

U.S. Regulatory Actions and Risk Management Activities on Perfluorinated Chemicals

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Outline

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Regulation of PFOS

- US industry undertook voluntary actions to phase out production of PFOS between 2000 to 2002
- EPA issued two Significant New Use Rules (SNURs) under the Toxic Substance Control Act (TSCA) in 2002 to restrict the return of 88 PFOS-related chemicals phased out by 3M, the sole US manufacturer
 - SNURs allow only three specific, technically essential low volume, low exposure, low release uses to continue: photographic/imaging industry, semiconductor industry, aviation industry; also allowed use as an intermediate to produce other chemical substances to be used solely for the uses listed
- Final SNUR for 183 PFAS chemicals was published in 2007
 - The SNUR continues to apply the 4 excluded uses from the previous SNURs and provides for two new exclusions for ongoing uses: seven chemicals are allowed for use as an etchant, and one chemical is allowed for metal plating and finishing uses
- In 2008, Region 5 sampled the effluent from decorative chromium electroplaters to determine whether PFOS was released to WWTP
- For more information on the PFAS SNURs visit <http://www.epa.gov/oppt/pfoa/pubs/pfas.html>
- For more information on the Region 5 Study visit <http://www.epa.gov/oppt/pfoa/pubs/activities.html#ow>

2010/15 PFOA Stewardship Program

- In January 2006, EPA invited eight major companies in the fluoropolymer and fluorotelomer industries to commit to a voluntary program with global goals
- Goals
 - Commit to achieve, no later than 2010, 95% reduction in *both* facility emissions to all media *and* product content of PFOA, PFOA precursor chemicals, and related higher homologue chemicals, measured from a year 2000 baseline
 - Commit to working toward elimination of PFOA, PFOA precursors, and related higher homologue chemicals from emissions and products by 2015
- Participating companies
 - Arkema, Asahi, Ciba, Clariant, Daikin, DuPont, 3M/Dyneon, Solvay Solexis
 - Report annual progress in terms of both U.S. and global operations

New Chemical Review of Alternatives for PFOA and Related Chemicals

- EPA is reviewing substitutes for PFOA, PFOS and other long-chain perfluorinated substances as part of its review process for new chemicals under EPA's New Chemical Program
 - EPA established the program under TSCA to help manage the potential risk from chemicals new to the marketplace
- EPA's review of alternatives of perfluorinated chemical substances has been ongoing since 2000 and is consistent with the approaches to alternatives encouraged under the Stewardship Program
 - Over 100 alternatives of various types have been received and reviewed
- EPA reviews the new substances against the range of toxicity, fate and bioaccumulation issues that have caused past concerns with perfluorinated substances, as well as any issues that may be raised by new chemistries
- In January 2010, the Polymer Exemption Rule was amended to exclude from eligibility for the exemption polymers containing certain perfluoroalkyl moieties; polymers containing these substances will need to go through the New Chemical's review process
 - Rule can be accessed at <http://edocket.access.gpo.gov/2010/pdf/2010-1477.pdf>

Possible Scenarios of Concern with PFCs

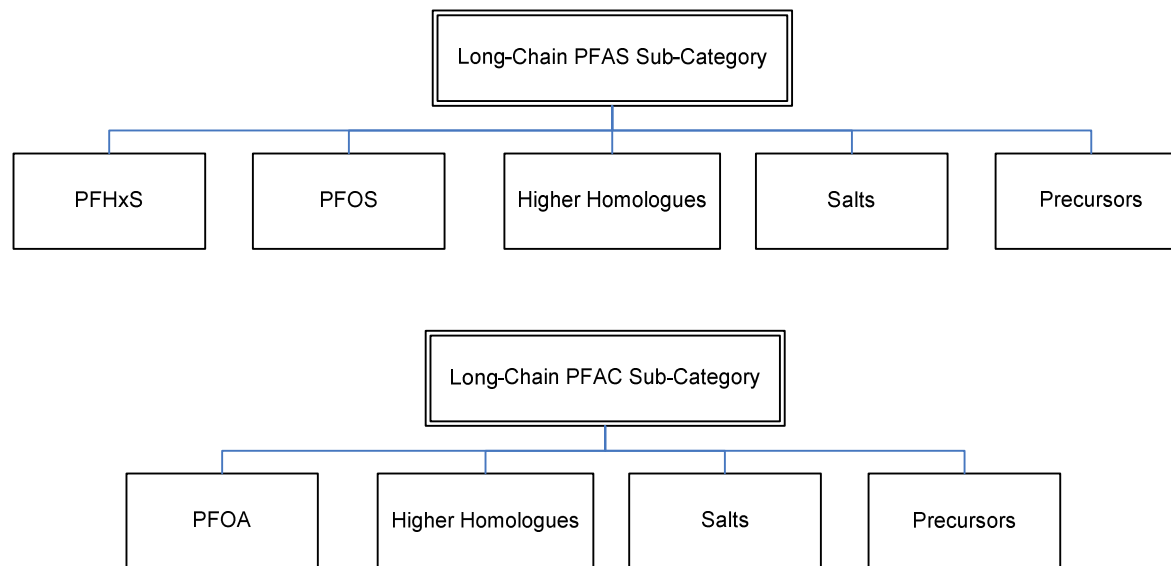
- Long-chain PFAS chemicals
 - Direct releases to the environment from U.S. facilities as a result of few existing uses
 - Direct releases to the environment from non-U.S. facilities, resulting in transboundary environmental transport to U.S.
 - Articles containing PFAS chemicals could release PFCs, significantly increasing the magnitude and duration of exposure to humans and the environment to these chemicals
- Long-chain PFAC chemicals
 - Direct releases to the environment from U.S. facilities not participating in PFOA Stewardship Program
 - Direct releases to the environment from non-U.S. facilities not participating in PFOA Stewardship Program, resulting in transboundary environmental transport to U.S.
 - Articles, including imports, releasing PFAC as a result of their residual content in fluorotelomer-based products and/or as the fluorotelomers-based polymers in articles biodegrade

Long-Chain Perfluorinated Chemicals (PFCs) Action Plan

- In December 2009, EPA published an Action Plan on long-chain perfluorinated chemicals
 - EPA intends to consider initiating rulemaking under the Toxic Substance Control Act (TSCA) section 6 to manage long-chain PFCs
 - TSCA section 6 provides authority for EPA to ban or restrict the manufacture, processing, and use of these chemicals.
 - EPA will develop a detailed assessment to support the TSCA section 6(a) “presents or will present an unreasonable risk” finding
 - For more information visit
<http://www.epa.gov/oppt/existingchemicals/pubs/actionplans/pfcs.html>

Long-Chain Perfluorinated Chemicals Addressed in the Action Plan

- Perfluoroalkyl sulfonates (PFAS) and Perfluoroalkyl carboxylates (PFAC)
 - PFAC precursors are also referred to as fluorotelomers



Contamination of Biosolids in Decatur, AL

- Decatur Utilities Wastewater Treatment Plant receives domestic and industrial wastewater
- Land application of treated sewage sludge (biosolids) from Decatur Utilities
- In 2007, EPA learned one PFC manufacturer discharged large amounts of PFOA precursors (PFCs known to break down to form PFOA) to the Decatur Utilities facility
- Decatur Utilities ceased land application November of 2008 when informed of results
- In response to the contamination of biosolids, EPA developed Provisional Health Advisories for PFOA and PFOS; to protect against potential risk from exposure to these chemicals in drinking water
 - The PHA values for PFOA are 0.4 µg/L and 0.2 µg/L for PFOS the values may be used to assess contamination and exposure
 - For more information visit the PFOA web site
<http://www.epa.gov/oppt/pfoa/pubs/activities.html#advisories>

Next Steps

- EPA intends to propose actions in 2012 under TSCA to address the potential risks from LCPFCs
 - Could expand beyond existing SNURS to address PFAS-containing articles
 - Could expand the reach of the 2010/15 PFOA Stewardship Program beyond the eight participating companies and further address exposure via PFAC-containing articles
- Detailed assessments
 - Evaluate disproportionate impacts to children
 - Evaluate whether EPA can make the TSCA section 6(a) "presents or will present an unreasonable risk" findings
 - If these more detailed assessments indicate that a different approach to risk management is appropriate, EPA will consider additional approaches
- Continue the 2010/15 PFOA Stewardship Program
- Continue to evaluate alternatives in the New Chemicals Program
- Continue to work cooperatively with other countries on this global issue
- Continue to work with federal, state, and local agencies to understand the extent of PFC contamination in Decatur, AL and potential routes of exposure, and any health effects on the residents

Information Sources

- EPA website: www.epa.gov/oppt/pfoa
- PFOS, PFOA-related electronic dockets at www.regulations.gov
 - EPA-HQ-OPPT-2003-0012 (PFOA ECA Process)
 - EPA-HQ-OPPT-2002-0043 (PFOS SNURs)
 - EPA-HQ-OPPT-2005-0015 (Follow-up PFAS SNUR)
 - EPA-HQ-OPPT-2003-0071 (FP Incineration)
 - EPA-HQ-OPPT-2004-0001 (Telomer Incineration)
 - EPA-HQ-OPPT-2004-0112 (3M MOU)
 - EPA-HQ-OPPT-2004-0113 (DuPont MOU)
 - EPA-HQ-OPPT-2002-0051 (Polymer Exemption)
 - EPA-HQ-OPPT-2006-0621 (Stewardship Program)
 - EPA-HQ-OPPT-2010-0145 (Action Plan)
- Non-regulatory AR-226 data repository of information on PFCs currently available on 20+ CD-ROM media from EPA OPPT Docket Office, oppt.ncic@epa.gov
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