

## Disposing of mercury lamps.

**Bob MacCargar**

*Every thing* you wanted to know about mercury containing lamp recycling is at your figure tips. A simple search at Ask Jeeves.com will give you more information then one can assimilate in an afternoon. I have recommended this search many times over the years on many groups when someone has suggested that MV bulbs are more dangerous then fluorescent tubes. *I wish reptile web sites would reflect accurate information on mercury bearing lamps instead of the rubbish I read.*

The tubes carry many times the amount of mercury (about 1-15 milligrams depending on the lamp) then the metal halide or mercury vapor bulbs (about .04 milligrams per arc tube). Just the name "mercury vapor" is misleading because there is no "vapor" in the arc tubes unless the arc is burning. Otherwise, it's a liquid. The same is so in the fluorescent tubes. Fluorescent tubes are more hazardous then the bulbs when they break because the liquid mercury in the tube sticks to the phosphorus powder and floats through the air and is inhaled and deposited every where.

The mercury in the MV bulbs is incased in the Quartz arc tube. These are extremely hard and the only way I have been able to break one is to hit it with a hammer. There is no powder in the quartz arc tube to help disperse the mercury so it is simply at the spot where in was broken.

As far as recycling either the fluorescent tube or MV bulbs, this would be regulated by county or state rules. A very long and somewhat scary EPA notice at <http://www.epa.gov/epaoswer/hazwaste/id/merc-emi/merc-pgs/fedreg.pdf>

Most all states and counties allow for normal consumer disposal of a certain amount of fluorescent tubes and or mercury containing bulbs at a time in the normal waste pick-up. California is rather strict about the number of mercury based lamps one can dump at a time. I believe its 5 a day on any mixture of tubes or bulbs.

Make no mistake about it. Mercury is toxic and should be considered so. But the amount of mercury going to land fills because of reptile lamps (tube or bulbs) is rather insignificant compared to consumer and industrial use of fluorescent and MV bulbs not to mention a normal household thermostat (about 1 gram of mercury, 1 gram to a 1,000 milligrams). The bulbs that go to incinerators is more of a concern then even land fills because the incinerators actually do create "mercury vapor" that is then dispersed over very large areas.

There are generally many mercury recycling plants in a given area and a search on the addresses would be simple. They do not charge for consumer disposal. If someone wanted to be very environmentally friendly, they could package up the failed or worn out lamps and send them to a recycler for just the shipping cost.

Below is a simple excerpt from [www.lamprecycle.org](http://www.lamprecycle.org)  
<<http://www.lamprecycle.org/>> . Please share this information with  
those that might be interested in the subject.

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**Health Effects:** No adverse effects are expected from occasional exposure to broken lamps.

**Mercury:** EPA's website contains the following information:

"Breaking one fever thermometer is unlikely to threaten the health of the consumer. Proper cleanup of spilled mercury and adequate ventilation can minimize the risks even further."

<http://www.epa.gov/glnpo/bnsdocs/hg/thermfaq.html>

Since the average four-foot fluorescent lamp manufactured in 2001 contains 8 milligrams, or about 100 times less mercury than is contained

in a typical 700-milligram fever thermometer, and a typical compact fluorescent lamp may contain even less mercury, lamp breakage would appear to cause virtually no risk of harm. However, the legal requirements for disposal may be quite different.

**Phosphor:** A five-year study of phosphor by the Industrial Hygiene Foundation of the Mellon Institute found no significant adverse effects, either by ingestion, inhalation, skin contact, or eye implant. Also, there have been no significant adverse effects on humans by any of these routes during the many years of its manufacture or use. The phosphor is somewhat similar to the inert calcium phosphate-fluorides that occur in nature. Phosphor is not phosphorous. Heavy metals were removed from phosphor fifteen years ago or more. At the end of lamp life mercury is attached to these phosphors.

**Universal Waste Rule Requirements:** Under the EPA universal waste rule, a lamp that does not pass the TCLP test and is broken must be cleaned up and placed in a container. The container must be closed, structurally sound, compatible with lamps, and lacking any evidence of spillage. This advice is applicable to any mercury-containing lamp. In some States, Universal Waste status is lost when lamps are broken and must be handled as a full hazardous waste. It is important to check with your local, state, or federal office for the latest update in regulatory status or go to [www.lamprecycle.org](http://www.lamprecycle.org) <<http://www.lamprecycle.org/>> .

**Recommended Broken Lamp Handling Practices:** If lamps are broken, ventilate area where breakage occurred. Take usual precautions for collection of broken glass. Do not use a standard vacuum cleaner. Place materials in closed container to avoid generating dust.

Best regards,

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