

THE REACTION OF 1,2-DIIODO-TETRAFLUOROETHANE WITH SULFUR TRIOXIDE

Masaaki Yamabe, Seisaku Kumai, Shunichi Samejima and Seiji Mune-kata
Research Laboratory, Asahi Glass Co., Ltd., Hazawa-cho, Kanagawa-ku
Yokohama 221, JAPAN

As an extension of our studies on the reaction of $I(CF_2CF_2)_nI$ ($n = 2$ and 3) with sulfur trioxide,¹⁾ the reaction of 1,2-diiodo-tetra-fluoroethane with sulfur trioxide was studied.

1,2-Diiodo-tetrafluoroethane was reacted with an excess of sulfur trioxide at reaction temperature ranging from 0°C to 115°C.

The products were not the expected iododifluoroacetyl fluoride and/or oxalyl fluoride, but thermally stable derivatives with polysulfate structures.

These derivatives could be converted nearly quantitatively into iododifluoroacetyl fluoride and ethyl iododifluoroacetate by potassium fluoride and by ethanol, respectively.

The possible structures of these derivatives will be discussed based on these results and ^{19}F -NMR studies.

1) S. Samejima and M. Yamabe, 6ESFC, Preprint 01, Dortmund (1977)