

Information for . . .

Environmental Groups

Overview

Environmental organizations can play a crucial role in promoting the recycling of lamps that contain mercury. Using their traditional strengths in education and outreach, they can be very helpful in communicating the dangers and health impacts of mercury pollution and the need to participate in lamp recycling programs. While our society strives to reduce energy consumption, most energy-saving lighting contains mercury. Although not a significant source to overall emissions of mercury to the environment, lighting products contribute to mercury deposition and should be disposed properly.

We encourage environmental groups to include mercury and lamp recycling in their participation in the ongoing development of public policy initiatives at the national and state level. Their input into these issues is extremely important.

In addition, while directing consumers to web-based resources such as www.lamprecycle.org, www.earth911.org, and www.almr.org, environmental groups can provide information through their own web sites and develop other on-line initiatives. Their efforts can be especially helpful in providing guidance to the household sector. While businesses account for about 85% of the use of fluorescent lighting, households and individuals customers need to be educated as well, and informed about what they can do with their spent light bulbs.

Water issues

The Clean Water Act and The Safe Drinking Water Act set levels for mercury and empower agencies to set more stringent levels when waters are impaired from mercury. Levels are established as TMDLs, MCLs, NPDES permit caps, etc. So far, all national and state lamp regulations and disposal policies have been rooted in Resource Conservation and Recovery act (RCRA) and the Universal Waste Rule (UWR). There are no specific regulations that address mercury-lamps in the context of water quality.¹

¹ Aquatic Water Quality Standards- no single national standard. EPA has published “guidance values” or “criteria levels” for fresh and salt water. Per 40 CFR 131.36 the freshwater levels are 0.0021 mg/l for “criteria maximum” and 0.000012 mg/l for “criteria continuous.” It is not clear whether any discharge is regulated at these levels, or whether they apply only to point source discharges subject to NPDES or other permit requirements. Additionally, EPA publishes a list of National Recommended Water Quality Criteria for Priority Toxic Pollutants which includes mercury at 0.0014 mg/l “maximum” and 0.00077 mg/l “continuous”. Again, it is not clear how these criteria apply to any given source. EPA uses 0.00005 mg/l

Currently, several hundred million mercury lamps per year are put into some type of solid waste container and managed as municipal solid waste. A “container” can mean a small garbage can typically found in janitor closets, dumpsters, roll-off and other truck-loaded containers typically found outside commercial buildings, compactors, hauling trucks, and more.

At some point virtually all of these lamps break. Most of the breakage occurs in the container, as opposed to at the landfill, due to the fragile glass and compacting that occurs in containers. When these containers are also exposed to moisture from rain or other sources and they leak, or when they are washed out, mercury enters the environment. One experiment done in an effort to quantify this mercury/water pathway suggests that any mercury-containing lamp, including lamps sold as “low mercury” or TCLP-passing, when broken in solid waste containers with enough water is present to escape the container, will leach detectable and possibly unacceptable amounts of mercury into the environment.

for human consumption levels. US EPA Reference concentration for mercury is 0.0003mg/m³, based on central nervous system effects after inhalation.