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(54) Title: MANUFACTURE OF FATTY ACID ESTERS OF SORBITAN AS SURFACTANTS

(57) Abstract

Fatty acid sorbitan esters by direct reaction of sorbitol with fatty acid using a phosphorus oxyacid, including reducing phosphorus oxyacid, particularly phosphorous acid, catalyst system and an alkali or alkali earth metal base, particularly oxide, hydroxide or carbonate, in an acid:base molar ratio of 0.9:1 to 1.7:1, at a catalyst concentration of 1.5 to 30 %, particularly 3 to 12 %, by weight of sorbitol can have lower colour than products of prior commercial bulk processes even without the use of activated carbon and product bleaching typically used previously. The esters can be further reacted with alkylene oxide to make derivatives, particularly polysorbates. The esters and polyalkyleneoxy derivatives are useful surfactants in various applications. Products of low colour made without using activated carbon or bleaching are attractive for personal care applications.