

Performing Stoichiometric Calculations



Queries: L excess, L excess, L produced, g produced

Parsing

```
FormulaS = [[['C'], 1], [['H'], 4], [['O'], 2], [['C'], 1], [['O'], 2],  
            [['H'], 2], [['O'], 1]]  
QtyS = [[['20', 2], 'L']], [['10', 2], 'L'], nil, nil]  
QueryS = [[['W', _], 'L'], excess], [['X', _], 'L'], excess], [['Y',  
_], 'L'], actual], [['Z', _], g], actual]]
```

Convert to Moles

```
QtyS = [[['0.8923', 2], mol]], [['0.4462', 2], mol], nil, nil]
```

Only One Reactant Quantity:

More Than One Reactant Quantity:

QtyIn = ...
FormulaIn = ...

Determine Limiting Reactant

```
FormulaLim = [['O'], 2]  
QtyLim = [['0.4462', 2], mol]]
```

Convert to Result Units

$W = 15.0$, $X = 0.0$, $Y = 5.0$, $Z = 8.0375$

Reverse Parsing

Results: 20 L CH_4 + 10 L O_2 \rightarrow CO_2 + $2\text{H}_2\text{O}$
 $= 15 \text{ L excess}$ $= 0 \text{ L excess}$ $= 5 \text{ L produced}$ $= 8 \text{ g produced}$