they contained relevant information on the (eventual) presence of metals in the E(N)NDS aerosol

For completion, the reference lists of selected papers were examined for further relevant publications, and additional searches were carried out as considered appropriate (e.g. authors publishing in the field were searched directly in PubMed..)

Total no. of papers for further evaluation = 20

**Update search**

An update search, to check for any more recent papers, was conducted on 12/03/2018 using Scopus and PubMed with the following search terms:

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Scopus:

(TITLE-ABS-KEY ( e-cig\* OR "electronic cigarette\*" ) AND TITLE-ABS-KEY ( metal OR element ) ) AND PUBYEAR > 2016; 37 refs.

PubMed:

((e-Cig\*[Title/Abstract] OR "electronic cigarette"\*[Title/Abstract]) AND (metal[Title/Abstract] OR element[Title/Abstract]) Filters: Publication date from 2017/01/01 to 2018/12/31: 11 refs

Total no. of papers retrieved (for screening) = 41 refs.

39 refs were either not relevant based on the inclusion criteria above, were reviews or commentaries on the subject, or were already included in the COT paper;

Total no. of papers for further evaluation = 2 refs.

Olmedo et al. (2018) has been included in this paper.

Jain (2018)<sup>1</sup> is in press and will be considered for inclusion in a future paper, but the abstract is attached at this annex. It is not being made publicly available for copyright reasons.

**NCET at WRc/IEH-C under contract supporting the PHE COT Secretariat  
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<sup>1</sup> Jain (2018) Concentrations of selected metals in blood, serum and urine among US adult exclusive users of cigarettes, cigars and electronic cigarettes. Toxicological and Environmental Chemistry. DOI: 10.1080/02772248.2018.1426764