Phase II Validation Study Ecological Risk Assessment Guidance

Overview

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Overview – Phase II Validation Study

- **Validation Study**
  - **Quantitative Assessment**
  - **Focus**
    - Reduce uncertainty associated with Phase I Predictive Risk Assessment
    - Refine site-specific exposure assumptions (i.e., laboratory/field studies)
    - Refine toxicity assumptions (i.e., laboratory/field studies)
    - Refine risk characterization.

Phase II Validation Study – Terrestrial Mine Site Example

Possible options to reduce uncertainty in the investigation:

- Bioaccessibility/Bioavailability Testing
- Plant Toxicity Bioassays (ASTM Protocols)
- Collect and analyze plant/invertebrate tissue concentrations to validate or refine model predictions

Phase II Validation Study – Wetland Mine Site Example

Possible options to reduce uncertainty in the investigation:

- Bioaccessibility/Bioavailability Testing
- Aquatic Toxicity Bioassays (ASTM Protocols)
  - *Rana* sp. (Yellow-legged frog) FETAX
  - Benthic invertebrate (amphipod)
  - Freshwater invertebrate (*Daphnia*)
- Collect and analyze plant/invertebrate/fish tissue concentrations to validate or refine model predictions

DTSC Guidance and Other Resources

Phase II Validation Study Guidance

http://www.dtsc.ca.gov/AssessingRisk/eco.cfm

Bioassay Protocols

http://www.dtsc.ca.gov/AssessingRisk/Bioassay/main.cfm

http://www.oehha.org/ecotox/documents/marinetox.html

http://www.epa.gov/opptsfrs/publications/OPPTS_Harmonized/850_Ecological_Effects_Test_Guidelines/Drafts/

http://iccvam.niehs.nih.gov/methods/fetax.htm