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Reactive Flow Calibration for Diaminoazoxyfuran (DAAF) and Comparison with Experiment CARL JOHNSON, ELIZABETH FRANCOIS, JOHN MORRIS, WX Division, Los Alamos National Lab — Diaminoazoxyfuran (DAAF) has a number of desirable properties; it is sensitive to shock while being insensitive to initiation by low level impact or friction, it has a small failure diameter, and it has a manufacturing process that is relatively straightforward and inexpensive with minimal environmental impact. In order to facilitate hydrocode modeling of DAAF we have developed a set of reactive flow parameters which were calibrated using published experimental data as well as recent experiments at LANL. Hydrocode calculations using the DAAF reactive flow parameters developed in the course of this work were compared to rate stick experiments, small scale gap tests, as well as hemispherical acceptor/cylindrical booster experiments. The hydrocode calculations were compared directly to streak image results using numerous tracer points and an external algorithm to match the data sets. The calculations display a reasonable agreement with experiment with the exception of effects related to shock desensitization of explosive.

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