

Citations and Links to Other Resources/Web Sites

Pharmaceutical and Personal Care Product Related Articles and Presentations

Daughton C.G. and T.A. Ternes, Environmental Health Perspectives Supplements, [Special Report Pharmaceuticals and Personal Care Products in the Environment: Agents of Subtle Change?](#) Volume 107, Supplement 6, December 1999.¹

Daughton C.G., Environmental Health Perspectives, [Cradle-To-Cradle Stewardship of Drugs for Minimizing Their Environmental Disposition While Promoting Human Health. – I. Rational for and Avenues toward a Green Pharmacy.](#) Volume 111, Number 5, May 2003.

Daughton C.G., Environmental Health Perspectives, [Cradle-To-Cradle Stewardship of Drugs for Minimizing Their Environmental Disposition While Promoting Human Health. II. Drug Disposal, Waste Reduction, and Future Directions.](#) Volume 111, Number 5, May 2003.

Renewable Natural Resources Foundation, Renewable Resources Journal: Environmental Impacts of Emerging Contaminants. Volume 24, Number 1, Spring 2006. “Congress on Assessing and Mitigating Environmental Impacts of Emerging Contaminants” Presented at American Geophysical Union Headquarters, Washington DC, December 1 - 2, 2005.³

Smith, Charlotte A., R.Ph, M.S., [Managing Pharmaceutical Waste – What Pharmacists Should Know](#), Journal of the Pharmacy Society of Wisconsin, Nov/Dec 2002.

United States Food and Drug Administration, [Environmental Assessment for Pharmaceuticals.](#) Presented by C. Eirkson, K. Webber, and S. Fitzpatrick at U.S. EPA, Las Vegas, Nevada, August 23 – 25, 2005.

United States Environmental Protection Agency. [Pharmaceuticals in the Environment: Overview of Sources, Concerns, and Solutions.](#) Internet seminar presented by C. Daughton on September 26, 2006.⁴

United States Environmental Protection Agency. [Pharmaceuticals and Personal Care Products as Environmental Pollutants.](#)²

United States Environmental Protection Agency. [Pharmaceuticals and Personal Care Products as Environmental Pollutants – Overarching Issues and Overview.](#)¹⁷

United States Environmental Protection Agency. [PPCPs as Environmental Pollutants– Completed Scientific Conferences Devoted to PPCPs in the Environment.](#)

United States Environmental Protection Agency. [Pharmaceuticals in the Environment - What's Happening in the EPA Regions.](#) Internet seminar presented by C. Daughton on September 26, 2006.

United States Environmental Protection Agency. [Pharmaceuticals in the Environment](#). Internet seminar presented by J. Baxter on September 26, 2006.

Risk Related Articles

Ecological

Brooks B.W. et al. Environmental Toxicology and Chemistry. Determination of Select Antidepressants in Fish from an Effluent-Dominated Stream. Volume 24, Number 2, 464-469, 2005. ¹¹

Palace, V.P. et al. Environmental Toxicology and Chemistry. Biochemical and Histopathological Effects in Pearl Dace (*Margariscus margarita*) Chronically Exposed to a Synthetic Estrogen in a Whole Lake Experiment. Volume 25, Number 4, 1114-1125, 2006. ¹²

Richards, S.M. et al. Environmental Toxicology and Chemistry. Effects of Pharmaceutical Mixtures in Aquatic Microcosms. Volume 23, 1035-1042, 2003. ¹⁵

Schultz, R.I. et al. Environmental Toxicology and Chemistry. Short-term Exposure to Ethynylestradiol Decreases the Fertility of Sexually Maturing Male Rainbow Trout (*Oncorhynchus mykiss*). Volume 22, Number 6, 1272-1280, 2003. ¹³

United States Environmental Protection Agency. [An Informatic Approach to Estimating Ecological Risks Posed by Pharmaceutical Use: Human Prescription Pharmaceuticals](#). Internet seminar presented by M. Kostich on October 10, 2006. ¹⁰

United States National Oceanic and Atmospheric Administration, National Centers for Coastal Ocean Science. [Pharmaceuticals in the Environment - Information for Assessing Risk](#).

Zillioux, E.J. et al. Environmental Toxicology and Chemistry. The Sheepshead Minnow as an in Vivo Model for Endocrine Disruption in Marine Teleosts: A Partial Life-Cycle Test with Ethynylestradiol. Volume 20, Number 9, 1968-1978, 2001. ¹⁴

Human

Schwab B.W. et al. Regulatory Toxicology and Pharmacology. Human Pharmaceuticals in U.S. Surface Water: A Human Health Risk Assessment. Volume 42, 296-312, 2005. ¹⁸

Webb S. et al. Toxicology Letters. Indirect Human Exposure to Pharmaceuticals Via Drinking Water. Volume 142, Number 3: 157-167, 2003. ¹⁹

Regulations and Related Guidance Documents

[California Department of Health Services Pharmaceuticals as Medical Waste](#)

General RCRA Hazardous Waste: [RCRA Orientation Manual](#)

OSHA Technical Manual: [Controlling Occupational Exposure to Hazardous Drugs](#)

TDC Environmental, [Household Pharmaceutical Waste: Regulatory and Management Issues](#), August 2004.

Title 40 Code of Federal Regulations: [Hazardous Waste Regulations](#)

[40 Code of Federal Regulation section 261.5](#)²⁰

White House Office of National Drug Control Policy, [Federal Government Issues New Guidelines for Proper Disposal of Prescription Drugs: What Every American Can Do To Prevent Misuse of Prescription Drugs](#), Press release, February 20, 2007

American Pharmacists Association (APhA), [APhA Provides Guidance on Proper Medication Disposal Use with Respect and Discard with Care](#), Press release, February 14, 2007

Legislative Counsel's Digest, [Senate Bill \(SB\) 966 Pharmaceutical drug disposal](#), Introduced February 23, 2007

Water Quality Related Article

Koplin D.W. et al., Environmental Science and Technology, [Pharmaceuticals, hormones, and other organic wastewater contaminants in U.S. streams, 1999-2000 – A National Reconnaissance](#). Volume 36, Number 6, 2002.⁵

Koplin D.W. et al., [Pharmaceuticals, Hormones, and Other Organic Wastewater Contaminants in U.S. Streams, 1999-2000: A National Reconnaissance](#), March 2002.⁶

Loraine G.A. and M.E. Pettigrove. Environmental Science and Technology, Seasonal Variations in Concentrations of Pharmaceuticals and Personal Care Products in Drinking Water and Reclaimed Wastewater in Southern California. Volume 40, Number 3, 2006.⁹

Santa Clara Basin Watershed Management Initiative's Emerging Contaminants Workgroup [Discussion Paper on Pharmaceutical Disposal to Sewer Systems](#)., February 2005.

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United States Geological Survey, [Water-Quality Data for Pharmaceuticals, Hormones, and Other Organic Wastewater Contaminants in U.S. Streams, 1999-2000](#), OFR-02-94, 2002

Government Web Sites

Federal

United States National Oceanic and Atmospheric Administration (NOAA), National Centers for Coastal Ocean Science. [Pharmaceuticals and Personal Care Products \(PPCPs\): Methods Development and Application](#).

[NOAA Pharmaceuticals in the Environment, Information for Assessing Risk](#)

[U.S.EPA Pharmaceuticals and Personal Care Products](#)

[U.S. EPA – Wastes – Hazardous Wastes – Universal Wastes - Pharmaceuticals](#) **NEW!**

[U.S.G.S. Emerging Contaminants in the Environment](#)

United States Food and Drug Administration (U.S. FDA), Center for Drug Evaluation and Research and Center for Biologics Evaluation and Research. [Environmental Assessment of Human Drug and Biologics Applications](#).

U.S. FDA, Center for Food Safety and Applied Nutrition. [Preparing a Claim of Categorical Exclusion or an Environmental Assessment for Submission to the Center for Food Safety and Applied Nutrition](#).

U.S. FDA, Center for Veterinary Medicine. [Environmental Impact Assessments \(EIAs\) for Veterinary Medicinal Products \(VMPs\) – Phase I](#), VICH GL6.

State

[California Department of Health Services California Medical Waste Management Program](#)

[California Integrated Waste Management Board Health Care Waste at Home](#)

[DTSC Emerging Chemicals of Concern](#)

[DTSC Pharmaceutical Waste](#)

[Minnesota Pollution Control Agency Health Care Industry web page](#)

[New Hampshire Department of Environmental Services Pollution Prevention Program
Pharmaceutical Disposal Questions](#)

Professional Organizations

[SETAC Pharmaceuticals Advisory Group](#)

[Hospitals for a Healthy Environment Pharmaceutical Wastes in Health Care Facilities](#)

Related Websites and Journals

Northeast Waste Management Officials' Association (NEWMOA), [Web Conference on
Pharmaceutical Waste Reduction and Discharge Issues](#), February 2004.

[Specialized Information Services – Quality Information on Environmental Health,
Toxicology, and HIV/AIDS](#)

[Household Products Database – National Library of Medicine](#)

[Environmental Health Perspectives – EHP Online](#)