

## Comparing Estimates of Chemical Use Between Two Separate Databases: the Euromonitor U.S. Dataset and the EPA's CPDat

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EPA's CPDat, a public tool that provides estimates of chemical presence in consumer products, weight fraction and functionality, is part of EPA's CompTox dashboard and is used to estimate exposures. However, to date, research to verify estimates of exposure derived from public tools, such as CPDat, has been limited. Therefore, this research project will access marketing data from the commercially available Euromonitor Passport database to obtain data on chemical ingredients used in household and personal care products (HPCPs) for the U.S. market. This data will then be compared to estimates derived from CPDat. Research Plan: A subset of chemical ingredients obtained from the Euromonitor Passport dataset will be used in this project to assess the relative performance of the EPA CPDat for estimating chemical use in HPCPs in the U.S. Research activities will include:

1. Collating information on chemical ingredient use in HPCPs for the U.S. market for the period 2018-2019, with a focus on down-stream chemical ingredients used in home and personal care products used in the U.S. market for the period of 2018-2019, consistent with the type of information used in developing CPDat. The data collated from Euromonitor Passport database will include 1) Total tonnage of chemical ingredients used in HPCPs for the U.S. market, 2) Chemical ingredient product-specific inclusion levels and 3) Summary of chemical ingredient functional use
2. Identifying a subset of chemical ingredients for comparison against estimates of exposure derived from the EPA CPDat. A subset of chemical ingredients, for which accurate SMILES and CAS information can be obtained to be used for evaluating the relative performance and defining the applicability domain of CPDat with respect to chemical ingredient product-specific inclusion levels.
3. Reporting on the overall comparison between the two sources of data and characterize any potential applicability domain issues that may arise. Euromonitor data will be used for comparison to CPDat information on presence in product categories, functional use, and weight fraction estimations. Including evaluating opportunities for combining marketing data with chemical aggregate exposure tools in helping to screen and prioritize chemical ingredients with respect to both human and environmental risk assessment.

**Implications:** The application of marketing data represents a potential opportunity for better understanding chemical use in HPCPs, which when coupled with MSDS information used to develop CPDat, can enable greater insight towards clarifying applicability domain strengths and weaknesses of the different approaches. The research will further enable an independent evaluation of the relative performance of the data used in developing CPDat, identifying future research opportunities for improving future estimates of exposure for chemicals used HPCPs.

**Key words:** exposure modeling, chemical ingredients, analysis

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