

Hamamatsu Corporation Mercury Education Plan

Economic and Environmental Benefits of Mercury Lamps

Despite the presence of small amounts of mercury, mercury lamps provide significant environmental benefits:

- Mercury lamps are efficient - they reduce greenhouse gas emissions from electrical generating stations powered by fossil fuels
- Mercury lamps last longer than non-mercury lamps - fewer lamps and less packaging end up in the waste stream
- the amount of mercury in a mercury lamp is very small, nevertheless, mercury lamps should always be handled with care and disposed of properly
- by decreasing the demand for electricity from fossil-fuel generation plants – one of the largest sources of mercury emissions into the atmosphere – the use of mercury lamps can help reduce mercury levels in the environment

How Mercury can harm humans

Elemental (metallic) mercury and all its compounds are toxic. Ingestion of excessive levels can permanently damage or fatally injure the brain and kidneys. Mercury can also be absorbed through the skin and cause allergic reactions. Ingestion of inorganic mercury compounds can cause severe renal and gastrointestinal damage. Organic compounds of mercury, such as methyl mercury, are considered highly toxic. Exposures to very small amounts of these compounds can result in neurological damage and death.

How Mercury Can Harm the Environment

Mercury may be released into the atmosphere when fossil fuels are burned or when mercury-containing wastes are incinerated. The resulting mercury concentrations are usually minimal, however, mercury can fall with rain and snow, landing on soil or in bodies of water, causing contamination. Lakes and rivers can also be contaminated with mercury when a direct discharge of mercury-laden industrial or municipal waste enters the eco-system.

Mercury, in bodies of water, is transformed through a biological process, into methylmercury - a highly toxic and bioaccumulative form. Fish can absorb methylmercury from their food, as well as, directly from water. Most people are exposed to mercury by eating fish containing mercury. There is no known method of cooking or cleaning fish or meat that will reduce the amount of mercury ingested.

Proper disposal and recycling methods for mercury containing products

Always consult your State's regulations for specific requirements to manage hazardous waste lamps and note the specific requirements that pertain to the Universal Waste Rule. **NEVER discard mercury containing products in the trash.** Bring your used products to an approved drop-off point or certified hazardous waste handler.

1. For information on mercury lamp recycling, visit: <http://www.lamprecycle.org/>
2. Mercury-containing products will be accepted on a limited basis by local Health Departments or at a **Universal Waste Shed**. Contact the Solid Waste and Recycling authority in your area for complete details.
3. Select a commercial recycling contractor that best serves your needs while at the same time gives you the assurance that your waste lamps are properly managed to minimize your liabilities. Recyclers are obligated to reduce or eliminate pollution risks for their clients. In order to remove the mercury from the waste, recyclers must comply with federal and state regulations. Important factors for evaluating and pre-approving a recycler include:
 - whether they meet insurance requirements for general and pollution liability;
 - the financial health of the company;

- what indemnities or other assurances they offer clients;
- their environmental record and compliance history;
- the existence of government permits and approvals for facility operation or transportation;
- operations and safety procedures and records;
- vapor control technology and monitoring records;
- hygiene and medical surveillance information;
- the status of a facility closure plan;
- facility audit reports; and
- the availability of key regulatory contacts.

Hamamatsu Corporation Mercury Education Plan Availability

Hamamatsu Corporation Mercury Education Plan is available by visiting our website www.hamamatsu.com or calling (toll-free) **866-636-4579**. In addition, the Education Plan is included with product shipment documentation and product labeling. Hamamatsu mercury product and packaging labels are approved by the Vermont Department of Environmental Conservation.

Circle Hg Symbol

The "Circle Hg" symbol on product or package labeling denotes the presence of Mercury in this product.



Note: Statements contained in the Hamamatsu Corporation Mercury Education Plan are based on information published by the U.S. Environmental Protection Agency.