**Rule Caption:** Air Quality 2016 Temporary Rules for Colored Art Glass Manufacturing

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**Rules Amended:** 340-244-0010

**Subject:** Studies have found elevated and possibly unsafe levels of metals in the air around two glass manufacturing facilities in Portland. In May 2015, DEQ received the initial results of a study the U.S. Forest Service conducted looking at moss samples as an indicator or screening tool for contaminants in the air. This study used a new approach with no standard operating procedures. The study’s results showed that the moss samples in areas near two colored art glass manufacturers contained high levels of the heavy metals cadmium and arsenic in Southeast Portland and cadmium in North Portland .

This pilot study prompted DEQ to set up air monitoring systems near a glass company in Southeast Portland. The study collected 24- hour air samples every few days over a 30-day period in October 2015. The results of DEQ’s air monitoring confirmed that the glass company was the likely source of metals air emissions. DEQ completed its quality assurance and quality control review of those samples in late January 2016. DEQ then shared its analysis of the findings with the Oregon Health Authority and the Multnomah County Health Department.

DEQ also identified a second area of concern near a glass company in North Portland. The glass companies were operating in compliance with the current law. One company was operating within its permit and the other company is not required to have a permit. The U.S. Congress amended the Clean Air Act In 1990 to allow EPA to oversee the control of 188 hazardous air pollutants (HAPs) to protect human health. The EPA works with local and state governments to implement technologies that control the emission of these chemicals. For glass manufacturing the industry standards focus on emissions for large facilities, such as those that make beer bottles.

DEQ established air toxics benchmarks in 2006 that set guidelines for 52 pollutants. Benchmarks are Oregon’s protective “clean air” goals that DEQ developed to address toxic air pollutants. There are no direct regulatory requirements associated with benchmarks. In 2005, with EPA funding, DEQ measured concentrations of air toxics, including metals, at six locations in the Portland area. DEQ found levels of many pollutants above clean air benchmarks.

DEQ’s work in 2006 and since then has identified levels of some toxic air pollutants that are still above Oregon’s air toxics benchmarks. This is a significant problem because toxic air pollutants are connected with serious health effects like cancer, respiratory problems and organ damage. DEQ’s air toxics benchmarks are very protective air concentrations that people could breathe for a lifetime without increasing their cancer risk beyond a chance of one in a million.

Air toxics emissions from certain types of industrial businesses like small art glass manufacturers are not regulated under federal requirements. Based on sampling DEQ undertook last October, and in recent weeks, DEQ has concluded that uncontrolled furnaces used in such small art glass manufacturing are more likely than not to emit potentially unsafe levels of certain metals, including arsenic, cadmium, hexavalent chromium and nickel. The temporary rules that DEQ proposes for EQC adoption are intended to immediately protect the public health and the environment by ensuring the air emissions from small art glass facilities do not cause unsafe levels of metals in the air nearby.

The proposed rules would fill the regulatory gap by setting operation standards for art glass businesses that emit air toxics and potentially cause serious health effects. The proposed rules create two tiers of colored art glass manufacturers based on production and furnace type. By prohibiting use of chromium VI, cadmium and arsenic prior to installation of emission control devices at larger colored art glass facilities, the temporary rules would immediately decrease risk from airborne metal exposure to people nearby, including children and other sensitive or vulnerable individuals. By prohibiting use of chromium III until DEQ establishes a maximum allowable usage rate, the temporary rules will ensure that facilities are not emitting potentially dangerous amounts of chromium VI.