

Chemical Composition of Syngas

Source: Materials Research; (http://www.scielo.br/scielo.php?script=sci_arttext&pid=S1516-14392004000100009)

The composition of the raw syngas depends on the gasification process used and the fuel composition, especially its sulfur and chlorine content.

The syngas composition of processes with water-coal slurry systems is typically (vol %) CO 35-45, CO₂ 10-15, H₂ 27-30, H₂O 15-25, H₂S 0.2 - 1.2. HCl 50-500 ppm.

For a dry fed gasifier the CO content of the gas is considerably higher 62-64%, while the CO₂ and H₂O contents are generally less than 4%.

Water-Coal Slurry System

Chemical Composite	Volume Percentage %
CO (Carbon Monoxide)	35 – 45%
CO ₂ (Carbon Dioxide)	10 – 15%
H ₂ (Hydrogen)	27 – 30%
H ₂ O (Water)	15 – 25%
H ₂ S (Hydrogen Sulfide)	0.2 – 1.2%
HCL (Hydrochloric Acid)	50 – 500 ppm