

HYDROLYSIS OF F-OCTANESULFINIC ACID

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F-alkanoic acids are useful functional fluorochemicals that can be produced in modest yields by electrochemical fluorination (ECF). In contrast, F-alkanesulfonyl fluorides, $R_fCF_2SO_2F$, are readily available in good yields by the ECF method. The conversion of $R_fCF_2SO_2F$ to R_fCO_2H is desirable under mild conditions. We have found that acid hydrolysis of F-octanesulfinic acid, $C_8F_{17}SO_2H$, obtained by the reduction of the sulfonyl fluoride, $C_8F_{17}SO_2F$, with diluted mineral acids including 10% H_2SO_4 , yielded primarily F-octanoic acid. Varying amounts of F-octanesulfonic acid, $C_8F_{17}SO_3H$, are also formed. The hydrolysis conditions are far milder than those used by Ma *et al.* (CA 96:6660u). Studies by Huang *et al.* (J. Fluor. Chem. (1983) 23, 229) have attributed desulfoxylation of the sulfinic acid to a redox reaction. Our studies suggested that a hydrolysis rather than a redox reaction is taking place.