## Wkst 1.1: Average Reaction Rate Calculations

1- Determine average reaction rates in mole/s for all chemicals involved if a camp stove burns propane $\left(\mathrm{C}_{3} \mathrm{H}_{8}\right)$ at a rate of 3.00 mole $/ \mathrm{s}$.

2- If hydrogen gas is generated at $245 \mathrm{~L} / \mathrm{min}$ at RTP in a reaction between $\mathrm{HNO}_{3}$ and Al , find reaction rates for all reactants and products in mole/min.

3- If 176 g of NaOH reacts with $\mathrm{H}_{2} \mathrm{SO}_{4}$ in 15 seconds, find reaction rates for all participating chemicals in g/s.

4- Fluorine and ammonia gases react at STP to produce nitrogen and hydrogen fluoride gases. Find reaction rates in L/min if nitrogen is produced at $5.00 \mathrm{~mole} / \mathrm{min}$.

5- Determine reaction rates for all chemicals in g/s if a reaction between 450. g of HCl and 375 g of $\mathrm{Fe}_{2} \mathrm{~S}_{3}$ yields $\mathrm{FeCl}_{3}$ and $\mathrm{H}_{2} \mathrm{~S}$ during a 150 . second interval.

