**EnduroSolv Green Water Treatment Program**

Monroe County Community College uses the EnduroSolv Green Water Treatment Program. Boilers, Controls, & Equipment, Inc. is MCCC’s EnduroSolv Representative. [www.boilerscontrols.com](http://www.boilerscontrols.com)

**Carbon Footprint Reduction**
"Carbon Footprint" savings factors from switching from 55 gallon drums of liquid chemistry to EnduroSolv® products are many and include:

1. Fuel savings from reduced weight in freight delivery (40-50 pounds compared to the 500 pounds in a liquid drum)
2. Plastic savings from reduced container size
3. Sodium Hydroxide (NaOH) savings from reduced power to produce NaOH
4. Water savings associated with rinsing drums
5. Water savings associated with increased cycles of concentration
6. EnduroSolv® products do not require the addition of caustic, and shipment of this hazardous chemical is eliminated. The effect of this elimination would be the equivalent carbon footprint of removing 52,000 automobiles from US highways - each, and every year

**Follows the Twelve Principles of Green Chemistry**

1. Prevent waste: All EnduroSolv products are designed to be used in their entirety, with the distinctive Green container being recyclable as well as the carton in which it arrived.
2. Design safer chemicals and products: EnduroSolv products are designed to provide the following safety benefits:
   - No liquid storage of hazardous chemicals, eliminating the risk and liability issues associated with the same.
   - No potential for chemical contact with the employees, and customers of the facility.
   - No noxious odors, as may be experienced from liquid chemicals.
   - No disposal issues. The design allows for 100% use of the products. When the product is completely used, the container can be recycled.
   - No triple rinsing or potential for unwanted disposal of toxic products into the waste stream.
3. Design less hazardous chemical syntheses: No acids and minimal caustics are added during the manufacturing process. In most liquid water treatment chemicals, substantial amounts of hazardous caustic are required to be added to maintain solubility of the components. EnduroSolv products do not require this addition.
4. Use renewable feedstocks: EnduroSolv is packaged in renewable containers, including the shipping cartons.
5. Use catalysts, not stoichiometric reagents: During the manufacturing process, there are no stoichiometric reagents used. The only catalysts required are heat and cooling during the process. No waste is produced in the process.

**Helps Us Go Green**

EnduroSolv® helps MCCC go Green:

- No Liquids to Spill
- No Drum Disposal Issues
- No Exposure to Hazardous Liquid Chemicals
- No offensive Odors or Fumes
- No Powders to Irritate
- Substantially reduced Product Handling Issues
- Safe and Simple to apply
- Environmentally friendly products
- Cleaner, safer work area
- Conserve floor space
- Assists in continuous improvement for ISO 14001

6. Avoid chemical derivatives: Production of the EnduroSolv products does not require the addition of binders, or supplemental caustics to enhance solubility of the product.
7. Maximize atom economy: By not using binders or solubility enhancers in the production process, all of the raw materials added are utilized and no by products or other forms of waste are produced in production or at the point of application.
8. Use safer solvents and reaction conditions: No solvents or other auxiliary chemicals, such as acids and/or caustics are used in the production of EnduroSolv products.
9. Increase energy efficiency: EnduroSolv products are designed to be utilized at ambient temperatures, including normal “tap” water temperatures for the dissolving action. Dissolving pressures are regulated and controlled through the feeder, using normal city water pressures.
10. Design chemicals and products to degrade after use: Most of the components utilized in the EnduroSolv products are biodegradable.
11. Analyze in real time to prevent pollution: On line monitoring of system cycles, feed activated by demand, and other types of feed and control are the same as between those utilized with liquid chemicals. Because of the lower solution strengths required, overfeed or underfeed of the products is seldom an issue when proper delivery techniques are applied as outlined with the products.
12. Minimize the potential for accidents: EnduroSolv products are among the safest chemicals to be designed and available for use in facilities operations. In addition to reducing the carbon footprint, our roadways and waterways would be safer from the potential of hazardous chemical spills during transportation of the products. EnduroSolv solid sticks products have no potential for spillage.

*All information on this page is from EnduroSolv’s website at [www.endurosolv.com](http://www.endurosolv.com)*