

THE PREPARATION OF SILVER FLUOROBORATE:

A WARNING

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IN connection with a preparation of silver fluoroborate by the method of Meerwein¹ we have experienced an explosion of great violence. A mixture of silver oxide and boron trifluoride etherate was heated in nitromethane, and the residue containing silver metaborate and unreacted silver oxide was then removed by filtration using a sintered glass funnel. This dark residue was washed with water and then allowed to stand for several days. At the end of this interval more water was added and the funnel swirled to loosen the solid so it could be discarded. Without warning the residue detonated with terrific brisance.

The ease with which the solid detonated suggested that it might have contained silver fulminate. This conjecture is strongly supported by Nef's observation that treatment of an ice-cold aqueous solution of the sodium salt of nitromethane with mercuric chloride causes precipitation of mercuric fulminate.² A silver analog of this transformation is not unlikely in a reaction mixture containing both nitromethane and silver oxide.

¹ H. Meerwein, V. Hederich, and K. Wunderlich, Arch. Pharm. **291**, 541 (1958).

² N.V. Sidgwick, The Organic Chemistry of Nitrogen p. 339. Oxford University Press (1937). We are indebted to Mr. R. Lawton for bringing this reference to our attention.

We strongly recommend Olah's method for preparing silver fluoroborate, which employs argentous fluoride instead of the oxide.³

³ G.A. Olah and H.W. Quinn, J.Inorg.Nucl.Chem. 14, 295 (1960).