Drinking Water Strategy: Use Other Statutes to Protect Drinking Water

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March 2010 Drinking Water Strategy
Four Goals

1. Address contaminants as groups rather than one at a time.
2. Foster development of new drinking water treatment technologies.
3. Use the authority of multiple statutes to help protect drinking water.
4. Partner with states to share more complete data from monitoring at public water systems.

Principle 3: Use Multiple Statutes to Protect Drinking Water

- **Overall Purpose:** Identify new opportunities to use FIFRA and TSCA authorities to strengthening drinking water protection.
  - Use authorities to gather/develop relevant health, occurrence, exposure and/or analytical methods data.
  - Use authorities to support new and existing chemical decisions to prevent or reduce occurrence above levels of concern in drinking water.
- **Overview of Recent Activities:**
  - OW and the Office of Chemical Safety and Pollution Prevention (OCSPP) have identified regulated and unregulated drinking water contaminants of interest to both offices:
    - Pesticides undergoing registration review or new use review.
    - Toxic industrial chemicals subject to Inventory Update Reporting (IUR), and emerging and new chemicals where water releases are expected.

DWS – Multiple Statutes: Pesticides and Toxics

- **Ongoing Activities:**
  - Identifying available data that can be used to protect drinking water
  - Evaluating occurrence data
  - Evaluating information to estimate potential pesticide and toxic chemical occurrence and co-occurrence to support evaluations of contaminant groups
    - For pesticides, evaluate use patterns and volumes by geography, crops, etc.
    - For toxics, evaluate volumes produced, uses, releases to the environment by geography (e.g., Toxic Release Inventory)
    - Fate and transport information including persistence.

DWS – Multiple Statutes: Pesticides and Toxics (cont.)

- **Ongoing Activities:**
  - Identifying possible opportunities to collect new data.
  - Identify opportunities to share drinking water occurrence data to inform pesticide registration review and new use decisions, as well as use of toxics.
  - Using pesticides health risk assessment information to jointly develop pesticide drinking water benchmarks.
  - Will explore opportunities within FIFRA that may support analytical method development for drinking water.

Setting Drinking Water Benchmarks for Pesticides

- **June 2010**
  - SFIREG requests EPA to establish benchmarks for pesticides
- **Cross-Office Team Formed**
  - Feasibility of this request
  - Modeled the approach on the on-going OW/OPP project on aquatic life benchmarks
  - Non-enforceable standards

Setting Drinking Water Benchmarks for Pesticides

- **Outreach to stakeholders**
  - Feedback on the need and utility of the benchmarks
  - Suggestions for any$_{im}$ provement in the presentation of the pesticide values

- **Broad support for this effort**
  - Federal State Toxicology and Risk Assessment Meeting
  - Association of State Drinking Water Administrators
  - State-FIFRA Issues Research & Evaluation Group
  - National Drinking Water Advisory Council

Why Establish Drinking Water Benchmarks for Pesticides

- Utilizes the available pesticide health data
- Helps states and utilities better understand the implications if these pesticides are found in drinking water
- Responds to requests from states

Sample Drinking Water Benchmarks Table

Common Name	CAS Number	Acute RfD mg/kg/day	Acute or One-day DWSV (ppb)	[a]Acute or One-day DWSV Reference Population	Chronic RfD mg/kg/day	Chronic or Lifetime DWSV (ppb)	[b]Chronic or Lifetime DWSV Reference Population	Document Number	Date
Chemical A		0.030	**300**	Children	0.005	**35**	General Population		
Chemical B		0.600	**19800**	Females 13-49 years	0.030	**210**	General Population		
Chemical C		0.600	**19800**	Females 13-49 years	0.030	**210**	General Population		
Chemical D		0.050	**500**	Children	0.036	**252**	General Population		
Chemical E		0.030	**990**	Females 13-49 years	0.0045	**31.5**	General Population		
Chemical F		0.005	**50**	Children	0.0004	**2.8**	General Population		
Chemical G		0.005	**50**	Children	0.0012	**8.4**	General Population		
Chemical H		--	**--**	--	0.027	**189**	General Population		
Chemical I		0.100	**1000**	Children	0.071	**497**	General Population		
Chemical J		0.150	**1500**	Children	0.020	**140**	General Population		
Chemical K		0.082	**2706**	Females 13-49 years	0.082	**541.2**	Females 13-49 years		
Chemical L		--	**--**	--	0.440	**3080**	General Population		
Chemical M		0.060[c]	**1980**	Females 13-49 years	0.012[c]	**84**	General Population		
Chemical N		0.050[d]	**500.1**	Children	0.016[d]	**111.9**	General Population		

[a] Formula for deriving Acute DWSV = [aRfD (mg/kg bw/day) x BW (kg) x 1000 (µg/mg)] / [Drinking Water Intake (L/day)] where BW=10 kg for children and 66 kg for females 13-49 years and Drinking Water Intake = 1L/day for children and 2L/day for females 13-49 years

[b] Formula for deriving Chronic DWSV = [cRfD (mg/kg bw/day) x BW (kg) x 1000 (µg/mg) x 0.2 RSC] / [Drinking Water Intake (L/day)] where BW=70 kg for general population and 66 kg for females 13-49 years and Drinking Water Intake = 2L/day for general population as well as for females 13-49 years and RSC = Relative Source Contribution assumed as 20%

[c] OPP's population adjusted dose includes an additional 10x FQPA factor in addition to the uncertainty factors used for the RfD

[d] OPP's population adjusted dose includes an additional 3x FQPA factor in addition to the uncertainty factors used for the RfD

Next Steps

- Briefings for OW and OCSPP management
- Posting on EPA website
  - Target release is early 2011
- Periodic updates will be made available
  - The goal is to have annual updates