

# Hazardous Waste Management

## Fluorescent and High-Intensity Discharge Lamps

*Information presented in this fact sheet is intended to provide a general understanding of the regulatory requirements governing the management of used fluorescent and high-intensity discharge lamps. This information is not intended to replace, limit, or expand upon the complete regulatory requirements found in Division 14 of the Alabama Department of Environmental Management Administrative Code.*

Businesses in Alabama often use fluorescent lighting because it is energy efficient and saves money on electricity bills. The use of fluorescent lighting instead of incandescent lighting results in decreases in power plant emissions of a variety of air pollutants such as mercury, lead, nitrogen oxide, and sulfur dioxide. However, used fluorescent and high-intensity discharge (HID) lamps have been identified as an environmental concern. Many states have banned mercury-containing lamps from solid waste disposal. Fluorescent and HID lamps contain small amounts of mercury, lead, and sometimes cadmium. Several million fluorescent and HID lamps are discarded in Alabama each year.

### WHY IS MERCURY AN ENVIRONMENTAL CONCERN?

Mercury is a metallic element that can accumulate in living tissue. In sufficient concentrations, mercury may cause adverse health effects. Sources of mercury in the environment from human activity include coal-burning power plants, batteries, and fluorescent and HID lamps. The Alabama Department of Public Health has issued warnings in recent years concerning mercury concentrations in fish collected from limited segments of many Alabama rivers. Small amounts of mercury are a necessary component in fluorescent and HID lamps, but when a lamp is broken, crushed, or disposed in a landfill or incinerator, mercury may be released to the air, surface water, or groundwater. Considering this, it is a good policy to keep the mercury in fluorescent and HID lamps out of the solid waste stream by recycling when possible.

### WHY IS THE MANAGEMENT OF THESE LAMPS A CONCERN?

A test known as the Toxicity Characteristic Leaching Procedure (TCLP) is used to determine if a waste is a hazardous waste. This test is used because it is more sensitive to hazardous constituents than the one previously used. In many cases, fluorescent and HID lamps that are tested using the TCLP are determined to be a hazardous waste.

### ARE FLUORESCENT AND HID LIGHTING STILL GOOD ENVIRONMENTAL AND ECONOMIC CHOICES?

The decision to use energy-efficient lighting is a great step toward protecting the environment and it saves money. Businesses replacing lamps on a regular basis should continue that practice and those considering a switch to energy-efficient lighting should not hesitate to make such a change.

### HOW SHOULD HAZARDOUS LAMPS BE HANDLED, TRANSPORTED, AND DISPOSED?

Business, industry, and other institutions that generate no more than 100 kilograms (~220 pounds) of lamps (roughly 350 4-foot lamps) in a calendar month, and do not otherwise generate hazardous waste, are called very small quantity generators and are exempt from full regulation as a hazardous waste generator provided they comply with some basic requirements [ADEM Admin. Code rule 335-14-3-.01(4)]. Be aware that most solid waste disposal facilities in Alabama will not accept hazardous lamps for disposal (except from household sources).

Business, industry, and other institutions generating more than 100 kilograms (~220 pounds) of hazardous waste in a calendar month have two options for managing their hazardous lamps:

- 1) Manage them as hazardous waste according to the applicable regulations found in ADEM Admin. Code chapter 335-14-3; or
- 2) Manage them as universal waste according to the applicable regulations found in ADEM Admin. Code chapter 335-14-11.

Refer to ADEM's *Small Quantity Generator Hazardous Waste Handbook* for further information regarding the management of hazardous waste and universal waste generated by small quantity generators and very small quantity generators.

### HOW SHOULD I STORE LAMPS WHILE AWAITING SHIPMENT OFF-SITE?

