Air Toxics Data Analysis – EPA's Programmatic Uses

Ground-truthing model-based estimates of current risks by pollutant

Accountability: Assessing Program Effectiveness
- ➢ National Trends
- ➢ Progress toward meeting GPRA goals
- ➢ Impact of emission reduction programs
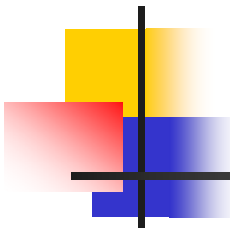 - ✓ Mobile Source, MACT, Residual Risk, Area Source

Other:
- ➢ Ambient "background" levels
- ➢ EI and AQ Model validation / verification

Air Toxics Data Analysis – S/L/T Uses

Exposure and Risk Characterization
Select and Assess Emissions Control Activities
Source ID / Characterization
Identify Emissions Inventory Gaps
Others

"Take-Home" Messages - Data Analysis Workshop and APM Discussions

Temporal and spatial trends: pollutant- and location-specific
- ✓ Greater emphasis on local-scale analyses needed

Annual trends
- ✓ Decreased concentrations for some (esp. mobile source HAPs)
- ✓ Mixed results for others; total Cr increasing

Met-adjustments to annual trends – preliminary results
- ✓ Benzene downward trend evident with or without
- ✓ Yearly adjustments sufficiently significant to warrant further investigation

Concentration trends appear to correlate w/ emissions regulations
- ✓ Cannot be verified w/out local-scale analyses

Many detection limits too high / above 10^{-6} risk concentrations Data selection – interesting issue, complicating factors
- ✓ MDL substitution
- ✓ Incomplete data
- ✓ Concentrations "too low to be credible"

Air Program Manager's
Air Toxics Data Workgroup

➢ Assessed guidance needs / availability for S/L/T use
  - ✓ Planning, Scoping, and Problem Formulation
  - ✓ Sample Collection, Transportation, and Lab Analysis
  - ✓ Data Review, Validation, Selection
  - ✓ Data Storage and Retrieval
  - ✓ Data Analysis / Interpretation

➢ Summary matrix remains draft / incomplete

➢ Air Toxics Monitoring Advisory Committee will review and further develop

Guidance Needs – STI Chapter Summary for Proposed Air Toxics Workbook

Introduction to the Workbook

Background on Air Toxics

Ensuring High Quality Data: Data Validation, Selection

Characterizing Ambient Toxics Concentrations

Quantifying Trends in Air Toxics

Evaluating Air Toxics Emission Inventories

Quantifying Contribution of Important Sources to PM Concentrations

Model Evaluation

Control Strategies

Assessing Risk from Air Toxics

Glossary and Acronyms

References

Air Toxics Data Analysis - Future Direction Ideas

Funding: ~$600K available ($270K FY05 / $325 FY06)

Local-scale:

- ➢ Develop data analysis guidance for S/L/T's
  - ✓ Clear, easy to understand and execute
- ➢ Synthesize local-scale monitoring project results
- ➢ Include data analysis category in RFA
  - ✓ Per S/A recommendation, Feb 05

National-scale:

- ➢ Database preparation / automation
- ➢ Address data selection / substitution issues
- ➢ Continue analyses in support of EPA programmatic uses