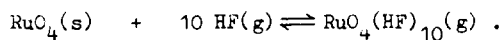


INTERACTION OF HYDROGEN FLUORIDE WITH RUTHENIUM TETROXIDE

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In the course of the studies concerning hydrolysis of ruthenium fluorides and fluorination of ruthenium hydroxides, we frequently noticed the formation of a volatile substance which showed a strong absorption band at 1030 cm^{-1} . We pursued this unknown substance and found that it was an adduct between ruthenium tetroxide and hydrogen fluoride:



This new adduct, $\text{RuO}_4(\text{HF})_{10}$, is observable at temperature higher than 0°C and at Hf pressure greater than 150 mmHg. Between 4000 and 200 cm^{-1} , the adduct shows two absorption bands — 1030 cm^{-1} and 389 cm^{-1} . At 0°C , the adduct in the gas-phase disappears for condensation.

On the basis of these results, credibility of the earlier literature on RuF_8 was discussed.