From June 1 to September 15 every year, nearly all gasoline sold in the United States is required to be a “summer” gasoline which is different in a few key ways from the gasoline sold during the rest of the year.

Summer gasoline has to meet different performance and environmental specifications than fuel sold during the winter, fall and spring. The Clean Air Act requires summer gasoline to be less “volatile,” meaning it’s less prone to vaporize when temperatures reach their summer highs. This is important for mitigating evaporative emissions from cars and trucks and other precursors to smog. Lower volatility is also important for ensuring optimal engine performance when ambient temperatures are high.

Gasoline volatility (the ease with which liquid gasoline turns into vapor) is measured using Reid Vapor Pressure (RVP). Summer gasoline must have a lower RVP.

The reality is that less volatile (lower RVP) gasoline is more costly to make. Gasoline is actually a blend of many different components produced in a refinery, and the different components have different RVPs, octanes and other required properties. To achieve the required lower volatility, summer gasoline contains fewer evaporative “ingredients” or “light ends.” Light ends are some of the more affordable and higher-octane gasoline components and, for the summer season, their volumes in finished gasoline need to be reduced significantly and largely subbed out for other components that are low RVP but still high-octane. The components used to make summer gasoline often require more intensive processing from refineries.

Replacing lower-cost components with those that require more intensive refining increases the cost to make summer gasoline, and it’s a key reason why gasoline prices often increase heading into summer months.

Refiners begin changing over their operations to produce summer-spec fuel months ahead of the national June 1 sales deadline, often as early as February and March. In fact, by May 1 the federal government requires all gasoline supplied to terminals (where fuel is stored ahead of retail distribution) to meet summer RVP requirements to ensure that all gasoline available at retail outlets meets the summer-spec by June 1.

Sales of higher-RVP gasoline are allowed to resume after mid-September. When that changeover happens, gasoline prices typically decline, reflecting the more affordable, higher-RVP gasoline recipe that carries us through the rest of the year until the next summer’s driving season.

	Summer gasoline	Winter and shoulder-season gasoline
Sales dates	June 1 – September 15	September 16 – May 31
Regulatory considerations	Under the Clean Air Act, summer gasoline is required to have a lower Reid Vapor Pressure (RVP)	Under the Clean Air Act, winter and shoulder-season gasoline can have a higher RVP
Recipe differences	The high-octane components in	The high-octane components in

	Summer gasoline	Winter and shoulder-season gasoline
Refinery cost considerations	summer gasoline, like alkylate, have a lower RVP High-octane, lower-RVP components are costlier because the refining process to make them is more intense	winter gasoline, “light ends” like butane, have a higher RVP High-octane, higher-RVP components are less costly

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