

Setup	Inputs	Extended settings																																																											
Results	<h3>Define reactants and species to be considered</h3> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Reactants</td> <td style="width: 30%;">List of Species</td> <td style="width: 10%;">%</td> <td style="width: 10%;">Fuel</td> </tr> <tr> <td>Natural Gas + Air</td> <td>CO<sub>2</sub></td> <td>8.367</td> <td></td> </tr> <tr> <td></td> <td>CO</td> <td></td> <td>O/F</td> </tr> <tr> <td></td> <td>H<sub>2</sub>O</td> <td></td> <td>2.3</td> </tr> <tr> <td></td> <td>H<sub>2</sub></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td>Phi</td> </tr> <tr> <td></td> <td></td> <td></td> <td>1</td> </tr> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">Species</th> <th style="width: 15%;">Nº moles</th> <th style="width: 15%;">Mole fraction</th> <th style="width: 15%;">Type</th> <th style="width: 15%;">Temperature [K]</th> </tr> </thead> <tbody> <tr><td>N<sub>2</sub></td><td>8.6524</td><td>0.7239</td><td>Inert</td><td>300</td></tr> <tr><td>O<sub>2</sub></td><td>2.3000</td><td>0.1924</td><td>Oxidizer</td><td>300</td></tr> <tr><td>CH<sub>4</sub></td><td>0.8500</td><td>0.0711</td><td>Fuel</td><td>300</td></tr> <tr><td>C<sub>2</sub>H<sub>6</sub></td><td>0.1000</td><td>0.0084</td><td>Fuel</td><td>300</td></tr> <tr><td>C<sub>3</sub>H<sub>8</sub></td><td>0.0500</td><td>0.0042</td><td>Fuel</td><td>300</td></tr> </tbody> </table>			Reactants	List of Species	%	Fuel	Natural Gas + Air	CO <sub>2</sub>	8.367			CO		O/F		H <sub>2</sub> O		2.3		H <sub>2</sub>						Phi				1	Species	Nº moles	Mole fraction	Type	Temperature [K]	N <sub>2</sub>	8.6524	0.7239	Inert	300	O <sub>2</sub>	2.3000	0.1924	Oxidizer	300	CH <sub>4</sub>	0.8500	0.0711	Fuel	300	C <sub>2</sub> H <sub>6</sub>	0.1000	0.0084	Fuel	300	C <sub>3</sub> H <sub>8</sub>	0.0500	0.0042	Fuel	300
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**Select Problem Type**

HP: Adiabatic T and composition at constant P	<input type="checkbox"/> Frozen chemistry <input type="checkbox"/> Ionized species
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**Define state of reactants and products**

<b>Reactants</b> <input type="text" value="300"/> <input type="text" value="1"/>	<b>Products</b> Temperature [K] <input type="text" value="1"/>
	Pressure [bar]

**Additional constraints**

<b>Products</b> Constant Enthalpy: $hP = hR$	<input type="button" value="Calculate"/> <input type="button" value="Clear"/>
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Welcome to Combustion Toolbox v0.5 --- A MATLAB-GUI based open-source tool for solving combustion problems.

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