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Effect of Tetra-n-butyl Ammonium Tetrafluoroborate on Thermal Decomposition of Ammonium Perchlorate

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ABSTRACT

Effect of tetra – n- butyl ammonium tetrafluoroborate on thermal decomposition of ammonium perchlorate is studied. Simultaneous thermo-analytical techniques of TG-DTG-DTA system coupled to Blazers Mass Spectrometer are employed in this study. Evidence for the liberation of tri-butyl amine, butyl fluoride, and boron trifluoride as major decomposition products is provided through Mass Spectral data. The presence of TBATFB brings down the overall enthalpy of AP decomposition, indicating its suppressive role.

Keywords: Ammonium, perchlorate, tetra butyl, tetrafluoroborate, thermo-analytical, Decomposition.