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**Extension of JAGUAR Procedures for New Gaseous and Condensed Species**[1] LEONARD STIEL, Polytechnic Institute of New York, ERNEST BAKER, DANIEL MURPHY, US Army ARDEC — JAGUAR is a highly efficient and accurate thermochemical equilibrium program for the detonation properties of explosives. In previous studies equation of state EXP-6 parameters for H-CN-O gaseous explosives product species have been optimized with available individual species Hugoniot data. The Jaguar library also includes solid and liquid properties for carbon and aluminum, silicon, and boron compounds. In this study the Jaguar property library has been expanded to include additional gaseous, liquid, and solid detonation products. New EXP-6 parameters for gaseous fluorine and chlorine compounds have been established through theoretical procedures, and by analyses of Hugoniot data for the actual species or for reactants which decompose into these compounds. Properties for additional condensed species have also been analyzed and added to the library. Extensive tests have beeb performed to determine the accuracy of calculated detonation properties in comparison to experimental data.

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