
Question 35: What is the importance of sodium to reliability in the coker? What are some of the potential sources of the sodium in coker feed? In light of IMO how should sodium be managed in purchased coker feed?

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Sodium in the coker feed can be introduced via sodium content of the salts in crude, caustic addition at the crude unit for corrosion control purposes, as a contaminant in recovered oil material in the refinery, sodium content of other purchased feedstocks (as mentioned in the question) among others. Elevated sodium levels in the feeds will increase fouling of the Coker furnace. Potential solutions are enhanced dehydration of slops, crudes, or feedstocks where possible in tankage, improved reliability and optimization of crude unit caustic feed rates via addition of caustic blend tanks for improved control of strength and also automation of overhead chloride analysis tied to caustic feed pumps, optimization of the crude unit desalting process, and addition of heavy oil desalting for imported feeds.

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