عنوان مقاله:
Using Mixed Amine Solution for Gas Sweetening

محل انتشار:
ششمین کنگره بین المللی مهندسی شیمی (سال: 1388)

تعداد صفحات اصل مقاله: 7

نویسندگان:
Hassan Zare Aliabadi - *Department of Chemical Engineering, Islamic Azad University, Shahroud Branch, Shahroud, IR Iran*

Somaye Mirzaei - *Department of Chemical Engineering, Islamic Azad University, Shahroud Branch, Shahroud, IR Iran*

خلاصه مقاله:
The use of amine mixtures employing methyldiethanolamine (MDEA), monoethanolamine (MEA), and diethanolamine (DEA) have been investigated for a variety of cases using a process simulation program called HYSYS. The results show that, at high pressures, amine mixtures have little or no advantage in the cases studied. As the pressure is lowered, it becomes more difficult for MDEA to meet residual gas requirements and mixtures can usually improve plant performance. Since the CO2 reaction rate with the primary and secondary amines is much faster than with MDEA, the addition of small amounts of primary or secondary amines to an MDEA based solution should greatly improve the overall reaction rate of CO2 with the amine solution. The addition of MEA caused the CO2 to be absorbed more strongly in the upper portion of the column than for MDEA along. On the other hand, raising the concentration for MEA to 11%wt, CO2 is almost completely absorbed in the lower portion of the column. The addition of MEA would be most advantageous. Thus, in areas where MDEA cannot meet the residual gasrequirements, the .use of amine mixtures can usually improve the plant performance

کلمات کلیدی:
CO2, H2S, Methyldiethanolamine,Monoethanolamine