

## **AG:GTFA - A Promising Ionic Liquid-based Melt-Pour Explosive Binder**

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Aminoguanidinium:guanidinium trifluoroacetate (AG:GTFA) is a desensitizing ionic liquid with excellent properties for use as a binder in insensitive melt-pour explosive formulations. Previous efforts between ATK Space Systems and the U.S. Army Armament Research, Development, and Engineering Center (ARDEC) have resulted in the synthesis of dozens of novel ionic liquids. These ionic liquids have shown a promising ability to desensitize ionic liquid-based melt-pour formulations when used with classical energetic materials. Recent efforts using ionic liquids have focused on AG:GTFA, the analysis of its properties and performance, and formulations using it as a binder. This paper discusses these characterization, formulation, and testing efforts.