عنوان مقاله:

Carnallite Flotation of Khur Biabanak Potash Complex using Kimiaflot۶۱۹ as a New Collector

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خلاصه مقاله:

Carnallite, with the chemical formula KMgCl۳.۶H۲O, is a mineral that was first discovered in the Urals Mountains in Russia. The reverse flotation has been established for carnallite processing in the current decades, and the alkyl morpholine collector is used for the removal of NaCl from carnallite using the reverse flotation. The carnallite processing method involves reverse flotation with the dodecyl morpholine collector, and then centrifugation and cold crystallization. In this research work, kimiaflot ۶۱۹, as a new collector, is synthesized, and the bench-scale flotation shows that kimiaflot ۶۱۹ reveals a better selectivity and affinity for the NaCl crystals at an acidic pH with a less collector dosages–only ۱/۲ of the Armoflot ۶۱۹ collector. The flotation results indicate that the NaCl grade in carnallite concentrated by Armoflot ۶۱۹ (۲۰۰ g/t) is ۲.۸۶%, while the NaCl grade in carnallite concentrated by kimiaflot ۶۱۹collector (۱۰۰ g/t) is ۲.۷۵%. The frother's stability of the Armoflot ۶۱۹ collector after flotation is very high and uncontrollable, while kimiaflot ۶۱۹ has solved this problem, and it is completely controllable.

کلمات کلیدی:

Carnallite, Flotation, Potash, Collector, Khur Biabanak Potash Complex