



Mercury

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FLUORESCENT LIGHTS AND MERCURY

Mercury is an essential ingredient for most energy-efficient lamps. Fluorescent lamps and high intensity discharge (HID) lamps are the two most common types of lamps that utilize mercury. Fluorescent lamps provide lighting for most schools, office buildings and stores. HID lamps, which include mercury-vapor, metal halide and high-pressure sodium lamps, are used for street lights, floodlights and industrial lighting. A typical fluorescent lamp is composed of a phosphor-coated glass tube with electrodes located at either end. The tube contains mercury, of which only a very small amount is in vapor form. When a voltage is applied, the electrodes energize the mercury vapor, causing it to emit ultraviolet (UV) energy. The phosphor coating absorbs the UV energy, causing the phosphor to fluoresce and emit visible light. Without the mercury vapor to produce UV energy, there would be no light. A four-foot fluorescent lamp has an average rated life of at least 20,000 hours. To achieve this long life, lamps must contain a specific quantity of mercury. The amount of mercury required is very small, typically measured in milligrams, and varies by lamp type, date of manufacture, manufacturing plant and manufacturer.

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orescent lamps com

Listed below are fact sheets, Web sites, brochures and articles on fluorescent lamps. The

links will appear in a new browser window.

❑ **General Information on Fluorescent Lamps**

Full Title: [Fluorescent & High-Intensity Discharge \(HID\) Lamps: Which Lamps Contain Mercury?](#)

Full Work Author: U.S. EPA

Abstract: This Web site gives an insight to what fluorescent lights and HID's can do, but also stresses that management of both is important. This Web site not only offers suggestions on fluorescent lights, but also on other devices that may contain mercury.

Full Title: [Mercury in Fluorescent Lamps](#)

Full Work Author: Massachusetts Department of Environmental Protection

Abstract: This Web site covers a very brief synopsis of mercury in fluorescent lamps. It explains why mercury is toxic, what to do with used fluorescent lamps, and links to some of the recycling services of fluorescent lamps in the New England area.

❑ **Regulations Effecting Fluorescent Lamps**

Full Title: [Hazardous Waste Determination Results for Mercury-Containing Lamps and Proper Testing Protocol-Summary of the U.S. EPA's Findings](#)

Full Work Author: Connecticut Department of Environmental Protection

Abstract: A summary of the procedural guidelines for the TCLP extraction of fluorescent lamps is presented in a short, easy-to-understand format. The guidelines were intended to supplement the TCLP by supplying specific instructions on the application of this method to fluorescent lamps.

Full Title: [Management of Spent Mercury-Containing Lamps & Other Hazardous Waste Lamps in New Jersey](#)

Full Work Author: New Jersey Department of Environmental Protection

Abstract: This Web site describes how New Jersey adopted the federal Universal Waste Rule and included batteries, thermostats and spent pesticides as universal wastes. The N.J. Department of Environmental Protection also began a feasibility study to determine if hazardous waste lamps should be included in New Jersey's Universal Waste Rule. The Web site gives insight into what is being done in other states to manage fluorescent lamps.

Full Title: [Mercury-Containing Lamps and Devices](#)

Full Work Author: Florida Department of Environmental Protection (Waste Management)

Abstract: This Web site gives a comprehensive view about mercury and how the state of Florida is managing its supply. It lists their regulations and statistics, and offers information for guidance and suggestions for spent fluorescent bulbs or mercury-containing devices.

Full Title: [Universal Waste Rule](#)

Full Work Author: U.S. EPA Office of Solid Waste

Abstract: As part of the U.S. Environmental Protection Agency's (EPA's) commitment to reinvent environmental regulations, the agency recently issued the "Universal Waste Rule." This rule is designed to reduce the amount of hazardous waste items in the municipal solid waste (MSW) stream, encourage recycling and proper disposal of certain

common hazardous wastes, and reduce the regulatory burden on businesses that generate these wastes.

Full Title: [Environmental Fact Sheet: Some Used Lamps Are Universal Wastes](#)

Full Work Author: U.S. EPA: Solid Waste and Emergency Response

Abstract: The Environmental Protection Agency (EPA) is promoting the safe recycling and disposal of certain used lamps, especially fluorescent and high intensity discharge (HID) lamps. The agency believes that this waste can be better managed under EPA's universal waste program, and is therefore adding used hazardous waste lamps to its universal waste rule.

Full Title: [Federal Register: Hazardous Waste Management System; Modification of the Hazardous Waste Program; Hazardous Waste Lamps](#)

Full Work Author: U.S. EPA: Office of Solid Waste

Abstract: This is the final rule on whether to add fluorescent lamps to the federal list of universal wastes regulated under RCRA.

Full Title: [Mercury-Containing Lamp Policy](#)

Full Work Author: Maine Department of Environmental Protection

Abstract: Maine's intent in implementing this policy is to limit the amount of mercury that escapes into the environment for the protection of public health, fish, wildlife and the environment by encouraging the collection and recycling of mercury-containing lamps which might otherwise not be handled properly. The Web site explains how fluorescent lights should be handled, storage requirements, shipping requirements, and bill of lading requirements.

Full Title: [Regulation of Fluorescent Lamps](#)

Full Work Author: New York State Department of Environmental Conservation

Abstract: This Web page covers the regulations that surround fluorescent lamps and why they are categorized as a hazardous material. The page further explains the Universal Waste Rule and the traditional RCRA approach to managing fluorescent lamps.

Information Sheets

Full Title: [Management of Mercury-Containing Lamps](#)

Full Work Author: Connecticut Department of Environmental Protection

Abstract: This information sheet is a basic question and answer page that answers most likely questions about mercury, from defining mercury-containing lamps to the regulations of mercury-containing lights.

Full Title: [Household Hazards](#)

Full Work Author: Massachusetts Department of Environmental Protection

Abstract: This fact sheet gives information on the hazards of fluorescent lamps, the safe way to handle mercury and fluorescent lamps, and offers advice on using the best management practices for fluorescent lamps.

Full Title: [Disposal of Fluorescent Lamps and Ballasts](#)

Full Work Author: BuildingGreen Inc.

Abstract: This Web page goes into detail about what to do to properly dispose of

fluorescent lamps. Two case studies are included that explains what industry is doing about mercury-containing lamps and there are descriptions of health effects and regulations.

❑ **Fluorescent Lamp Recycling**

Full Title: [The Recycling of Fluorescent Lamps and other Mercury-Containing Wastes](#)

Full Work Author: U.S. EPA

Abstract: This short paper gives an overview of how mercury effects the environment and humans, as well as offers alternatives to products that contain mercury. Its main topic is recycling, and the paper offers solutions to products that contain mercury and what a person can do to recycle various devices. The paper also mentions ways to effectively recover mercury through processes such as thermal recovery, thermal desorption processes, and hydrometallurgical solids and solutions recovery. A list of products containing mercury is also included.

Full Title: [Fact Sheet: Disposal of Spent Fluorescent Light Tubes and Mercury Vapor Lamps](#)

Full Work Author: City of Los Angeles: Department of Public Works

Abstract: This fact sheet provides information on government regulations and guidelines on the proper disposal of spent fluorescent tubes and mercury vapor lamps.

Full Title: [Fluorescent or HID Lamp Recyclers](#)

Full Work Author: New York State Department of Environmental Conservation

Abstract: This page lists lamp recyclers located all over the United States.

Full Title: Directory of Markets for Recyclable Materials (search under misc. materials)

- [Fluorescent Lights - Fluorescent Tubes](#)
- [Fluorescent Lights - Ballasts](#)

Full Work Author: N.C. Division of Pollution Prevention and Environmental Assistance

Abstract: These two pages list fluorescent lamp recyclers for fluorescent tubes and ballasts.

Full Title: [Recycling Solutions](#)

Full Work Author: Advanced Environmental Recycling Company (AERC)/Mercury Technology International (MTI)

Abstract: AERC and MTI are two mercury recycling companies dedicated to recovering mercury from fluorescent lamps, mercury devices, batteries, etc. They utilize state-of-the-art technology to recover and recycle mercury-containing lamps and devices.

Full Title: [Lamprecycle.Org](#)

Full Work Author: National Electrical Manufacturers Association (NEMA)

Abstract: Lamprecycle.org was developed by the Lamp Section of the National Electrical Manufacturers Association to provide a one-stop source of information about spent fluorescent and high intensity discharge lamp recycling. It contains information about federal and state regulatory spent lamp management requirements and state information contacts. It also lists companies that are in the business of handling and recycling spent lamps. The site also contains a copy of the NEMA Lamp Section brochure, "Fluorescent Lamps and the Environment."

☒ **Lamp Alternatives/Low-Mercury Lamps**

Full Title: Brite-Lite Fluorescents

- [Alto Fluorescent Lamps](#)
- [Fluorescent and Compact Lamps](#)

Full Work Author: Brite-Lite Wholesale Lighting Distributors

Abstract: These two pages offer products that contain low mercury and allow consumers to compare the amount of mercury their lamps contain, compared to other leading distributors. The site also contains a way of quoting energy costs with an energy cost calculator.

Full Title: [Compact Fluorescent Light Bulbs](#)

Full Work Author: U.S. EPA

Abstract: ENERGY STAR® labeled compact fluorescent light bulbs can help save money on utility bills through superior designs that require less money and less energy to keep your home cool and bright. This Web page describes the benefits of CFLs and how they compare to regular incandescent lights. CFLs are smaller versions of fluorescent lamps that are low-mercury and energy efficient.

Full Title: [Alto Fluorescent Lamps](#)

Full Work Author: Phillips Electronics

Abstract: This page gives information on a new type of energy-efficient fluorescent light bulb with decreased amounts of mercury.

[Please provide your opinion of this site](#)

[Mercury Home Page](#). This page was last modified on 10/31/2002.

Site hosted by the [N.C. Division of Pollution Prevention and Environmental Assistance](#).

Pollution prevention or mercury question or comment? Send e-mail to: [Julie Woosley](#)

Site question or comment? Send e-mail to: Webmaster@p2pays.org