

正、负离子混合表面活性剂双水相系统相图及微观结构研究

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摘要 研究了水/十二烷基硫酸钠(SDS)/十六烷基三甲基溴化胺(CTAB)三元相图上的双水相区及其相关性质,研究发现:该系统在两个非常狭窄的区域能够形成双水相, SDS过量的双水相区具有类似浊点的性质,上相有明显的偏光现象,而CTAB过量的双水相区则具有Krafft点性质,上相偏光现象较弱。冷冻蚀刻显微镜观察双水相的微观结构表明,上相为层状结构,下相一般为球状结构。双水相的体积比对正、负离子表面活性剂比例的微小变化非常敏感。

关键词 [表面活性剂](#) [相图](#) [微观结构](#) [十二烷基硫酸钠](#) [十六烷基三甲基溴化胺](#)

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Study on the phase diagrams of aqueous two-phase and microstructure of cationic-anionic mixed surfactants

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Abstract The aqueous two-phase regions and the relevant properties of water/sodium dodecyl sulfonate (SDS)/cetyl trimethyl amino bromine (CTAB) system have been determined. It is shown that there are two aqueous two-phase in two regions with excess SDS or CTAB. The one with excess SDS has cloud point. Obvious phenomena of polarized light can be detected in the upper phase. Another aqueous two-phase region with excess CTAB has the property of Krafft point and the phenomena of polarized light isn't remarkable in the upper phase. The freezing etch TEM photograph showed that the structure of upper phase is lamellar and the lower phase is sphere-like. The volume ratio of two phases is sensitive to minor variations of the ratio between anionic surfactant and cationic surfactant.

Key words [SURFACTANTS](#) [PHASE DIAGRAM](#) [MICRO-STRUCTURE](#) [LAURYL SODIUM SULFATE](#)

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