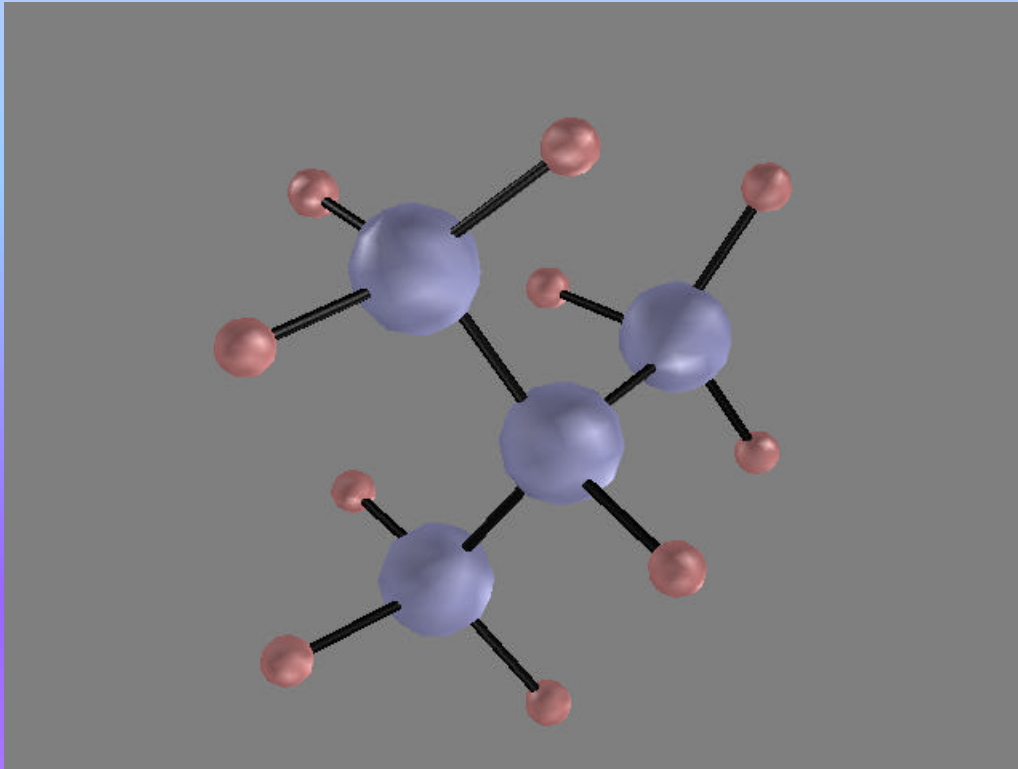


# Chemical Properties of Isobutane



## Isobutane $\text{CH}(\text{CH}_3)_3$

### DESCRIPTION (Isobutane):

Isobutane is a colorless, flammable gas. It is shipped as a liquefied gas under its own vapor pressure of approximately 30.7 psig @ 70°F. Typically used in the manufacture of aviation fuels and as a calibration gas for temperature and pressure gauges.

### PHYSICAL CONSTANTS (Isobutane):

Molecular Weight:	<b>58.124</b>	Latent Heat of Fusion @ m.p.:	<b>18.67 cal/g</b>
Vapor Pressure @ 70° F.:	<b>30.7 psig</b>	Flammable Limits in Air:	<b>1.8-8.4% by volume</b>
Specific Volume @ 70° F., 1 atm.:	<b>6.5 cu.ft/lb</b>	Autoignition Temperature:	<b>1010°F</b>
Boiling Point @ 1.0 atm. :	<b>10.9°F</b>	Gross Heat of Combustion @ 60° F., 1 atm.	<b>3352.15 BTU/ft<sup>3</sup></b>
Freezing Point @ 1 atm. :	<b>-255.3°F</b>	Specific Heat, Liquid @ 60° F., 1 atm. $C_p$ :	<b>0.5695 cal/(g)(°C)</b>
Specific Gravity, Gas @ 60° F., 1 atm. (Air = 1):	<b>2.01</b>	Specific Heat, Gas @ 60° F., 1 atm. $C_p$ :	<b>0.3872 cal/(g)(°C)</b>
Density, Liquid @ 60° F., 1 atm.:	<b>0.563 g/ml</b>	Specific Heat, Gas @ 60° F., 1 atm. $C_v$ :	<b>0.3530 cal/(g)(°C)</b>
Critical Temperature:	<b>275.0°F</b>	Specific Heat Ratio, Gas @ 60° F., 1 atm., $C_p/C_v$ :	<b>1.097</b>
Critical Pressure:	<b>529.2 psia</b>	Thermal Conductivity, Gas @ 0° C. :	<b>0.01169 BTU/hr ft<sup>2</sup> °F/ft</b>
Critical Density:	<b>0.221 g/ml</b>	Viscosity, Gas @ 23°C., 1 atm. :	<b>0.00755 centipoise</b>
Latent Heat of Vaporization @ b.p.:	<b>87.56 cal/g</b>	Surface Tension @ -20°C., 1 atm. :	<b>15.28 dynes/cm</b>
		Solubility in Water @ 17° C., 1 atm. :	<b>1.7 cc/ 100 cc H<sub>2</sub>O</b>

Technical Information supplied by:

**CONCOA®**

Controls Corporation on America  
Virginia Beach, Virginia  
<http://www.concoa.com>