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PPCP IN SEWAGE SLUDGE, WASTEWATER, AND THE ENVIRONMENT IN THE UNITED STATES – A NATIONAL DATABASE OF OCCURRENCE, CONCENTRATIONS AND ANALYTICAL METHODS

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ABSTRACT: PPCP in Sewage Sludge, Wastewater, and the Environment in the United States – A National Database of Occurrence, Concentrations and Analytical MethodsPharmaceuticals and personal care products (PPCPs) are diverse group of chemicals including human and veterinary drugs; dietary supplements; cosmetics (e.g., fragrances); and a variety of cleaning products (e.g., laundry detergents). Relatively recently, PPCPs have emerged as a group of contaminants of concern for the U.S. Environmental Protection Agency (EPA), other federal agencies (United States Geological Survey), and research institutes such as The Groundwater Foundation. Given the general paucity of information on long-term, low-level exposures to these contaminants (particularly in sewage sludge) and the potential for adverse health and ecological effects associated with endocrine disrupting chemicals, steroids, etc., the EPA is conducting a comprehensive review of available literature to develop a national database of PPCP concentrations and appropriate analytical techniques. A literature search strategy was developed to identify PPCPs detected in wastewater, sewage sludge, aquatic biota, and environmental media, especially groundwater, sediment, and surface water . The search was limited to articles published from 1990 to 2006 on research performed in the United States, and applied to a wide variety of searchable bibliographic databases. The abstracts were screened and reviewed, and articles containing information that was not already in EPA's PPCP inventory were obtained and reviewed. Data meeting EPA's data quality objectives were entered in the database, resulting in over 100 citations covering more than 200 chemicals identified in the literature; as appropriate, information on the actual location of the sampling were also included. The database will be used to develop a potential candidate pollutant inventory for addition to the Part 503 standards or other regulatory activities such as drinking water regulations, use and disposal of sewage sludge, and ambient aquatic life criteria, and significantly expend the EPA's PPCP scientific inventory. We will present an overview of the database results covering frequency of occurrence of specific chemical types in various media, concentration ranges, analytical methods, and geographic information on research locations (e.g., state, water body).

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