

Alternatives Assessment Evaluation Tools

Exposure Assessment



Exposure Assessment

- PBT Profiler – US EPA
- ChemSTEER – US EPA
- E-FAST – US EPA
- EPI Suite – US EPA
- ECOSAR – US EPA
- ReachScan – US EPA



PBT Profiler

- Web-based screening tool
- Identifies PBTs
 - Persistent
 - Bioaccumulative
 - Toxic to aquatic biota
- Estimates values for PBT parameters
- Indicates when chemicals exceed threshold values



ChemSTEER

- Chemical Screening Tool for Exposures and Environmental Releases
- Estimates occupational exposure
 - Dermal & inhalation
 - Chemical & environmental releases
 - Chemical manufacturing, processing & use
- Estimates exposure and release from specified use conditions



E-FAST

- Exposure and Fate Assessment Screening Tool
- Screening level estimates of concentrations of chemicals
 - Released to air, surface water, landfills & from consumer products
- Estimates potential human dose rates
 - Inhalation, dermal & ingestion dose rates
 - Wide variety of exposure routes, specified by modules
- Estimates duration of aquatic concentrations of concern



EPI Suite TM

- Estimation Program Interface (EPI) SuiteTM – US EPA & Syracuse Research Corp.
- Suite of estimation programs
- Provides screening level estimates
 - Physical/chemical & environmental fate properties
- Needs chemical data & chemical structure
 - Includes tools to identify available data and structure



ECOSAR

- Estimates acute and chronic aquatic toxicity
 - Uses structure activity relationships
- Included in EPI Suite
 - Stand alone version is more up-to-date



ReachScan

- Estimates impacts of chemicals on drinking water utilities
 - Downstream from industrial facilities
- Uses various models to estimate:
 - Fish bioconcentration rates
 - Potential human dose rates from fish consumption and drinking water ingestion



Questions

- Do you use any of these tools for exposure assessment?
- Do you use other tools or methods for exposure assessment?
- What characteristics should be used to classify the different tools for exposure assessment?
- What information would you find useful for exposure assessment in the guidance?
- Do you have a format preference? Narrative, table, case studies or examples?



Contact

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