

Abstract Submitted  
for the SHOCK07 Meeting of  
The American Physical Society

**Investigation of Formulations Containing Perfluoro-Coated Oxide-Free Nano-Aluminum<sup>1</sup>** ANDREA WARREN, G. WILLIAM LAWRENCE, R. JASON JOUET, Naval Surface Warfare Center, Indian Head Division — Plastic Bonded Explosive (PBX) samples were formulated incorporating oxygen-free nano-aluminum (nano-Al) that is passivated with a fluorinated carboxylic acid. This project investigated explosive formulations containing this coated nano-Al (C14/nanoAl). Small-Scale Shock Reactivity and Internal Blast Tests (SSBT) determined the contribution of the C14/nanoAl in the early stages of the reaction. These results show that the volume of the dent of samples containing C14/nanoAl is twice as great as the dent volume of standard formulations, suggesting faster aluminum combustion than conventional Al formulations.

<sup>1</sup>Funding provided by the Indian Head IAR program

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Date submitted: 27 Mar 2007

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