

Approach for Developing Lead Dust Hazard Standards for Residences

December 6, 2010

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Select Target Blood Lead Concentration

Analysis of Empirical (1999-2004 NHANES) Data

- Application of Dixon et al. model
- Reanalysis of NHANES Dust-loading Values
 - Imputation of Windowsill Dust-loading values
- Blood Lead- Dust Lead Regressions
 - Log-Log Regression
 - Linear Regression, Polynomial Exposure Terms
 - Quasi-likelihood Models with Dust Lead Concentrations

Definition of Exposure Scenarios

- Identification of Microenvironments
- Time Spent
- Exposure Concentrations
- Source Attribution of Exposures
- Background (non-soil/dust) Exposures
- Definition of Hazard Standards

Dust Loading-Concentration Relationships

- Regression Model
- Mechanistic Model

Biokinetic Modeling of Blood Lead

- IEUBK
- Leggett

Estimation of Hazard Standards for Residential Floor and Windowsill Dust

- Comparison of Predictions from Empirical, Biokinetic Models
- Estimation of Proportions of Children Above Blood-lead Targets
- Sensitivity Analysis of Key Model Variables and Assumptions

Overview of Charge Questions

1. Please comment on the clarity and transparency of the approach document
2. Please comment on the EPA reanalysis of NHANES empirical data
3. Please comment on the use of biokinetic models and the inputs to the models

Overview of Charge Questions

4. Please comment on the characterization of variability and uncertainty
5. OPPT proposes to use the NHANES Quasi-Likelihood, Empirical Model for the estimation of the residential hazard standards. Please comment on this proposed choice.