How Can You Help Keep the Environment Clean?

Having a clean environment is important to everyone. It impacts both our health and our economy.

Making sure that only rain goes to storm drains is something that everyone can do to make a difference in the quality of our environment.

Best management practices, or BMPs, are procedures that help to prevent pollutants like oil, gasoline, and antifreeze from entering our storm drains. Each of us can do our part to keep storm water clean by using the BMPs in this brochure.

What Else Can You Do?

Questions about what you can do to solve this or other storm water issues in our community? Call us at 480-350-4311.

To report illicit discharges to storm drains, call (480) 350-2811 anytime, or go on line at: http://www.tempe.gov/stormwater

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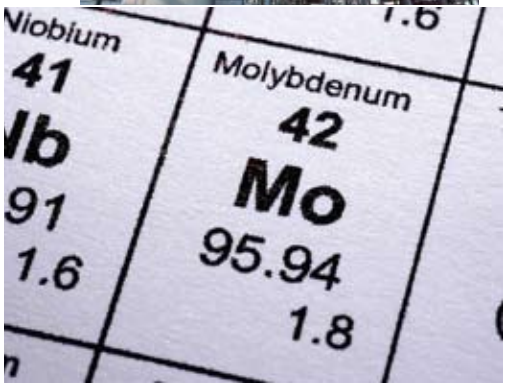

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Cooling Towers and Molybdenum

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On February 19, 1993, United States Environmental Protection Agency published the 40 CFR (Title 40, Code of Federal Regulations) Part 503 Biosolids Rule governing the use and disposal of municipal sewage sludge pursuant to Sections 405(d) and (e) of the Clean Water Act. Part 503 sets forth a set of standards to reduce risks and increase the quality for use and disposal of biosolids. The rules contain numeric limits for chemical pollutants and pathogens applicable to land application of biosolids. The regulation was developed to protect public health and the environment from any reasonably anticipated adverse effects of exposure to certain pollutants that might be present in sewage biosolids.

The City of Tempe, as a member of Sub Regional Operating Group (SROG) and partner with the Cities of Glendale, Mesa, Phoenix, and Scottsdale, is a co-owner of the 91st Avenue Wastewater Treatment Plant (WWTP).

A local limits evaluation completed in May of 2004 determined that molybdenum, classified by the United States Environmental Protection Agency as a pollutant of concern, poses a problem to WWTPs as levels of molybdenum in the influent and biosolids approach permitted levels. The ceiling limit is 75 mg/kg (40 CFR 503.13).

The results of the survey conducted indicate that cooling towers are a potential major source of molybdenum discharges to the WWTPs. These results indicate the importance of practicing good housekeeping and maintaining pretreatment devices as being critical to the prevention of leaks and spills, minimization of waste, and further controlling molybdenum discharges to the sewer.

Recycling, conservation, and product substitution may be useful methods for reducing the quantity of molybdenum found in wastewater. Alternatives for molybdenum reduction include: fluorescent dye monitoring systems, phosphates, hydroxyethylidene diphosphonate (HEDP), low-molybdenum formulations, zinc-based products, and traceable polymers.

Work with your chemical supplier to find acceptable molybdenum-free alternatives that will perform according to your needs while limiting the amount of molybdenum being adding to our WWTPS.

What Else Can You Do?

Make cooling tower efficiency a priority. The basic function of a cooling tower is to cool the circulating stream of water by evaporating part of the water and absorbing heat. The physical law that governs this is based on heat flowing away from warmer or higher energy levels to cooler or lower energy levels. An improperly maintained cooling tower will produce warmer cooling water, resulting in condenser temperatures 5 to 10°F higher than a properly maintained tower. This results in a reduction in the efficiency of the chiller, wastes energy, and increases costs. The chiller will consume 2.5—3.5 percent more energy for each degree increase in condenser temperature. If you use $20,000 of electricity each year, it will cost an additional $500 to $700 per year for each degree increase. Thus, 5-10° will result in $2,500 to $7,000 per year in additional electricity costs. A poorly maintained tower will also have a shorter operating life, is more likely to need costly repairs, and is overall less reliable.