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REACTIONS OF PHOSPHORUS TRIFLUORIDE AND THIOPHOSPHORYL FLUORIDE WITH STRONG OXIDIZING AGENTS

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Facile oxidations of phosphorus trifluoride occur yielding a pentavalent phosphorus compound upon reaction with iodine monochloride, nitryl chloride, iodic acid and periodic acid. Reactions with sodium and potassium nitrites yield phosphoryl fluoride as a primary reaction product which further reacts to form corresponding monofluorophosphates along with the metal fluoride. Reactions of thiophosphoryl fluoride with iodine monochloride resembles closely that of phosphorus trifluoride in the formation of dichlorotrifluorophosphorane with elemental sulphur formed in addition. No reaction is observed with nitryl chloride. Details of these reactions will be presented.

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