

## EPA's Consolidated Human Activity Database

### Issue

The study of exposure to chemicals requires two sets of information:

- The amount and distribution of chemicals in an environment, and
- The ways people and animals encounter these chemicals.

Sampling air, soil, water, and residues on food can give scientists a good picture of how chemicals are distributed in the world around us. However, the vastly different ways in which people behave on a daily basis makes mapping their contact with these chemicals a challenge.

EPA scientists have collected activity data from 23 separate exposure and time-use studies in the Consolidated Human Activity Database, known as "CHAD." These studies collected detailed information on human activity, and together, the data can help researchers understand the patterns of human behavior that influence their exposure to chemicals in their environment.

### What's in the data?

The studies compiled in CHAD are detailed diaries of daily behavior. The database contains more than 54,000 individual day entries, broken down by activity type and hour. Also included are demographic data like age, sex,



employment and education level, which allow researchers to confine their area of study to specific groups of people and learn if the kinds of behavior typical to certain populations change their risk of exposure to certain chemicals.

CHAD presents the data from the 23 separate studies in a consistent format, making it possible for scientists and researchers to create much more robust studies of human activity and exposure.

### CHAD's impact

CHAD is regularly used as part of a wide variety of human exposure and health studies. Scientists can use CHAD data as input for exposure and dose prediction models and for statistical analysis — for example, to estimate breathing rates to better understand

how air pollution is absorbed across a population.

CHAD has been cited in hundreds of articles on human exposure science, and is used to help EPA develop regulatory guidance.

### Data availability

CHAD data are freely available in two formats. Users can download either a legacy Microsoft Access-compatible version (containing detailed data from older studies and a user interface) or an up-to-date dataset containing the CHAD data in CSV or SAS dataset formats.

*For more information, visit EPA's Consolidated Human Activity Database website: <http://www.epa.gov/heasd/chad.html>*

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