
Question 17: Where do you route your disulfide oil from caustic treatment? If disulfide oil, that may contain caustic or other contaminants, is routed to a hydrotreater, what are preferred methods for treating it to avoid fouling exchangers, furnaces and catalyst?

WENDY WILDENBERG (Flint Hills Resources)

We do not process directly from caustic treatment to a hydroprocessing unit either.

Disulfide oil is gravity settled out of the regenerated caustic in a settler vessel. A slip stream of cold Naphtha or #1 fuel oil is injected and used to help provide a larger volume of hydrocarbon to dissolve the disulfides and aid in separation (Sponge Oil).

The sponge oil / disulfide oil is sent to wet slop tankage where water from other wet slops can help to remove residual caustic. Wet slops use a floating suction line, like what Travis mentioned to transfer the oil to "dry" slop tank. Dry slop is routed to the coker fractionator where the slop oil is fractionated into coker naphtha, light coker gasoil, and heavy coker gasoil. Disulfide oil primary fractionates to the coker naphtha. No issues with fouling, spent catalyst poisoning are evident.

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