

Standards for Highly Reactive VOCs in Water

Leaks in heat exchangers can contaminate cooling water with all sorts of VOCs, which are then emitted from cooling towers. Cooling water is monitored on-line for dissolved VOCs, but preparing and maintaining reliable analyzer calibration standards is difficult because the VOCs — especially such highly reactive ones as ethylene, propylene, butenes, acetaldehyde, and benzene — evaporate preferentially from the standard. The Model LSG-2-GF liquid standards generator dynamically blends a flowing stream of calibration standard mixture, adding a tiny flow of analyte to a precisely known flow of clean water to form a primary mixture. An aliquot of the primary mixture is then further diluted to form the liquid standard. Concentration is adjusted by varying aliquot addition. Dilution water flows are controlled by precision metering pumps. Concentrations ranging from sub ppb (w/w) to several ppm are possible. The output flow range of the system is 10 to 200 cc/min.

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Source URL (retrieved on 01/26/2015 - 2:08am):

http://www.chem.info/news/2008/04/standards-highly-reactive-vocs-water?qt-most_popular=1