



Information Sheet 4

Dioxin: Continuing EPA Efforts to Reduce the Public's Exposure to Dioxin Risks

EPA's existing environmental programs include a broad spectrum of activities directly focused on controlling dioxin emissions and reducing dioxin exposure. EPA is developing a Cross-Media Strategy for Dioxin to guide Agency dioxin-related activities. The EPA Strategy will reflect the substantial progress made to date in reducing dioxin emissions and exposure, and will describe ongoing and planned activities aimed at further reducing dioxin exposure and filling in key information gaps. In addition, the Interagency Working Group on dioxin (IWG) will coordinate Federal agencies' activities associated with dioxin. The IWG is developing an inventory of current activities and will prepare a coordinated risk management strategy. EPA expects its strategy to be incorporated into the larger Federal effort to address dioxin risks.

For over a decade, EPA has focused on addressing dioxin risks across its programs. Efforts to prevent or reduce dioxin releases to air, water, and land and to address the contamination of products have been successful as EPA, together with state and local authorities and industry, has carried out regulatory and voluntary actions to reduce dioxin risk. Some specific program actions are described below.

SPECIFIC PROGRAM ACTIONS:

Releases to Air → The incineration of municipal and medical waste have historically been the two largest industrial categories of dioxin releases to the environment. Over the past decade, emissions from these sources have been significantly reduced as a result of federal and state attention. Additional emission reductions are taking place as a result of new, stringent regulatory requirements promulgated by EPA under authority of the Clean Air Act (CAA) and its amendments. The CAA requires EPA to set emissions limits for dioxins and other hazardous air pollutants based on "maximum achievable control technology" (MACT). EPA regulations promulgated in 1995 for municipal waste combustors and in 1997 for medical waste incinerators should result in a greater than 95% reduction in dioxin emissions from these two source categories from 1987 levels, the baseline year for measuring dioxin emissions. Under the combined authorities of the CAA and the Resource Conservation and Recovery Act (RCRA), EPA also recently regulated dioxin emissions from facilities that burn hazardous waste. These include commercial hazardous waste incinerators, some cement kilns, and some lightweight aggregate kilns. With the completion of these rules, the major categories of commercial and municipal waste combustion are under direct regulation for their dioxin emissions.

Releases to Water → Dioxin releases to water are managed through a combination of risk-based and technology-based tools established under the Clean Water Act (CWA). Using authority of the CWA, EPA published in 1984 ambient water quality criteria for 2,3,7,8-tetrachlorodibenzo-*p*-dioxin (TCDD). EPA issues ambient water quality criteria as guidance for states in establishing and adopting their own enforceable ambient water quality standards. In turn, state ambient water quality standards set a limit on the maximum pollutant concentration allowed for surface waters anywhere within that state and are implemented through discharge limitations contained in National Pollutant Discharge Elimination System (NPDES) permits.

In 1998 EPA promulgated an effluent guideline for dioxin as part of its integrated air and water rules for the pulp and paper industry, which will reduce this industry's dioxin discharges at least 95%. Effluent guidelines establish limits on facility effluent concentrations based upon application of best available control technology as defined by the CWA. The technology-based effluent guidelines are implemented under the NPDES program along with health-based, state ambient water quality standards. Under the NPDES each facility must meet the more stringent of these separate performance requirements placed upon it.

To maintain the quality of public drinking water, in 1992 EPA promulgated a maximum contaminant level goal (MCLG, a health-based goal) of zero, and a maximum contaminant level (MCL, a technology-based requirement) of 3×10^{-8} mg/l for TCDD under the Safe Drinking Water Act (SDWA).

To reduce exposure to harmful pollutants, EPA's National Fish and Wildlife Contamination Program works with states, tribes and local partners to assess health risks associated with consumption of non-commercial fish and wildlife. The program also publishes risk-based consumption limits for dioxin and other chemicals (fish meals/month) for various fish species.

Contamination of Land → Clean up of dioxin-contaminated lands is an important part of the EPA Superfund and RCRA Corrective Action programs. There are dozens of Superfund sites around the country in which dioxin is a chemical of concern. Times Beach, Missouri and Love Canal, New York are the best-known examples, both of which have now been cleaned up. To prevent future problems like these, EPA developed, under RCRA authority, Hazardous Waste Identification and Disposal Rules. These rules identify and strictly limit the disposal options for wastes formally designated as dioxin containing waste. Dioxin can also be found in low concentrations in wastes applied to the land as fertilizers or soil amendments. These materials include waste water treatment sludge from pulp and paper plants, sludge from publicly owned waste water treatment facilities and dust from activities at cement plants.

Under authority of the Toxic Substance Control Act (TSCA), EPA proposed rules to restrict the use of dioxin-contaminated pulp and paper sludge. The subsequent promulgation (1998) of the pulp and paper effluent guidelines should effectively reduce dioxin concentration in this sludge to such an extent that promulgation of the TSCA sludge rule is no longer needed. In the interim the paper industry has participated in a voluntary program to limit dioxin concentration to land-applied pulp and paper sludge. During 1999 EPA proposed regulations limiting the dioxin content of cement kiln dust from cement plants and sludge from publicly owned sewage treatment facilities when these by-product materials are used as soil additives.

Contaminated Products → Dioxin can exist as a trace contaminant in certain industrial chemical products. Authorities under the Federal Insecticide Fungicide and Rodenticide Act (FIFRA), and under TSCA can be used to control or eliminate the use of such chemicals. EPA cancelled all uses and the registration of the herbicide 2,4,5-T because of concern for dioxin. Similarly, most of the uses of the wood preservative pentachlorophenol have been eliminated, in part because of concern for dioxin. EPA has successfully negotiated voluntary agreements with industry that restrict the levels of dioxin found in the industrial chemical chloranil, widely used in the manufacture of certain pigments and tires. Additionally, the Agency, through its TSCA New Chemicals Program, in cooperation with industry, has effectively prevented the manufacture of any new chemicals that are significantly contaminated with dioxin.

EPA, the Food and Drug Administration, and the Consumer Product Safety Commission have jointly conducted a comprehensive examination of dioxin risks associated with paper and paper products. This review has included food contact papers such as coffee filters and food packaging, medical products devices such as tampons and surgical dressings, and consumer products like disposable diapers and writing paper.

The three agencies have concluded that none of these products poses a significant risk from dioxin exposure.

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