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Reactive fluid flow is important for studies of chemical vapor, infiltration, diesel, particulate filter and detection of hazardous gases. In systems where there are large number of resulting species simulations and optimizations becomes difficult, if not impossible. In this presentation we will attempt to classify sets of chemical species by reaction rates and diffusion rates thus creating a set of equivalent classes that are much smaller in numbers than individual elements. We will create a reduced reaction set that will simulate the entire gas reactive flow to reduce computing time. To achieve this, we will employ temporal and spatial visualization techniques to identify aggregates of chemical species with similar properties. (Received September 15, 2009)