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LX-04 Violence Measurments: Steven Tests Impacted By Projectiles Shot From A Howitzer Gun STEVEN K. CHIDESTER, KEVIN S. VANDERSALL, LORI L. SWITZER, DANIEL W. GREENWOOD, CRAIG M. TARVER, Lawrence Livermore National Laboratory, Livermore, CA 94550 — Characterization of the reaction violence of LX-04 explosive (85% HMX and 15% Viton by weight) was obtained from Steven Impact Tests performed above the reaction initiation threshold. A 155 mm Howitzer propellant driven gas gun was used to accelerate the Steven Test projectiles in the range of approximately 150-300 m/s to react (ignite) the LX-04 explosive. Blast overpressure gauges, acoustic microphones, and high-speed photography characterized the level of high explosive reaction violence. A detonation in this velocity range was not observed and when comparing these results (and the Susan test results) with that of other HMX based explosives, LX-04 has a more gradual reaction violence slope as the impact velocity increases. The high binder content (15%) of the LX-04 explosive is believed to be the key factor to the lower level of violence. This work was performed under the auspices of the U. S. Department of Energy by the University of California, Lawrence Livermore National Laboratory under Contract No. W-7405-Eng-48.

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