
Question 16: In your experience, are there documented cases of organic chlorides coming in with certain crudes? If so, what is their impact on hydrotreating units?

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In researching this question with our corrosion experts, they identified this as a mature issue that has been well documented in NACE publications and international symposiums. These papers identify multiple cases of organic chlorides coming in with specific crude oils. Some of the documented cases indicate the presence of organic chlorides on an infrequent basis leading the author of one paper to refer to this problem as "Phantom chlorides". (MV Veazey "Phantom chlorides real problems for refiners" materials performance vol 41 no 5 p 16 2002)

One of our refineries has encountered and identified organic chlorides in a specific crude. Our refinery reported the organic chlorides dropped the pH of the crude unit overhead system but did not impact our hydrotreating units. Another of our refineries has identified chlorides in the naphtha hydrotreating unit water wash system but has been unable to identify the source of the contamination.

The reported impact is similar to inorganic chlorides entering the hydrotreater from other sources such as HCL from the gasoline reformer. These are loss of heat transfer, increased pressure drop and increased corrosion.

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