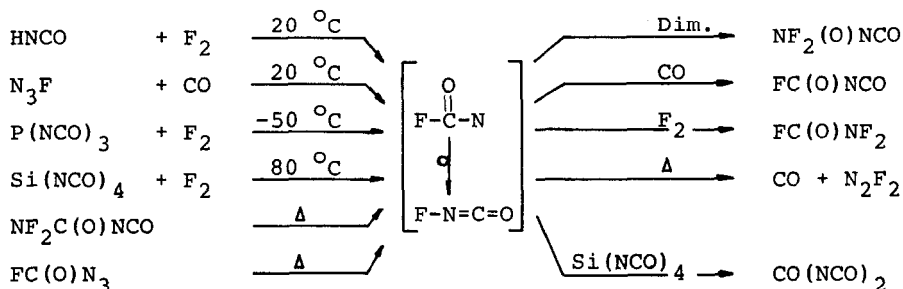


PROPERTIES OF AZAOXODIENEFLUORIDE, OCNF AND TRIAZADIENEFLUORIDE, N<sub>3</sub>F

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The fluoro compounds OCN-X and NNN-X in the series X = F, Cl, Br, I, which are difficult to prepare, were very poorly characterized. Although covalent isocyanates are generally more stable than the corresponding azides, it was not possible to synthesize OCN-F, while the azide NNN-F was obtained. Only OCN-F may be formed, stabilized and spectroscopically examined in an Ar-matrix [1]. Gaseous OCN-F even reacts at partial pressures of < 0.1 mbar giving the following products [2]:



A safe preparative method has been developed for the synthesis, in pure form, of the very explosive N<sub>3</sub>F. This allowed the comprehensive characterization of N<sub>3</sub>F by means of IR, UV/VIS, NMR and mass spectroscopy as well as a determination of the melting point and vapour pressures. The use of N<sub>3</sub>F as synthetic reagent is demonstrated [3].

Precise data concerning structure and bonding were obtained from <sup>15</sup>N-isotope substituted N<sub>3</sub>F [4].

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