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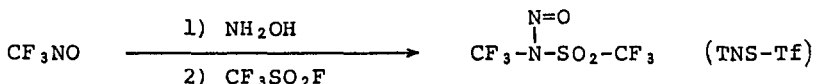
N-TRIFLUOROMETHYL-N-NITROSOTRIFLUOROMETHANESULFONAMIDE – A NEW TYPE OF TRIFLUOROMETHYLATING AGENT

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Much attention has been riveted to trifluoromethyl-containing compounds in the fields of pharmaceutical and agricultural chemicals because of the attractive effect of the trifluoromethyl group on biological activity. Although there were many investigations on the trifluoromethylation by using such known reagents as CF₃X, CF₂X₂, CF₃COOH, or its salts, the studies on the development of new reactive trifluoromethylating agents were little reported.

We have developed N-trifluoromethyl-N-nitrosotrifluoromethanesulfonamide (TNS-Tf) as a unique and useful trifluoromethylating agent which has two reactive CF₃ radicals in a molecule.



We found that TNS-Tf served as a useful reagent for the trifluoromethylation of activated aromatics, mercaptans, disulfides, and uridines photochemically or thermally. It was also found that TNS-Tf reacted with copper suspended in a polar solvent at room temperature to give an almost homogeneous solution containing CF₃-Cu complex. Synthesis, properties, and reactivity of TNS-Tf will be presented.