

## Air Toxics: Regulatory and Legal Issues

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## Clean Air Act Authority

- Authority to regulate all mobile source engines and fuels that cause or contribute to air pollution that may endanger public health or welfare
- Section 202(l) specifically addresses mobile source-related air toxics
  - Requires vehicle and/or fuel standards
  - Greatest emission reductions achievable through technology which will be available
  - Considering cost, energy, safety, noise, lead time
  - Applies at a minimum to benzene and formaldehyde

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## Actions Under 202(l)

- First MSAT rule published in March 2001
  - Identified 21 mobile source air toxics
  - Toxics emission standard for gasoline
    - Applies to refiners
  - Identified data gaps and committed to research
    - Mobile source hot spots, such as near roadways
    - Range of exposure, especially high end
  - Committed to additional rulemaking
    - Assess the need for and feasibility of additional controls
    - Currently underway
      - Considering range of fuel, engine and evaporative control options
      - Rule schedule under discussion

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## Exposure and Health Effects: Issues for Current Rule

- What are the MSATs of most concern?
- What do we know about current and future health risk?
- How are we addressing exposure and health effects in the rule?

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## MSATs of Greatest Concern

Based on National Air Toxics Assessment for 1996

- Benzene
- Acrolein
- Formaldehyde
- Acetaldehyde
- 1,3-butadiene
- Diesel PM and organic gases

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## Risk

- 1996 NATA shows that air toxics pose a public health concern
  - Average cancer risk from all air toxics: 55 in a million (not including diesel PM)
  - Benzene cancer risk over 1 in a million almost everywhere in U.S.
- Mobile sources account for about half the risk from outdoor air toxics
  - 40% of toxics emissions
  - 60% of benzene emissions
- While federal controls already adopted will decrease MSAT emissions dramatically...
  - 64% reduction in highway vehicle air toxics from 1999-2030
  - 40% reduction in nonroad equipment air toxics from 1999-2030
- ... Analyses for pending rule showing public health concern will remain in the future

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## Exposure and Risk in New Rule

- National-scale modeling doesn't reflect near-roadway impacts
- Rule will discuss hot spots and high-end exposure
  - Ambient monitoring data
  - Measurements in microenvironments
    - Near roads, inside vehicles, attached garages
  - Urban-scale modeling
  - Measured personal exposure
  - Occupational exposure

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## Other Notable EPA Actions

- Other rules
  - Small-gasoline powered equipment
  - Locomotive and marine diesel
- Voluntary Programs
  - National Clean Diesel Campaign
    - Focus on reducing diesel emissions from:
      - School buses
        - » Clean School Bus USA
      - Freight
        - » Smartway Transport
      - Ports
        - » Clean Ports USA
      - Construction
      - Agricultural
    - National programs and regional collaboratives

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## Future Focus

- Near-roadway exposure and health effects
  - Quantifying
  - Planning tools
  - Risk reduction
- Gasoline PM
- Metals
- Emissions from new technologies

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