

## **New EPA Rule in Effect for Drinking Water Analysis**

In January 2006, the EPA published “Stage 2 Disinfectant and Disinfectant Byproduct Rule<sup>1</sup>” (Stage 2 D/DBPR). This rule augments “Stage 1 Disinfectant and Disinfectant Byproduct Rule<sup>2</sup>” (Stage 1 D/DBPR) which set up maximum contaminant levels for several disinfectant by-products. These rules apply to all community and non-transient water systems that treat or deliver water that has been treated with a primary or residual disinfectant other than UV light.

In Section §141.135, Stage 1 D/DBPR established treatment techniques for the control of precursors to disinfectant byproducts. This section requires enhanced coagulation or enhanced softening to remove a certain percentage of organic carbon based on the source water’s total organic carbon (TOC) and alkalinity for all Subpart H systems (public water systems using surface water or ground water under the direct influence of surface water) using conventional filtration treatment. The rule sets up several alternatives to removal; one of which is Specific UV Absorbance (SUVA) of source or finished water.

SUVA is an analysis of water that uses UV absorbance and dissolved organic carbon (DOC) levels. Previous studies established a relationship between SUVA and the levels of humic substances that are removed during enhanced coagulation and/or enhanced softening. If SUVA levels meet certain requirements, it is logical for the enhanced coagulation or softening to be unnecessary. Stage 1 D/DBPR allows an exemption from costly TOC removal requirements if SUVA levels for source or finished water are below 2.0 L/mg-m. It also provides for SUVA level substitutions when calculating TOC removal compliance.

Under Stage 1 D/DBPR, Standards Method 5910B was the only EPA approved method for SUVA determination. Stage 2 D/DBPR approved EPA Method 415.3 (Revision 1.1, 2005) for TOC, DOC and SUVA determination. This one method not only combines all three tests, but also provides increased quality control methods to ensure accuracy. It added a requirement of removing the inorganic carbon prior to determining TOC or DOC, removed the specification of type of acid used for TOC/DOC sample preservation, required that TOC samples be preserved at the time of collection, and provided specifications for verification procedures for all the instruments.

According to the EPA method, the verification of the spectrophotometer can be done with either a user prepared potassium hydrogen phthalate (KHP) standard or a commercially prepared check standard. This method specifically mentions the In-spec® photometric standards manufactured by GFS Chemicals, Inc. These are the standards used by the EPA to check their spectrophotometer while writing this method. The In-spec® photometric standards are NIST traceable, non-toxic, have a one-year shelf life and require no preparation to use. Please call for more information or a free sample.

<sup>1</sup> [www.epa.gov/safewater/stage2/index.html](http://www.epa.gov/safewater/stage2/index.html)

<sup>2</sup> [www.epa.gov/safewater/reqs.html](http://www.epa.gov/safewater/reqs.html)