



## Introduction to Air, Fuel, and Nitrous Chemistry

	Fuel Chemistry								
	Gasoline C8H18			Ethanol C2H5OH			Methanol CH3OH		
Atomic Weight	Carbon	12 X 8 =	96	Carbon	12 X 2 =	24	Carbon	12 X 1 =	12
	Hydrogen	1 X 18 =	18	Hydrogen	1 x 6 =	6	Hydrogen	1 x 4 =	4
	Oxygen	0 =	0	Oxygen	16 x 1 =	16	Oxygen	16 x 1 =	16
	Total Weight:		<b>114</b>	Total Weight:		<b>46</b>	Total Weight:		<b>32</b>

	Air/Fuel Chemistry (Air with 21% Oxygen)								
	Gasoline			E85			Methanol		
Air/Fuel	12.8/1 Ratio			7.7/1 Ratio			5.7/1 Ratio		
Parts of Air	Oxygen	2.69		Oxygen	1.62		Oxygen	1.20	
	Nitrogen	10.11		Nitrogen	6.08		Nitrogen	4.50	
Percent by Part	Oxygen	2.69	19.49%	Oxygen	1.92	22.07%	Oxygen	1.70	25.37%
	Nitrogen	10.11	73.30%	Nitrogen	6.08	69.89%	Nitrogen	4.5	67.16%
	Fuel	1.00	7.21%	Fuel	0.70	8.04%	Fuel	0.50	7.46%
Total Parts	13.8			8.7			6.7		
Oxygen / Fuel	2.69/1			2.74/1			3.40/1		

	Nitrous/Fuel Chemistry								
	Gasoline			E85			Methanol		
Nitrous/Fuel	5.5/1 Ratio			3.75/1 Ratio			2.5/1 Ratio		
Parts of Nitrous	Oxygen	1.98		Oxygen	1.35		Oxygen	0.90	
	Nitrogen	3.52		Nitrogen	2.40		Nitrogen	1.60	
Percent by Part	Oxygen	1.98	30.46%	Oxygen	1.65	34.74%	Oxygen	1.40	40.00%
	Nitrogen	3.52	54.15%	Nitrogen	2.40	50.53%	Nitrogen	1.60	45.71%
	Fuel	1.00	15.38%	Fuel	0.70	14.73%	Fuel	0.50	14.28%
Total	6.5			4.75			3.50		
Oxygen / Fuel	1.98/1			2.36/1			2.80/1		
Volume/Sec/Hp	115cc's/10sec/100hp			155cc's/10sec/100hp			229cc's/10sec/100hp		

\* Gasoline based on 6 lb/gal