Louisville Green

MSD produces Louisville Green—a fertilizer made from biosolids—at its Morris Forman Water Quality Treatment Center (WQTC). The fertilizer provides slow-release nitrogen when applied to lawns, pastures and cropland.

Louisville Green must meet United States Environmental Protection Agency (EPA) regulations to protect public health and the environment from the adverse effects of exposure to certain pollutants that might be present in biosolids, including Molybdenum. The regulations set limits for chemical pollutants and pathogens in biosolids applied to land, such as fertilizers like Louisville Green.

msd
Safe, clean waterways

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More information

Call MSD's Industrial Waste Department at 502.540.6939 for more information, or to schedule a visit to discuss how you can help reduce the level of Molybdenum in Louisville Green.

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Safe, clean waterways

KEEPING BIOSOLIDS SAFE

PREVENTING MOLYBDENUM POLLUTION

Why is Molybdenum a concern?

High levels of Molybdenum in treated biosolids like Louisville Green can cause a condition called Molybdenosis in cattle and sheep, which is a Molybdenum-induced copper deficiency. This can result in weight loss, scouring, sterilization and even death for pasture-grazing animals.

Louisville Green meets the U.S. EPA "Exceptional Quality" criteria, which establishes concentration limits for metals in the fertilizer industry. The federal limit for Molybdenum in biosolids applied to land is set at 75 MG/KG. The State of Indiana has an even stricter limit of 40 MG/KG for application to pastures. MSD must meet these stricter limits for all product sold in Indiana.

Can MSD detect when Molybdenum is discharged to the sewer system?

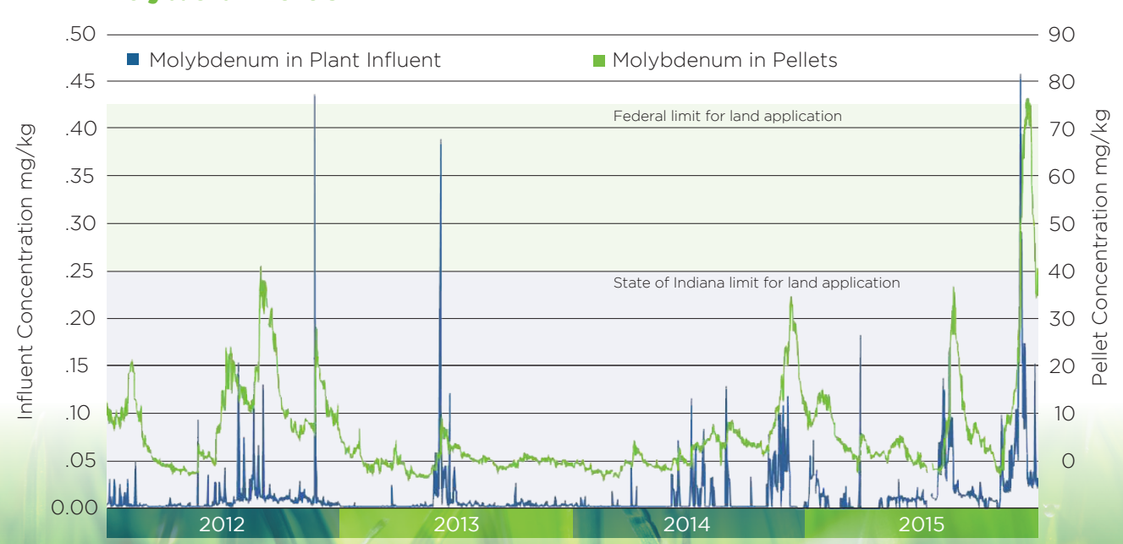
Molybdenate-based corrosion control chemicals, which are used in many industries, can impact the level of Molybdenum in Louisville Green—at times exceeding the federal and State of Indiana limits. MSD has documented seasonal spikes of Molybdenum in the influent of its Morris Forman WQTC. These periodic spikes have occurred typically during months when preventive maintenance activities on cooling towers and commercial building HVAC systems are performed.

Does MSD plan to limit Molybdenum?

MSD is evaluating the need to establish a Molybdenum Local Limit for industrial facilities with a wastewater discharge permit, while continuing to work with commercial facilities to identify and control sources of Molybdenum. MSD believes that discharges of Molybdenum from commercial sources can be controlled through individual best management practices (BMP) and product substitution.

MSD asks that you develop BMPs that reduce or eliminate the discharge of Molybdenum to the public sewer—including replacement of molybdate-based corrosion control chemicals with molybdate-free alternatives.

Molybdenum Levels



What else can be done?

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 degrees Fahrenheit higher than a properly maintained tower. This results in a reduction in the efficiency of the chiller, which wastes energy and increases costs. The chiller will consume 2.5 to 3.5 percent more energy for each degree increase in condenser temperature.

Best Management Practice—Cooling Towers

1. Ask suppliers to provide a certified list of all ingredients in their products, including those not listed on Safety Data Sheets. For example, copper is not listed, but it is a common stabilizer in products containing isothiazolin, a corrosion inhibitor often used in combination with Molybdenum.

   Therefore, the presence of copper may indicate the presence of Molybdenum.

   Ask suppliers to certify that each of their products does not contain the restricted ingredients.

2. Use alternative treatment approaches if the current products contain unacceptably high levels of the restricted ingredients.

3. Review new products for these ingredients before purchasing them.

For more information

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