Rapid Exposure Estimation



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| Biokinetics and Metabolism | Biological Response and Pathway-based Toxicology | Evidence-based Toxicology | Rapid Exposure Estimation |

# Exposure estimation

Residential, consumer products, occupational, dietary exposures, far-field exposures (industrial and pesticides). Examples of models used:

* ChemSTEER
* ConsExpo
* Consumer Exposure Model (CEM)
* ECETOC TRA
* IHMOD/IHSKINPERM
* NHANES/FNDDS

# Exposure forecasting

* EPA’s Systematic Empirical Evaluation of Models (SEEM) framework
* ECETOC Targeted Risk Assessment (TRA) tool
* EPA’s ExpoCast framework

# Tailored exposure assessments

* Bayesian frameworks
* Probabilistic risk assessments

# Chemical use information

* EPA’s CPDat (functional use, weight fraction, etc.)
* ECHA’s Information on Chemicals
* OECD eChem Portal

# Rapid risk evaluations

* High-throughput risk-based chemical prioritization
* High-throughput margin of exposure (MoE) and activity exposure ratio (AER)
* *In vitro*-to-*in vivo* extrapolation to relate *in vitro*

measures of bioactivity to *in vivo* exposures

# Non-targeted analyses

* Chemical mixtures in environmental samples

# Physical chemical property and environmental fate prediction

* EPISuite
* OPERA
* VEGA

# Contact Us

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