Abstract Submitted
for the SHOCK15 Meeting of
The American Physical Society

Cyanoacetohydrazide under pressure[1] GUSTAV BORSTAD, JENNIFER CIEZAK-JENKINS, US Army Research Laboratory — The application of pressure to molecular crystals generates dramatic changes in the properties through the modification of the intermolecular interactions, the crystal structure, and the molecular bonding. Typical changes as the density increases involve the breaking of chemical bonds and the formation of new bonds. This results in the increase in the coordination number and the formation of polymers. The novel materials thus produced may possess novel properties such as high-energy density, super-hardness, high electrical and thermal conductivities and optical activity. Nevertheless, recovering these novel materials to ambient conditions has proven challenging. One approach to overcome this is seeking appropriate chemical precursors which will yield enhanced stability of the recovered material. In this poster, we present Raman data of cyanoacetohydrazide compressed using diamond anvil cell techniques. These data suggest evidence of an irreversible transformation near 20 GPa. The characteristics and stability of the recovered sample are also discussed.

[1]During this project, coauthor GB was supported in part by an appointment to the Postdoctoral Research Program at the US Army Research Laboratory administered by the Oak Ridge Associated Universities.

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Date submitted: 28 Jan 2015 Electronic form version 1.4