Update on EPA Chemical Action Plans

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Great Lakes Binational Toxics Strategy

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Outline

- Review of regulatory and voluntary activities for recent US Action Plan substances:
  - Benzidine dyes and pigments
  - Nonylphenols/Nonylphenol ethoxylates
  - HBCD
  - Potential Future US chemical actions:
    - Siloxanes
    - Isocyanates/Diisocyanates
- Discussion of Potential Voluntary Actions
- Next Steps

Action Plan Basics

Summary of Regulatory Actions

- EPCRA § 313(c) Listing: TRI Reporting
- TSCA Section 4: Chemical Testing ("Test Rule")
- TSCA Section 5: Manufacturer Controls
  - TSCA § 5(a)(2) Significant New Use Rule (SNUR)

    Requires manufacturers who intend to use a chemical for the identified significant new use to submit an application to the Agency for review prior to beginning that activity.
  - TSCA § 5(b)(4) Chemical of Concern Listing: "Concern List of Chemicals"
- TSCA Section 6: Chemical Bans/Restrictions

Summary of Voluntary Actions

- Design for the Environment (DfE)
- Stewardships & Phase-Out Programs
- Risk Management Actions
- Green Chemistry & Alternatives Analyses
- Pollution Prevention (P2)

Benzidine Dyes & Pigments

Benzidine Dyes & Pigments

What EPA is Addressing

- 48 dyes derived from benzidine and its congeners, 3,3'-dichlorobenzidine, 3,3'-dimethylbenzidine, and 3,3'-dimethoxybenzidine

Typical Uses

- Production of textiles, paints, printing inks, paper, and pharmaceuticals
- Laboratory reagents and biological stains
- Food industries
- More recent uses: Laser, liquid crystal displays, ink-jet printers, and electro-optical devices

Benzidine Dyes & Pigments

Why EPA is Concerned

- EPA is concerned about the potential risk from exposure, including exposure of children, from using products containing benzidine
  - Some Benzidine dyes have the potential to metabolize to aromatic amines that are considered to be carcinogenic
  - Benzidine and dyes metabolized to benzidine are classified as known human carcinogens.
  - 3,3'-dichlorobenzidine, 3,3'-dimethylbenzidine, and 3,3'-dimethoxybenzidine and dyes metabolized to the latter two congeners have all been classified as "reasonably anticipated to be human carcinogens."

Benzidine Dyes & Pigments

Proposed Actions (Regulatory)

- Add four benzidine-based dyes to an existing SNUR at 40 CFR § 721.1660
- Establish a new SNUR for benzidine congener-based dyes, including 44 specific dyes
- Eliminate the SNUR article exemption to address potential concerns from imported finished textiles
- Consider action under TSCA § 6, if these dyes are present in imported finished textiles
- Consider additional regulatory action for other ongoing uses and information needs

Nonylphenol
&
Nonylphenol Ethoxylates

Nonylphenol/Nonylphenol Ethoxylates

What EPA is addressing

- Nonylphenol (NP) and nonylphenol ethoxylates (NPEs).

Typical Uses

- NP's main use is in the manufacture of NPEs
- NPEs are nonionic surfactants that are used in a wide variety of industrial applications and consumer products
- NPEs in some products, such as dust-control agents and deicers, can lead to direct release to the environment

Nonylphenol/Nonylphenol Ethoxylates

Why EPA is Concerned (NP)

- Persistent in the aquatic environment, moderately bioaccumulative, and extremely toxic to aquatic organisms.
- Exhibits estrogenic properties in *in vitro* and *in vivo* assays.
- Detected in human breast milk, blood, and urine
- Associated with rodent reproductive and developmental effects

Why EPA is Concerned (NPEs)

- Though less toxic and persistent than NP, NPEs
  - Are also highly toxic to aquatic organisms, and
  - Degrade into NP in the environment.

Both NP and NPEs have been found in environmental samples taken from freshwater, saltwater, groundwater, sediment, soil and aquatic biota.

Nonylphenol/Nonylphenol Ethoxylates

Proposed Actions (Regulatory)

- Simultaneously propose:
  - A SNUR and
  - A Test Rule for NP and NPEs
    - Would require development of the information necessary to determine the effects that NPEs and NP have on human health or the environment.
  - Consider rulemaking to add NP and NPEs to the Concern List of Chemicals
- Initiate rulemaking to add NP and NPEs to the Toxics Release Inventory (TRI)

Nonylphenol/Nonylphenol Ethoxylates

Proposed Actions (Voluntary)

- Support and encourage the ongoing voluntary phase-out of NPEs in industrial laundry detergents:
  - Textile Rental Services Association of America (TRSA) agreed to phase-out NPEs in industrial laundry detergents:
    - The phase out has already begun and coordinated with EPA's DfE Safer Detergents Stewardship Initiative (SDSI) program
    - Would end the use of NPEs in industrial laundry detergents by 2013 for liquid detergents and 2014 for powders
- Encourage the manufacturers of all NPE-containing direct-release products to move to NPE-free formulations
- Encourage NPE elimination in industries that discharge NPEs to water
- Develop an alternatives analysis

HBCD

HBCD

What EPA is addressing

- Hexabromocyclododecane (HBCD), a category of brominated flame retardants.

Typical Uses

- HBCD is used in expanded polystyrene foam (EPS) in the building and construction industry, as well as in consumer products.

HBCD

Why EPA is concerned

- People may be exposed from products, home and workplace dust and in the environment
  - It has been found in human breast milk, adipose tissue, and blood
- HBCD is found world-wide in the environment and wildlife:
  - It is persistent in the environment and is transported long distances
  - It bioaccumulates in living organisms and biomagnifies in the food chain
  - It is highly toxic to aquatic organisms
- It presents human health concerns based on animal test results (reproductive/developmental/neurological effects)

HBCD

Proposed Actions

- Initiate rulemaking to add HBCD to the Concern List of Chemicals
- Develop a SNUR to designate manufacture or processing of HBCD for use as a consumer textile flame retardant as a significant new use
- Initiate rulemaking in 2011 to add HBCD to the TRI
- Consider initiating rulemaking under TSCA § 6(a) to regulate HBCD
- Conduct a DfE alternatives assessment of HBCD

Future Chemical Actions

Future Chemical Actions

- Siloxanes
- Isocyanates/Diisocyanates
  - Industry/American Chemistry Council SPF product stewardship program
    - Assure all spray applicators have access to health and safety training through a proposed on-line certification/testing course
    - Commitment to exposure research, including support for the DAN method to measure total isocyanate(s)
  - Chemical Information & Training
    - Training and Integration into Healthy Homes and Green Jobs Programs

Discussion:
Potential Voluntary Actions

Potential Voluntary Actions

- Monitoring/Surveillance
  - Source Identification
  - Method Development
  - Sampling
- Health & Safety Testing
- Green Alternatives Development
- Provide Supplemental Information
  - Product Needs & Specifications
  - Market Information
  - Testing Information

Next Steps

Next Steps: Finding More Information

- **Benzidine Dyes & Pigments**:

http://www.epa.gov/opptintr/existingchemicals/pubs/actionplans/benzidine.html

- **NP & NPE**:

http://www.epa.gov/opptintr/existingchemicals/pubs/actionplans/np-npe.html

- **HBCD**:

http://www.epa.gov/opptintr/existingchemicals/pubs/actionplans/hbcd.html

Next Steps: Making Comments on Plans

- **Benzidine Dyes & Pigments**
  - Docket: **EPA-HQ-OPPT-2010-0570**, Link: http://www.regulations.gov/search/Regs/home.html#docketDetail?R=EPA-HQ-OPPT-2010-0570
- **NP & NPE**
  - Docket: **EPA-HQ-OPPT-2010-0490**, Link: http://www.regulations.gov/search/Regs/home.html#docketDetail?R=EPA-HQ-OPPT-2007-0490
- **HBCD**
  - Docket: **EPA-HQ-OPPT-2010-0550**, Link: http://www.regulations.gov/search/Regs/home.html#docketDetail?R=EPA-HQ-OPPT-2010-0550

Next Steps: Contacts & Resources

- Contacts:
  - Headquarters (APs): Sara Hisel-McCoy, hisel-mccoy.sara@epa.gov, (202) 566-1649
  - Headquarters (Stewardship): Clive Davies, davies.clive@epa.gov , (202) 564-3821
  - Region 5 & Its States: Bradley Grams, grams.bradley@epa.gov , (312) 886-7747

- Essential TSCA Reform Principles
  http://www.epa.gov/oppt/existingchemicals/pubs/principles.html
- Enhanced Chemical Management Program:
  http://www.epa.gov/oppt/existingchemicals/pubs/enhanchems.html