



PAID ADVERTISEMENT

What is octane?

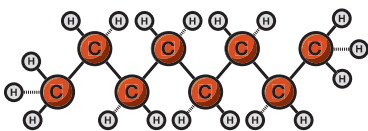


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What is the difference between regular and premium gasoline? At Costco, the only difference is octane.

Both grades of Costco Kirkland Signature™ Gasoline contain the same high level of detergent additives, so both regular and premium keep your engine clean and running like new.

Octane molecule



Octane is a stable hydrocarbon molecule that contains eight carbon atoms. Octane's chemical characteristics make it a reference standard for how gasoline burns in a spark-ignition engine. More octane means the fuel burns a split second slower. High-performance and turbocharged engines run hotter, so they need more octane to keep the fuel in sync with the spark plugs. If the fuel ignites prematurely due to heat and pressure instead of the timed spark, you hear a "knock" that can reduce performance and possibly damage your engine.

In the U.S., premium gasoline ranges from 91 to 93 octane depending on where in the country it's sold. Higher altitudes need a bit less octane because there is lower atmospheric pressure.

Costco recommends that you always use gas with the octane rating specified in your car's owners manual. Although modern engines have computers that can adjust the ignition timing to match the octane in your tank, power and performance may decline. If you paid extra for a high-performance car, it makes sense to buy premium gasoline to get all the power the engine can provide. If your car specifies the lower octane grade, save your money and buy regular gas.