Accepted Manuscript

The phase behavior and solubilization of isopropyl myristate in microemulsions containing cetyltrimethyl ammonium bromide and sodium dodecyl sulfate

Y. Zhang, X.Y. Zhang, J.L. Chai, X.C. Cui, J. Pan, J.W. Song, B. Sun, J.J. Lu

PII: S0167-7322(17)32633-8

DOI: doi: 10.1016/j.molliq.2017.08.074

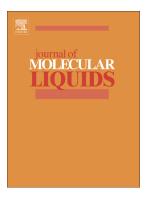
Reference: MOLLIQ 7782

To appear in: Journal of Molecular Liquids

Received date: 17 June 2017 Revised date: 24 July 2017 Accepted date: 19 August 2017

Please cite this article as: Y. Zhang, X.Y. Zhang, J.L. Chai, X.C. Cui, J. Pan, J.W. Song, B. Sun, J.J. Lu, The phase behavior and solubilization of isopropyl myristate in microemulsions containing cetyltrimethyl ammonium bromide and sodium dodecyl sulfate, *Journal of Molecular Liquids* (2017), doi: 10.1016/j.molliq.2017.08.074

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



ACCEPTED MANUSCRIPT

The phase behavior and solubilization of isopropyl myristate in microemulsions containing cetyltrimethyl ammonium bromide and sodium dodecyl sulfate

Y. Zhang, X.Y. Zhang, J.L. Chai*, X.C. Cui, J. Pan, J.W. Song, B. Sun, J.J. Lu

College of Chemistry, Chemical Engineering and Materials Science, Collaborative Innovation

Center of Functionalized Probes for Chemical Imaging in Universities of Shandong, Shandong

Normal University, Jinan 250014, PR China

ABSTRACT

The phase behavior and solubilization of isopropyl myristate in microemulsions containing CTAB-SDS/IPM/butan-1-ol/aqueous NaCl (w = 0.05) with different $X_{\rm SDS}$ values (the molar fraction of SDS in CTAB and SDS mixture) were studied using the ε - β diagram method. The microemulsion systems containing mixed CTAB-SDS surfactants have lower alcohol solubility (S_A) and lower mass fraction of the alcohol in the interfacial layer (A^S), but higher solubilization ability (SP^*) compared to the microemulsions containing single surfactant SDS and CTAB. At different oil-to-water ratios (α), CTAB and SDS in microemulsions display significant synergistic effect, and the order of magnitude for SP^* values is CTAB-SDS > CTAB ~ SDS. As the value of α increases, the order of magnitude for S_A and S_A values for different microemulsions can be ranked as: CTAB-SDS < CTAB < SDS. However, the SP^* value of the SDS-based microemulsions would decrease, the SP^* value of the CTAB-based microemulsions would increase at first, and remain constant

E-mail address: jlchai@sdnu.edu.cn(J.L. Chai)

^{*} Corresponding author.

Download English Version:

https://daneshyari.com/en/article/5408254

Download Persian Version:

https://daneshyari.com/article/5408254

<u>Daneshyari.com</u>