

## 1. Precipitation of surfactant salts: The effect of counterion exchange on micelles (Open Access)

Kallay, Nikola (1, 2); Fan, Xi-Jing (1, 3); Matijevi, Egon (1)

**Source:** *Acta Chemica Scandinavica*, v 40A, p 257-260, 1986; **ISSN:** 0904213X; **DOI:** 10.3891/acta.chem.scand.40a-0257; **Publisher:** Blackwell Munksgaard

**Author affiliation:** (1) Department of Chemistry, Institute of Colloid and Surface Science, Clarkson University, Potsdam, NY; 13676, United States (2) Laboratory of Physical Chemistry, Faculty of Science, University of Zagreb, Zagreb, Croatia (3) Xian Petroleum College, Xian, China

**Abstract:** The solubility of alkaline earth salts of dodecylsulfate in concentrations exceeding the critical micellar concentration (CMC) of the surfactant have been analyzed. A quantitative description of the precipitation boundary can be obtained by taking into consideration the solubility product and the CMC dependence on the electrolyte content, as well as the counterion exchange on the micelle. The latter was accounted for by the separation factor which was found to be independent of the electrolyte concentration and similar in value for the exchange of all four alkaline earth ions with sodium. (19 refs)

**Main heading:** Micelles

**Controlled terms:** Ions - Electrolytes - Salts - Solubility - Alkaline earth metals - Surface active agents

**Uncontrolled terms:** Alkaline earth salts - Alkaline-earth ions - Counterion exchanges - Critical micellar concentrations - Electrolyte concentration - Quantitative description - Separation factors - Solubility product

**Classification Code:** 549.2 Alkaline Earth Metals - 702 Electric Batteries and Fuel Cells - 801.3 Colloid Chemistry - 801.4 Physical Chemistry - 803 Chemical Agents and Basic Industrial Chemicals - 804 Chemical Products Generally

**Open Access type(s):** All Open Access, Bronze

**Database:** Compendex

**Data Provider:** Engineering Village

Compilation and indexing terms, Copyright 2023 Elsevier Inc.