
Question 67: What is your experience with toxicity issues at the Water Treatment Plant as related to naphthenic acid content in desalter brine water? What strategies are you employing employed to mitigate this issue?

Chris Claesen (NALCO Champion)

Some naphthenic acids will not partition into the water phase and normally do not create a wastewater issue. In case of washwater and brine pH's above 8.5 the naphthenic acids can form a soap, and this can cause severe emulsion formation and oil carry-under to the WTP. At high temperatures, in VDU, VBU and DCU units, the naphthenic acids can break down and generate light organic acids, these will concentrate in the sour water and end up in the WTP, that will give increased COD but the organic acids are easy to digest in the bio treatment provided DO levels can be maintained to ensure optimal operation so that septicity can be avoided that may promote the growth of filamentous bacteria.

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