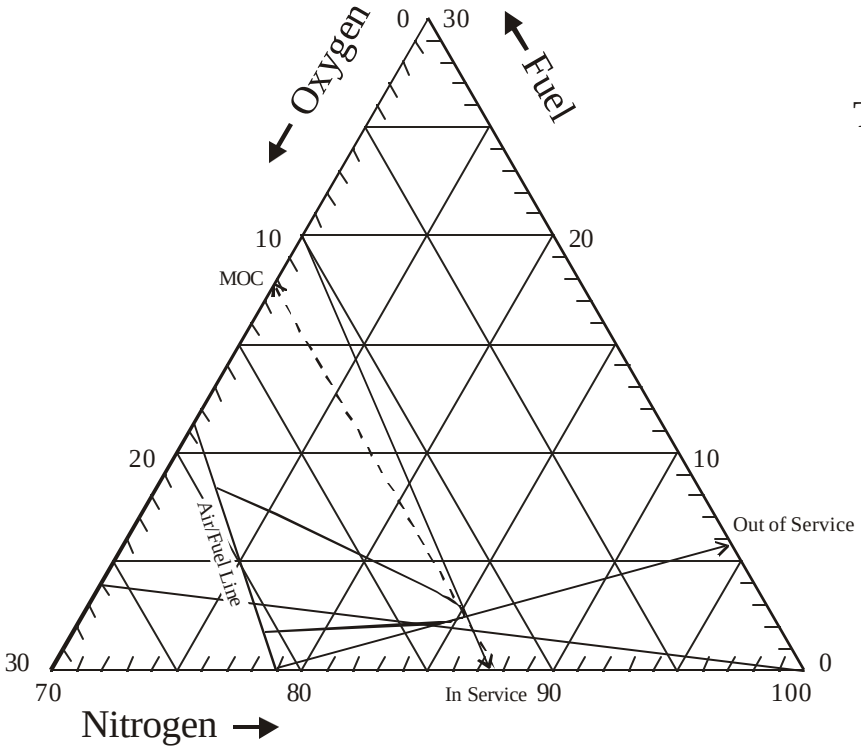
Butane

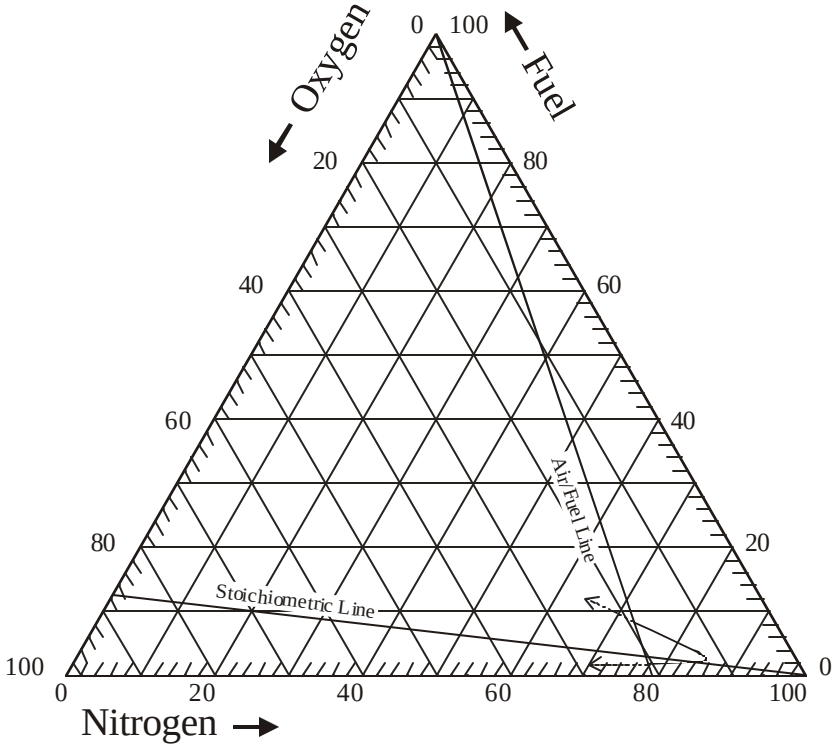
CH_3-CH_2-CH_2-CH_3

25°C and Atmospheric Pressure

$C_4H_{10} + 6.5O_2 \longrightarrow 4CO_2 + 5H_2O$

Triangular Plot Data From Reference 2





Molecular weight:	58.12
Boiling point:[1]	-0.45°C
LFL:[2]	1.8%
UFL:[2]	8.4%
MOC:	12.3% O_2
Flash point:[3]	-74.15°C

Vapor Pressure Equation:[4] $\ln P = A - \frac{B}{T(K) + C}$

P (mmHg)
195 to 290K
A = 15.6782
B = 2154.90
C = -34.42

Concentration of vapor in air at 1 atm.: **%

From Figure:

In service Concentrations:	87.5% N_2 12.5% O_2
Out of service Concentrations:	5.8% Fuel 94.2% N_2

[1] Lide, D. R., Editor in chief, *Handbook of Chemistry and Physics*, 71st ed., CRC Press, Inc., Boston, 1991

[2] Zabetakis, M. G., *Flammability Characteristics of Combustible Gases and Vapors*, U.S. Dept. of the Interior, Bureau of Mines, No. 627, 1965

[3] Stephenson, R. M., *Flash Points of Organic and Organometallic Compounds*, Elsevier Science Publishing Co., Inc., New York, 1987

[4] Reid, R. C., Prausnitz, J. M., and Sherwood, T. R., *The Properties of Gases and Liquids*, 3rd ed. McGraw Hill, New York, 1977