

TRANSITION METAL COMPOUNDS CONTAINING THE -OTeF₅ AND N-TeF₅-GROUPS.

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The electronegative ligand OTeF₅ has been tested on the elements Ti, Mo, W, Ta, Re, Os and others. Compounds such as O=Mo(OTeF₅)₄, W(OTeF₅)₆, Ta(OTeF₅)₅, ReO₂(OTeF₅)₃, OsO(OTeF₅)₄ are prepared. While ReVII could be stabilized with OTeF₅, the highest oxidation state on Osmium is VI, and Iridium probably IV. O=Mo(OTeF₅)₄ shows a regular

Chemistry on the ligand N-TeF₅ is based on the synthesis of H₂N-TeF₅ and R₃Si-NH-TeF₅⁺). Other new main group derivatives are so far Cl₂N-TeF₅, HClN-TeF₅, O=C=N-TeF₅, F₃P=N-TeF₅, Cl₃N=P-TeF₅, F₂S=N-TeF₅ and Cl₂Se=N-TeF₅, the first compound with a selenium-nitrogen double bond.

In the transition metal series the compounds F₄Mo=N-TeF₅ and Cl₄W=N-TeF₅ (in addition to the longer known polymeric (HgNTeF₅⁺)) have been prepared. Both have discrete metal nitrogen double bonds.

+) K. Seppelt, Inorg.Chem. 12 2837 (1973)