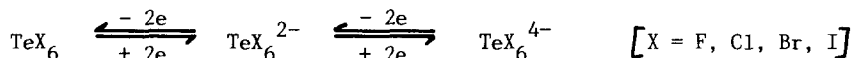


THE EXISTENCE OF HEXAHALOTELLURATES IN MORE THAN ONE
OXIDATION STATE

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Neutral TeF_6 is the only stable oxidation state VI tellurium hexahalide currently known; similarly TeCl_6^{2-} , TeBr_6^{2-} and TeI_6^{2-} are the only examples of oxidation state IV hexahalotellurate species known to date. Recently we have shown with electrochemical reduction of OTeF_5^- that the dual oxidation states VI and IV exist for the oxypentafluorotellurate [1]. Consequently we have studied the hexahalotellurates with electrochemical methods according to the proposed redox scheme:



For TeF_6 only one process, reduction at -0.9 V SCE, was observed while TeCl_6^{2-} , TeBr_6^{2-} and TeI_6^{2-} can be both reduced and oxidized. Chemical oxidation and reduction in harmony with the electrochemical findings are also described.

1. K. Moock and K. Seppelt, Z. Anorg. Allgem. Chem., 561, 132 (1988).