

Environmentally Safe Packaging & Transportation Solutions for Mercury Containing Products



VaporLokTM
PRODUCTS, LLC



Why Be Concerned?

Improperly Packaged Mercury Waste Poses Health and Regulatory Risks.

Mercury has many unique characteristics—it is the only metal that is liquid at room temperature, its density is fourteen times greater than water, and it starts to vaporize at 70° F. All of these facts must be taken into account when one prepares to ship any product or waste that contains mercury, as well as elemental mercury.

VaporLok™ Products, LLC is a company dedicated to developing safe and innovative solutions for shipping commonly generated mercury containing products and wastes.



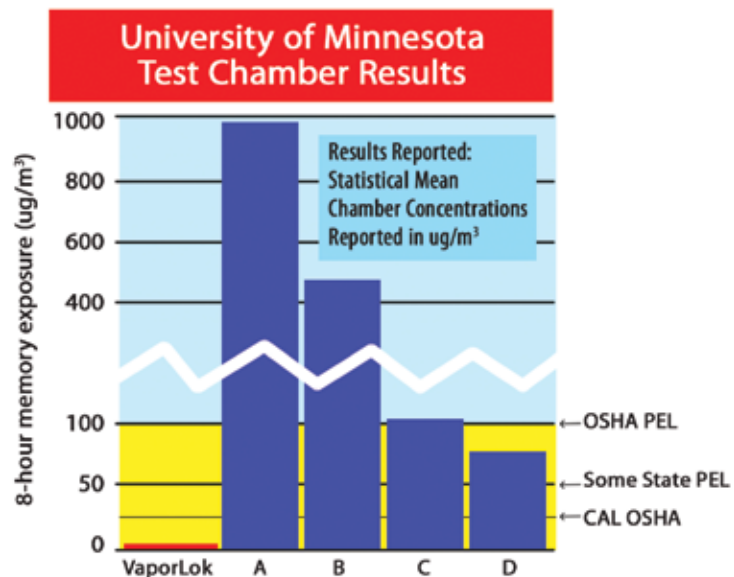
Focusing on Fluorescent Lamps.

Our initial packaging solutions focused on the safe transport of fluorescent lamps. While Fluorescent lamps are four to six times more efficient than their incandescent counterparts, they are made of glass and contain a small amount of mercury. In fact one broken 48-inch fluorescent lamp in a small room or vehicle can release enough mercury vapors to exceed the Federal Occupational Health and Safety Administration (OSHA) permissible exposure levels (PEL). Packaging which incorporates the Mercury VaporLok® technology has been independently shown to reduce mercury vapor emissions to below all Federal and State OSHA PEL standards.

Study Shows not all Packages are Safe.

A recent study conducted by the University of Minnesota's School of Public Health validated concerns over exposures related to improper packaging of mercury containing fluorescent lamps. This study was published in March 2009 in the Journal of the Air & Waste Management Association and found that most containers used for storage and transportation of used fluorescent lamps do not adequately protect against mercury vapors emitted from broken lamps. The study tested five box designs and the only design capable of passing ALL current Federal AND State regulations and guidelines used our patented packaging system that incorporates our Mercury VaporLok® foil bag.

The following chart shows how the Mercury VaporLok® container performed compared to other container designs when tested against OSHA and other more stringent State personnel exposure standards. As you can see, the Mercury VaporLok® zip-sealed foil bag is the only solution for effectively protecting against the release of potentially harmful mercury vapor.



VaporLok™ Technology in Action.

The Mercury VaporLok® foil bag technology has been proven to reduce mercury vapor emissions resulting from incidental breakage of mercury containing products that may occur during transport.

Current applications include:

Waste Management™ Recycling Program.

Waste Management™ includes the Mercury VaporLok® foil bag technology as an integral component of its industrial and consumer fluorescent lamp recycling programs. The WM LampTracker® program is an easy-to-use kit ordered online. You simply set up the box, line it with the Mercury VaporLok® bag, fill it with bulbs, seal and ship using the pre-paid shipping label. The Mercury VaporLok® foil bag dramatically reduces the risk of environmental contamination from lamps broken during storage and shipping.

Mercury VaporLok® Device Packaging and Recycling Services

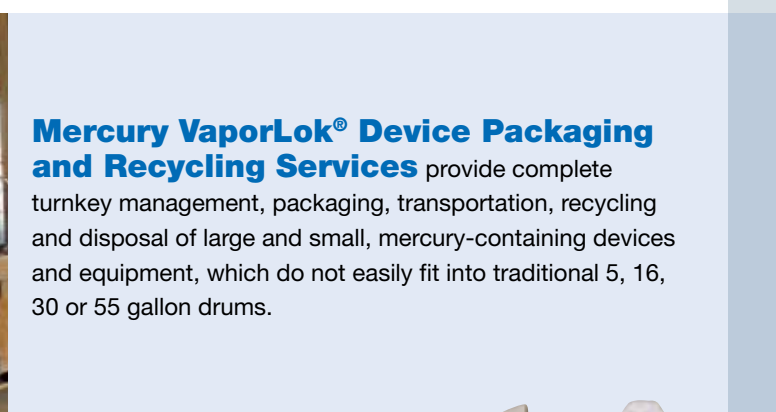
provide complete turnkey management, packaging, transportation, recycling and disposal of large and small, mercury-containing devices and equipment, which do not easily fit into traditional 5, 16, 30 or 55 gallon drums.

Consumer Take-Back Programs for Fluorescent Light Bulbs

VaporLok™ Products has developed a take-back recycling container and shipping program containing our Mercury VaporLok® foil bag system. Both municipalities and retailers can benefit by offering consumer take-back programs. Municipalities can be environmentally conscious and responsive to their constituencies. The Mercury VaporLok® foil bag can be easily and cost-effectively added to the municipality's existing curbside recycling and collection programs. Retailers can generate good public relations, drive increased retail traffic and revenue, and add an excellent profit center. The consumer simply buys VaporLok™ bags from the retailer and returns to the store when filled, thereby protecting both consumers and store employees from potential mercury vapor exposure. VaporLok™ Products can design customized programs to meet your unique requirements.

The Future of Mercury Vapor Containment.

Compact Fluorescent Light (CFL) bulbs have proven to be a reliable and cost effective replacement for conventional incandescent lighting, which is scheduled to be outlawed by 2012. The fact that CFL's contain mercury presents a unique and challenging problem for communities dealing with proper recycling of the spent bulbs. To date over a billion CFL's, which have an estimated life of 5-7 years, have been sold that will require proper handling after use. VaporLok™ Products has several offerings under development aimed at providing a consumer safe package that can be integrated into retail or utility take back programs, kiosk collection, household hazardous waste programs or curbside collection programs.





Bulk Collection Consolidation and Remedial Project Solutions.

Mercury VaporLok® foil bag technology is incorporated into the design of a cubic yard bag that can be used as a liner for a cubic yard shipping container that saves money and storage space. One container can hold up to four 55-gallon drum equivalents which optimizes shipping costs. The cubic yard bag barrier structure incorporates nylon for increased strength and tear resistance and easily folds back over the sides of the cubic yard box for ease of loading and unloading. Further, its industrial strength zipper allows for the sealing and resealing of the bag, thereby minimizing exposure to mercury vapors.

About Us.

The Mercury VaporLok® technology was initially developed in response to promulgation of the Universal Waste Regulations by the USEPA in 1995 and the subsequent inclusion of mercury filled thermometers (1995), fluorescent lamps (1999) and mercury devices (2005) in those rules. All of these products contain mercury. The intent of the new regulations was to facilitate environmentally-sound collection of these wastes with minimal paperwork, so as to encourage recycling.



Elemental Mercury Storage, Transportation and Export.

Elemental mercury is a strong corrosive and highly reactive with many organic compounds. Due to its properties and the weight of elemental mercury, the Department of Transportation establishes strict controls over container specifications. VaporLok Products LLC produces metric ton containers and 76 lb flasks that meet and exceed the DOT specifications. In fact, the Department of Energy has studied various flask designs and has determined that the VaporLok™ design and construction is superior to all other containers.



Recent legislation has addressed environmental concerns associated with the export of mercury. The Mercury Export Ban Act of 2008 is a law that will prohibit the sale, distribution, transfer and export of



elemental mercury from the U.S. by 2013. VaporLok Products has a full line of packaging, transportation and storage solutions that can assist you in complying with the Mercury Export Ban requirements.

VaporLok™
PRODUCTS, LLC

VaporLok™ Products, LLC mission is to provide environmentally safe packaging solutions for a variety of inorganic chemicals and materials. VaporLok™ Products is dedicated to designing and providing packaging solutions where health and safety is the paramount concern in packing, shipping and transporting of our customers' products. Our solutions can be designed for applications where the handlers and transporters need protection from accidental exposures or contamination from products inside the package as well as where the product itself needs protection from potential outside contamination or other constituents such as oxygen and moisture.

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