

EFFECT OF THE NATURE OF SURFACTANT ON THE REACTIVITY OF C, N-DIPHENYLNITRONE TOWARDS ACRYLONITRILE IN MICROEMULSION MEDIUM

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Abstract. The present work provides an insight into the effect of the nature of surfactant (cationic, anionic), a component of water- and oil-borne microemulsions, on the reaction rate of 1,3-dipolar cycloaddition of C,N-diphenylnitrone (DPN) with acrylonitrile (ACN). The electrostatically attractive character of cetyltrimethylammonium bromide (CTAB), a cationic surfactant, would bring the reactants closer to each other; hence, a rate enhancement would ensue, particularly within the water-rich zone. Besides, the fact that ACN played a dual role, as a component of the microemulsion and a dipolarophile in the cycloaddition reaction, made the work-up advantageously sound.

Keywords: Acrylonitrile, cycloaddition, isoxazolidine, microemulsion, nitrone.