

Experimental Chevreul's Salt Production Methods on Copper Recovery

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Abstract : The experimental production methods Chevreul's salt being an intermediate stage product for copper recovery were investigated by dealing with the articles written on this topic. Chevreul's salt, $\text{Cu}_2\text{SO}_3 \cdot \text{CuSO}_3 \cdot 2\text{H}_2\text{O}$, being a mixed valence copper sulphite compound has been obtained by using different methods and reagents. Chevreul's salt has an intense brick-red color. It is a highly stable and expensive salt. The production of Chevreul's salt plays a key role in hydrometallurgy. In recent years, researches on this compound have been intensified. Silva et al. reported that this salt is thermally stable up to 200°C. Çolak et al. precipitated the Chevreul's salt by using ammonia and sulphur dioxide. Çalban et al. obtained at the optimum conditions by passing SO_2 from leach solutions with $\text{NH}_3 \cdot (\text{NH}_4)_2\text{SO}_4$. Yeşiryurt and Çalban investigated the optimum precipitation conditions of Chevreul's salt from synthetic CuSO_4 solutions including Na_2SO_3 . Çalban et al. achieved the precipitation of Chevreul's salt at the optimum conditions by passing SO_2 from synthetic CuSO_4 solutions. Çalban et al. examined the precipitation conditions of Chevreul's salt using $(\text{NH}_4)_2\text{SO}_3$ from synthetic aqueous CuSO_4 solutions. In light of these studies, it can be said that Chevreul's salt can be produced practically from both a leach solutions including copper and synthetic CuSO_4 solutions.

Keywords : Chevreul's salt, ammonia, copper sulphite, sodium sulfite, optimum conditions

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