

## Industrial Solid Waste Fact Sheet

# Foundry Related Wastes-Category 7

## Definition

Foundries are manufacturing facilities that fabricate metal castings using molten metals that are poured into pre-formed molds, most often consisting of sand. Foundry sand can often be reclaimed and reused in the casting process, however, heat and abrasion will eventually render the sand unsuitable for further use. Other industrial solid wastes that closely resemble the characteristics of foundry wastes, such as fire extinguisher powders, may be accepted in this category.

## Disposal

Approved foundry wastes that cannot be recycled or reused will be directed to the Kalmar Landfill Municipal Solid Waste (MSW) disposal area.

## Generator Requirements

All foundry wastes must undergo evaluation for metals using a Toxicity Characteristics Leaching Procedure (TCLP). Core and molding sands that incorporate binding agents must undergo TCLP analysis for any potential volatile/semi-volatile compounds. Material Safety Data Sheets (MSDS) must be provided.

## Typical Delivery types

- sand cores and molds
- powders and dry vermiculite
- loose foundry sands

## Background

Foundries are manufacturing facilities that fabricate metal castings using molten metals that are poured into pre-formed molds, most often consisting of sand. Once the metal has solidified the cast is separated from the sand in a shake-out process revealing the cast product. Sand cast molds used for casting ferrous metals are most often of the green sand type, consisting of high-quality silica sand, bentonite clay, sea coal, and a minute amount of water. Other chemically-bonded sand cast systems (utilized primarily for non-ferrous castings and constructing cores) involve the use of organic binding agents and chemical catalysts. More often than not, these organic constituents are non-hazardous in nature. Although foundry sand can often be reclaimed and reused in the casting process, heat and mechanical abrasion will eventually render the sand unsuitable for further use in the casting process. The preferred manner by which to manage foundry wastes is to find an alternative beneficial use for the waste material, such as aggregate and raw material replacement in the manufacture of hot asphalt mix and Portland cement, respectively; as construction site base material; and as road

base material. Other industrial solid wastes that closely resemble the characteristics of foundry wastes, such as fire-extinguisher powders, may be

Accepted.

### **Disposal**

Approved foundry wastes that cannot be recycled or reused will be directed to the Kalmar Landfill MSW disposal area.

### **Testing Requirements**

Due to the fact that foundry wastes may have high metals concentrations, all foundry wastes must undergo evaluation for metals using a Toxicity Characteristics Leaching Procedure (TCLP). Core and molding sands that incorporate binding agents must undergo TCLP analysis for any potential volatile/semi-volatile compounds. Under certain circumstances, additional analytical tests may be required to ensure 1) the waste material is not a regulated hazardous waste and 2) the waste material is acceptable for disposal at an Olmsted County solid waste management facility. If available, Material Safety Data Sheets (MSDS) must be provided.

### **Documentation**

A current, approved Industrial Solid Waste Evaluation Form must be on file with the Olmsted County Environmental Resources Department. The waste hauler must present a current, approved Non-Hazardous Industrial Solid Waste Tracking Form at the time of delivery.

### **Special Generator Requirements**

Waste transporters must minimize the potential for generation of fugitive dust and airborne particulates during unloading.