

Abstract Submitted
for the SHOCK11 Meeting of
The American Physical Society

Shock Resistance of Metal-Organic Framework Cu-1,3,5-Benzenetricarboxylate with and without Ferrocene Inclusion Q. WEI, H.W. XU, S.N. LUO, Los Alamos National Laboratory — A first-of-the-kind study on the dynamic response of a metal-organic framework (MOF) material to impulsive shock wave loading is reported. MOF Cu-1,3,5-benzenetricarboxylate (Cu-BTC) without and with ferrocene inclusion show anisotropic structural collapse under shock loading, likely due to the elastic anisotropy of the network structure. The shock resistance of Cu-BTC framework is enhanced drastically (by a factor of six) via including ferrocene into the pore structures.

Sheng-Nian Luo
Los Alamos National Laboratory

Date submitted: 18 Feb 2011

Electronic form version 1.4