F.6. PRELIMINARY CHARACTERIZATION OF OIL/WATER EMULSIONS FOR ADDED-VALUE TO TEXTILE FABRICS

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Abstract. This paper presents the data from a few preliminary analyses used for characterization of different series of vegetal essential oil (mint, lavender, rosemary and thyme)/water (O/W) emulsions prepared by varying the concentrations of essential oil and beeswax matrix. The preliminary analyses of emulsions consisted in determination of a few physical-chemical quality indicators, i.e., pH, normalized density, acidity index, peroxide index, content of conjugated dienes and trines, total content of polyphenols and flavonoids, total fatty acids as well as the creaming index and sensory analysis. The stability in-time of (O/W) emulsions have a key role in its storage and also manufacturing of added-value textile materials through (O/W) emulsion impregnation onto textile fabrics, and the results on emulsion stability at room temperature within more than 8 months were reported accordingly. The most stable O/W emulsions were recommended for use by the textile materials manufacturer to add value to its textile products, especially due to the potential antibacterial action of impregnated textile materials and also well-being effects and skin care benefits. This research work underlines clearly that the most recommendable emulsion must have relative good in-time stability till the separation of organic and aqueous phases as well as a satisfactory polyphenols and flavonoids content, as main responsible of antibacterial activity on impregnated textiles (cotton fabrics).

Keywords: added-value textile materials, beeswax, O/W emulsion characterization, essential oil, ‘in-time’ stability, vegetal plant