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Mini Review of Strategies in Petrochemical Processes: Case of Peruvian Oil

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Crudes containing a high percent of impurities, such as Sulfur compounds, are less desirable than low-sulfur crudes because of their corrosivity and the extra treating cost, increasing production costs. Sulfur in crude oils is mainly present in the form of organosulfur compounds (Mercaptans, Thiophene). Hydrogen Sulfide (H2S) is the important inorganic sulfur compound found in crude oil. Sour crudes contain a high percentage of Hydrogen Sulfide [1].

It is critical develop strategies, in order to reduce the emissions of Sulphur compounds and/or improve the existent processes of this industry, in order to recovery this element. In 2021 It was presented a strategy, based on the design of the Sulphur desorption unit for Peruvian crude oil, previous to the heating and distillation units, in order to minimize their content [2]. In 2024, it was presented an advanced-phase in this strategy, in order to "sweeting" the Peruvian "Sour" Oil more quickly. For this new strategy is a key point the addition of Sodium Carbonate (Na2CO3) in solution at 10-15% wt/wt at the desalinated Peruvian Oil. After this step is the desorption in a various packed-columns [3].

More in depth studies are necessary, in order to optimize the Chemical Process mentioned above, as also the necessary conditions (thermodynamical and operational) for its corresponding implementation at Industrial Scale.

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