

SL 31

TOWARDS ENHANCED FRAGRANCE SENSITIVITY – ENCAPSULATION OF ODORANT CHEMICALS BY MINIEMULSION POLYMERIZATION

T. Arruda^a, A. Guimarães^a, A. Shiozer^b, F. Zanella^b, M. Cella^b, M. do Amaral^{a*}

^a*IQT – Indústrias Químicas Taubaté S.A., R. Irmãos Albernaz 300. Taubaté, S.P. 12050-190 Brazil (marcelo.amaral@iqt.com.br)*

^b*Givaudan do Brasil Ltda, Av. Eng. Billings, 2185. São Paulo, SP. 05321-010 Brazil*

Fragrances are mixtures consisting of essential oils and other odorant chemicals. Their incorporation in polymer matrix could lead to novel products for prolonged delivery of these substances. In fact, current trend in the fragrance industry encompasses higher substantivity, *i.e.* persistence of perfume materials on the intended application.

By shifting the main nucleation *locus* to monomer droplets, the miniemulsion polymerization technique has attracted much attention as a valuable alternative for the synthesis and development of new and high value added products. This work presents preliminary results using miniemulsion polymerization to encapsulate odorant chemicals. Conditions were evaluated where the incorporation of fragrances occurred without affecting their activity, since it is known that odorant chemicals are highly susceptible to harsh chemical environments, causing the loss and/or damage of the intended fragrance.

Stable polymer dispersions with organic phase content higher than 50%, and fragrance load of 30% w/w were obtained. Encapsulated materials were tested in fabric softeners in comparison with regular fragrances. Results clearly indicate that the miniemulsion polymerization technique did not distort the fragrance character, and that fragrance release profile was different for encapsulated and regular fragrance samples.