

# Ensure Tier 3 Sulfur Regulation Compliance with SilcoTek® Coatings

## Tier 3 Compliance Guide



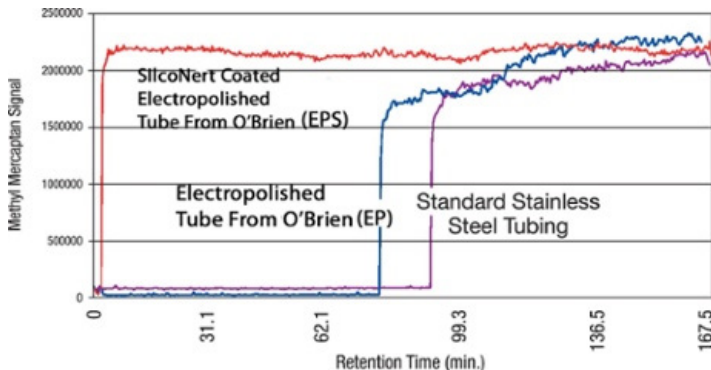
By 2017, the EPA's Tier 3 gasoline sulfur regulations require that oil refineries reduce the average sulfur level in gasoline by more than 60 percent, to just 10 parts per million (ppm) in 2017, from the current 30 ppm.



Sampling system flow paths constructed of bare stainless steel quickly adsorb sulfur molecules and prevent them from reaching the analyzer.

Therefore, process instruments without inert-treated tubing, fittings, valves, and other wetted parts are not suitable to comply with Tier 3 regulations for trace sulfur measurement.

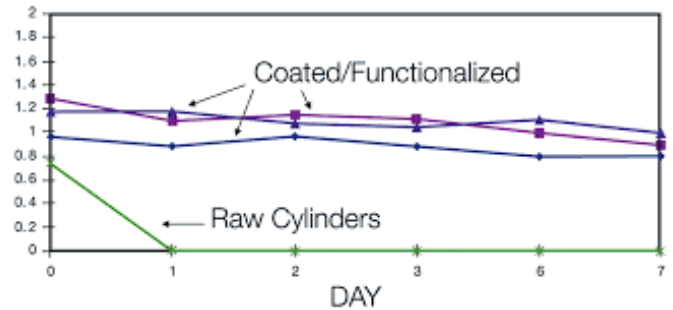
SilcoTek's inert coatings implemented throughout the sample flow path ensure accuracy and reliability by preventing sulfur and other reactive compounds from adsorbing onto transfer equipment. Without these coatings, refineries will not obtain sulfur signals at the 10ppm level required by the EPA.



**Figure 1:** SilcoNert-coated tubing provides nearly instant methyl mercaptan signal whereas untreated tubing adsorbs the compounds and takes over an hour to calibrate.

(Data courtesy of O'Brien Corp./Cardinal UHP and Shell)

Since the advent of ULSD (ultra-low sulfur diesel) and ULSG (ultra-low sulfur gasoline) in the 1990s when the need for accurate sulfur measurements became widespread, use of inert coatings like SilcoNert® expanded throughout the petrochemical industry for on-line, process, lab and grab sampling applications.



**Figure 2:** Hydrogen sulfide (H<sub>2</sub>S) samples are retained in SilcoNert-coated sample cylinders for over a week with minimal loss, making labs more efficient and flexible. Uncoated cylinders adsorb the entire sample within one day.

**SilcoNert-coated sampling and transfer systems allow refineries to obtain accurate sulfur data the first time, every time without delays, sample errors, or false readings. Now charged with meeting stringent Tier 3 sulfur regulations from the EPA, analysts and engineers can comply with the law while saving thousands in improved yields, test cycle times, and system reliability.**

### How to Buy

Ask your manufacturer to add SilcoTek's SilcoNert® coating to your sampling and transfer equipment.

For a full listing of partners who stock coated products, visit [www.SilcoTek.com/buy-coated-products](http://www.SilcoTek.com/buy-coated-products).

Or, visit [www.SilcoTek.com](http://www.SilcoTek.com) to send your parts in for coating.

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