

M-8

## SYNTHESIS AND PROPERTIES OF NEW FLUORINATED SURFACTANTS

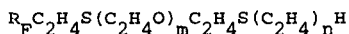
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New ionic and non ionic F-alkylated surfactants, well defined, monodisperse, were obtained and tested in various fields :

Starting from F-alkylethens ionic surfactants such as  $R_F-CH-CH_2$  hydrophilic head were obtained and used to obtain multipurpose OH fire fighting foams. The properties of these new foams (expansion rate, 25% decantation time, Foam destruction by fire of cyclohexane and ethanol) were estimated and compared with those obtained with commercial fluorinated surfactants.

Starting from  $R_F-C_2H_4SH$  new non ionic monodisperse F-alkylated tensio-active agents such as :



with  $R_F = C_2F_5, C_4F_9, C_6F_{13}, C_8F_{17}$

$m = 0, 1 \text{ or } 2$

$n = 1, 2, 3 \text{ or } 4$

were synthesised by univocal ways. The obtention of homogenous series permitted us to define physico chemical parameters such as H.L.B., Haze point, Cloud Point, Phase inversion temperature to obtain fair microemulsions in the wished conditions.

Zones of microemulsions were defined and influences of temperature, surfactant and fluorocarbon are discussed.

Another application of these surfactants affects thermohardeness varnishes : When small quantities (0,2%) of such compounds is added to a thermohardener varnish for polycarbonates the resistance to abrasion is highly increased. Results are discussed.