

Ethanol explained.



What is it?

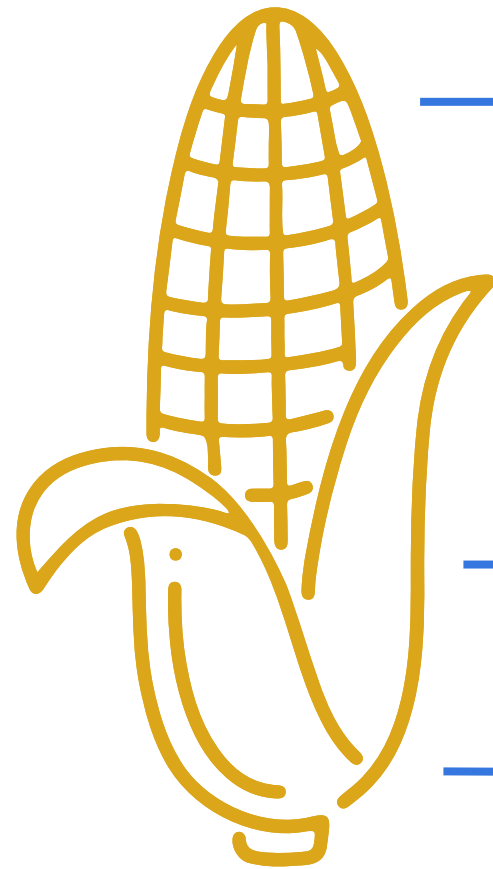
Why do we use it
in our gasoline?

Why do the
amounts differ?

What are the pros
& cons?

What does it mean
for me?

What exactly is ethanol?



Alcohol (made from fermented corn & other biomass) mixed with chemicals to become a fuel source

A renewable resource (re: made from fermented plant mass)

A cleaner-burning additive that oxygenates the fuel

Present in more than 98% of gasoline in the United States

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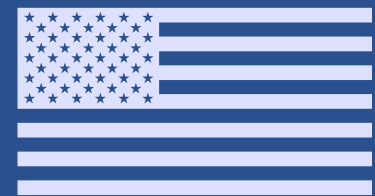
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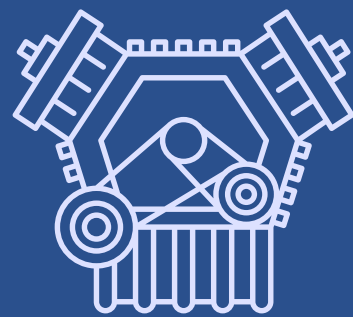
What are the pros & cons?

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Why do we use it in our gasoline?



First mandated by Congress to **decrease dependency on foreign oil**



Raises the octane level of gasoline



Now **mandated** in the 1990 **Clean Air Act** & 2005 **Renewable Fuel Standard**



Reduces emissions: More environmentally friendly

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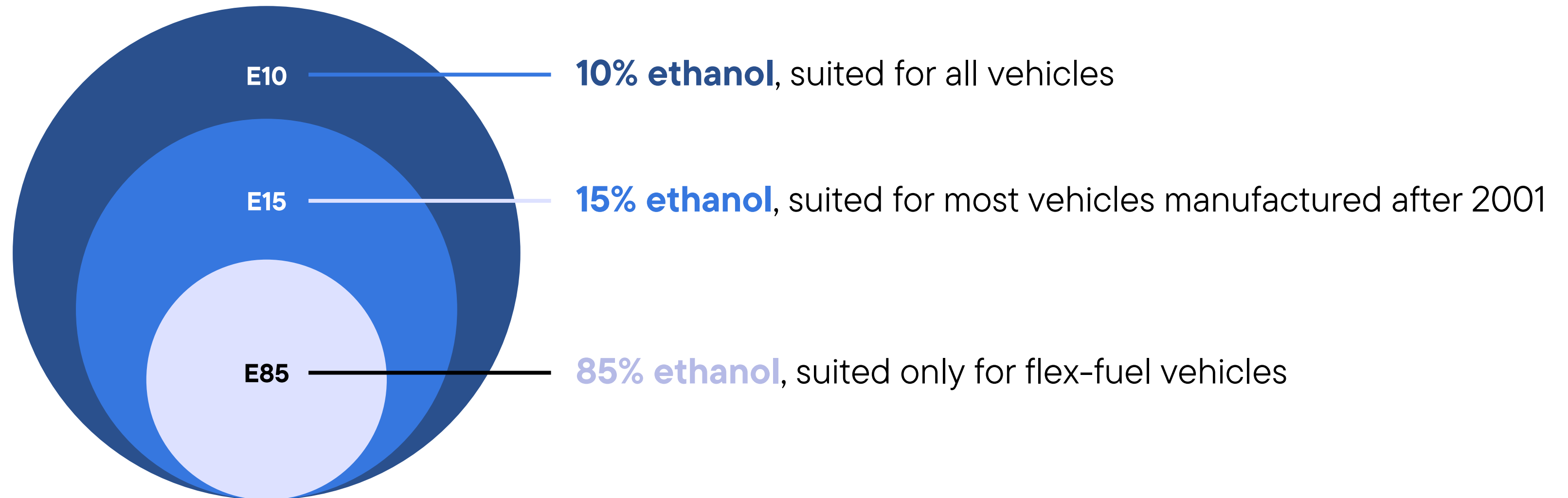
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Why do the amounts differ?

Not every car can run on any amount of ethanol. The different percentages are suited to different vehicles:



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PROS of using ethanol

Reduced emissions

Ethanol burns cleaner & therefore reduces emissions of harmful pollutants

Possible benefits to your engine

Ethanol can help clear out deposits from within your engine, fuel lines, & fuel injectors

Potential for better fuel economy

The higher octane rating of ethanol allows it to waste less energy as the fuel is combusting



CONS of using ethanol

Lower energy density

Meaning: You need more ethanol than gasoline to go the same distance

Possible damage to engine

Ethanol is more corrosive than gasoline & can cause damage to seals & gaskets

Higher cost

Ethanol is more expensive than gasoline, & more is needed to go as far as gasoline alone

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Most likely - not much!

Your vehicle should be unaffected by the smaller percentages of ethanol in gasoline:

- * **E10** is proclaimed safe for all vehicles that run on gasoline
- * **E15** is proclaimed safe for the vast majority of vehicles manufactured after 2001
(you can clarify your vehicle is included in that vast majority by consulting your owner's manual)

Owners of classic cars have reported that ethanol can dry out and degrade things like rubber hoses, but these can be replaced with ethanol-safe options (and are parts that need replacing over time, anyways)

While it's good to know what's going into your car and what kind of impact it has, the regulations around ethanol mean that any mileage your car might save by running on pure gasoline isn't enough to offset the cost of ethanol-free fuel (if you can even find it) - so as long as you're fueling up with a percentage of ethanol that is safe for your vehicle, you're stewarding your knowledge of ethanol well.

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