Alternative Assessment Guidance

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Alternative Assessment Guidance

- $150K NEP funding to develop AA guidance
- Eight states (CA, CT, MA, MI, MN, NY, OR, WA) working together under IC2 umbrella
- Technical Alternative Assessment Guidance (TAAG) Team meets regularly
Alternative Assessment Guidance

- EPA DfE providing technical support
- Hired Dr. Lauren Heine of Clean Production Action as technical consultant
- Contracting for stakeholder and technical writing support
Create an alternatives assessment process that promotes continuous improvement by fostering the manufacture of products that are benign by design.
The guidance document will allow users to identify viable safer alternatives to toxic chemicals that:

1. Reduce risk by replacing toxic chemicals in products with inherently safer alternatives.

2. Prevent uninformed substitutions where alternatives are poorly understood, or are as toxic or more toxic than the original chemical.

3. Define the information required to conduct a credible alternatives assessment.

4. Continually improve products until they are benign to human health and the environment.
Goals & Objectives

The document is intended to be:

1. Flexible and transparent to meet the needs of a wide range of users (from small, medium and large businesses, to local, state and federal governments, to other interested parties, etc.)

2. Assist users when determining both which components and to what level each component should be incorporated into their alternatives assessment.
Alternative Assessment Components

- Initial Evaluation
- Identification of alternatives
- Pre-screening evaluation
- Hazard evaluation
- Exposure considerations
- Performance & Process Engineering
- Cost & Availability
- Stakeholder Involvement
- Social, worker & environmental justice & related considerations
- Material flow assessment
- Life cycle considerations/avoiding shifting risks
- Decision making methodology
Alternative Assessment Components

The potential modular components can be included in an Alternative Assessment. Each module will consist of several levels of increasing complexity and will be discussed in detail in the guidance. Not all modules may be used in all alternative assessments. The guidance will have sufficient flexibility to allow users to select which components are necessary to meet regulatory requirements or are important for the particular product or chemical being assessed.

Note: The guidance assumes the identification of chemicals of concern has occurred before this process begins.
Stakeholder Process

States committed to an open and transparent process during development of guidance

- Solicited input on scoping of guidance document
- Information posted to keep stakeholders informed and involved
  - Comments received on scoping
  - TAAG Team agendas
  - Meeting summaries
  - Completed documents for review and comment
Guidance Approach

Guidance based upon optimized risk-reduction approach

\[ \text{Risk} \approx \text{Function (Hazard, Exposure)} \]

**Optimized Risk-reduction** approach is a two step process:

1. Identify chemicals with lowest possible hazard
2. Evaluate exposure of chemicals with lowest hazard

Select alternative that is both lowest hazard and lowest possible exposure potential

Exposure evaluation alone will not be employed to allow continued use of toxic chemicals as both steps are critical
Alternative Assessment Objective

Replace toxic chemicals with safer alternatives

- If a safer alternative to a toxic chemical exists that completes the function of the product at a cost effective price, there is NO justification for continued use

- Money is saved by not dealing with toxic chemicals including cost savings in:
  - Manufacture, transport and release
  - Release during use and end-of-life
  - Regulatory costs of managing both chemicals and dangerous waste

- Major US manufacturers are using the alternative assessment process because of these benefits
Traditional Risk Assessment Concerns

Objective: Evaluate the RISK posed by a product containing toxic chemicals

- Frequently only looks at exposure during use and does not include a life cycle exposure perspective
- Does not adequately include the complete costs of toxic chemicals use as long-term management, cleanup and disposal costs are often externalized
- Is difficult and expensive to implement and therefore not typically used by small businesses
Is it the right tool for comparing alternatives to restricted substances in electronics?

• Overwhelming to most decision-makers
  – Most decision makers are procurement engineers
  – Overwhelmed by information out of their field
  – Can’t effectively incorporate into existing procurement process

• Not comparative
  – Not in a useful format for comparative decisions
  – Chemists consider function when designing formulations
  – Alternatives must be shown in relation to other chemicals of the same function

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1 Information from a presentation at a Green Materials symposium made by Helen Holder of Hewlett-Packard on 23 March 2011
CHA-Business Perspective (HP)¹

• Faster, Easier to complete
  – Narrow, well-defined endpoints
  – Science-based
  – Facilitates relative quick assessments

• Increasingly used by regulatory bodies
  – Useful as an indicator of future restriction
  – Aligns business with regulatory process

¹ Information from a presentation at a Green Materials symposium made by Helen Holder of Hewlett-Packard on 23 March 2011
Risk Assessment Concerns

Plays a role in an alternative assessment but is not adequate to address concerns posed by toxic chemicals

- Finding 4.6. – Better methods [beyond risk analysis] are needed to support consideration of health and environmental effects for the green chemistry goal of safer products and more sustainable chemical usage (National Academy of Science’s Green Book on Sustainability)

- Major US and International manufacturers have abandoned the RA process and adopted alternatives assessment

- Problems managing toxic chemicals persist and incidence of childhood diseases and birth defects continue to increase
Alternative Assessment Progress

- Completed draft outline for two modules (Initial Evaluation and Identification of Alternatives) and solicited stakeholder input
- Near completion of two additional modules (Hazard and Exposure)
- Started work on four others (Performance, Life Cycle Assessment, Stakeholder Involvement and Decision Methodology)
Hazard Assessment Module Outline

• Based upon methodology established by EPA’s Design for the Environment (DfE) Program used as the basis for the Safer Products Initiative

• Ranges from a simple list comparison to a full-blown, validated chemical hazard assessment

• Details:
  – Five levels of increasing complexity
  – 21 pages long
  – 5 Tables & Appendix
Exposure Module Outline

• Based upon information provided by National Institute’s of Occupational Safety and Health (NIOSH)

• Ranges from a simple exposure evaluation to a full-blown risk assessment

• Details:
  • Five levels of increasing complexity
  • 21 pages long
  • 5 Tables & Appendix
Timeframe

- Module draft outlines will be made available for stakeholder review and comment as they become available.
- Two webinars still planned for June & August 2012.
- Working toward having draft guidance ready for release by the end of August 2012.
- Stakeholder input will be reviewed and changes made to the document.
- Final release by December 31, 2012.
That's all Folks!