

Abstract ID: 7738

Title: IM Explosive for SMAW HEAA Warhead

Abstract Text: Topic Addressed: Energetic

Relevance to Conference Theme: This paper addresses improved Insensitive Munition compliance for the SMAW HEAA weapon system.

Objective of the Presentation: The objective is to present test results.

Abstract: The Shoulder-Launched, Multi-Purpose Assault Weapon (SMAW) is a 83mm man-portable weapon system designed to fire a family of encased rockets, one of which is the High Explosive Anti-Armor (HEAA) rocket. The HEAA has a shaped charge warhead designed to defeat armor targets. Octol is the current explosive fill for the HEAA warhead. Octol is not an Insensitive Munition (IM) compliant explosive. The objective of the current effort is to replace Octol with an IM fill while retaining current warhead performance for the SMAW HEAA rocket.

A two phase approach was undertaken. In Phase I, an Explosive Selection Committee selected potential warhead explosives based on IM properties, explosive output, and composition maturity. Explosive candidates were limited to DoD qualified compositions. The three selected candidate explosives, PBXN-9, PBXN-11, and PBXW-114, were subjected to slow cook-off, fragment impact, and penetration performance tests in the SMAW HEAA warhead. PBXN-9 was selected as the explosive that provided the best combination of insensitivity, performance, and manufacturability. The results of the tests will be discussed.

In Phase II, the SMAW HEAA with PBXN-9 warhead fill is being taken through the normal qualification and acceptan