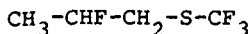


REACTIONS OF THE SULFENIC ACID FLUORIDE CF₃SF: ADDITION TO CARBON-CARBON AND CARBON-SULFUR DOUBLE BONDS

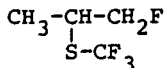
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Trifluoromethylsulfenylfluoride, CF₃SF, adds to the carbon-carbon double bond of olefins to form partially fluorinated thioethers. The reaction of CF₃SF with CH₃CH=CH₂ gives the two isomers

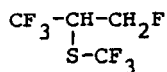


(85-94 %)



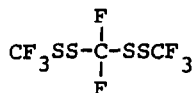
(6-15 %)

while the addition of CF₃SF to CF₃CH=CH₂ yields only one product,



In contrast, CF₃CF=CF₂ does not react with CF₃SF at temperatures up to 20 °C.

Two moles of CF₃SF add readily to the carbon-sulfur double bonds of one mole S=C=S to give



The new compounds are stable liquid materials which have been characterized by ¹⁹F, ¹³C, ¹H NMR, IR, mass spectroscopy, and by elemental analysis.