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SULFUR DERIVATIVES OF N-CHLORO COMPOUNDS

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The reactions of chlorine monofluoride with perfluoroalkyl- and perfluoroacyliminosulfur difluorides are known to give perfluoroalkyl-dichloroamines and N,N-dichlorofluoroamides, via the elimination of sulfur tetrafluoride, e.g.,

$$R_fN{=}SF_2 + 2ClF \longrightarrow R_fNCl_2 + SF_4*$$

We now find that the reactions of iminosulfites with chlorine monofluoride take a surprisingly different route to give cis and trans isomers of the sulfur(VI) derivatives while eliminating chlorine and trifluoromethyl-dichloroamine.

$$R_fN{=}S(OR_f)_2 + 4ClF \longrightarrow F_4S(OR_f)_2 + CF_3NCl_2 + Cl_2$$

* J. Fluorine Chem., 1 (1971/72) 269-276.