THE CHEMISTRY OF GUNPOWDER



PRODUCTS OF COMBUSTION

56% SOLID PRODUCTS

43%

1% GASEOUS **PRODUCTS**

WATER

CHARCOAL

Consists of broken down cellulose and provides carbon and other fuel for the reaction.

SALTPETRE

Saltpetre is a common name for potassium nitrate. It supplies oxygen for the combustion reaction.

SULFUR

Sulfur, also referred to as brimstone, lowers the ignition temperature required to start the reaction.

ENERGY DENSITY 3 MEGAJOULES PER KG



A SIMPLIFIED EQUATION FOR THE BURNING OF BLACK POWDER $10KNO_3 + 8C + 3S \longrightarrow 2K_2CO_3 + 3K_2SO_4 + 6CO_2 + 5N_2$



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