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E10 petrol became the standard grade of petrol in 2021. But what is it? What's different about it? And how does it affect your car? Find out everything you need to know about E10 petrol here. E10 is a type of petrol that replaced E5 as the standard unleaded petrol at UK fuel stations. It is clearly marked as E10 on the fuel pump, so you can't put it in
your car accidentally. E5 is typically marketed as "high-octane" or performance fuel, but will also have E5 on clearly labelled. It contains more ethanol and less fossil fuel than E5, so the government hopes it will go some way towards reducing carbon emissions. In case you were wondering, the "10" is a percentage, so the new fuel contains 10%
ethanol as opposed to 5% in the old one. Ethanol is a type of biofuel that's made from feedstocks like wheat and sugar beet, so adding it to petrol helps make it more eco-friendly. According to the Department for Transport, the introduction of E10 is equivalent to taking 350,000 cars off the road. That's a significant sum that represents a major step
toward the government meeting its carbon reduction goals. The UK wasn't the guinea pig when it comes to E10 petrol. The fuel was already in use in some European countries, such as Germany and Belgium, where it helped to reduce emissions for petrol vehicles across both locations. Brazil has taken things one step further, too, with a 100% ethanol-
based fuel that it's had in circulation since the 1980s! Now we've cleared up what E10 is, it's time to answer the question on every motorist's mind: does it work in my car? Well, we're pleased to say that in most cases, it will. Provided you drive a petrol car that was made after 2011, E10 will be safe to use. In fact, of the 18.7 million petrol cars on UK
roads, the RAC estimates that only around 3% won't work with E10 (equivalent to 600,000 vehicles). That means most drivers can use standard unleaded as they normally would. But what if you're in the 3%? Here, E10 becomes more of an issue. Older cars aren't designed to work with "future fuels" like ethanol, so using E10 could damage your
engine. There is a way around this, but it's not ideal. People who drive cars made before 2011 are encouraged to swap to super-unleaded petrol at the pumps - an advanced type of petrol that costs an average of up to 12p more per litre. It's worth noting, however, that even if you do use E10 in an incompatible car, it will still run. But over time, you
run the risk of doing damage to fragile plastics, metals, and rubber seals, so it's probably worth biting the bullet and switching to super-unleaded instead. If you aren't convinced your car will work with E10, the government has handily set up a website where you can check your car's compatibility. Just input your manufacturer to see a full list of
models that aren't compatible with E10. Aside from the well-publicised environmental benefits of E10, how does the fuel perform? And does it offer the same fuel economy and performance as the outgoing version? In general, for most drivers, E10 doesn't cause much impact, and could in fact save them money. E10 is cheaper than E5, as E5 became
premium unleaded, and E10 is the same price as standard unleaded petrol. The UK government states a 1% reduction in fuel economy using E10 vs E5, so the change to E10 for most drivers of older cars. There are other issues with E10 to note. E10 is considered a less stable fuel
than E5, which potentially leads to starting issues in some vehicles. Drivers may also need to get used to greater variations in petrol prices, with E10 now the standard grade, there's never been a better time to start using Redex to maintain engine
health so you're getting the most from every drop of fuel you put in the tank. In short, E10 petrol can, over time, cause damage to your engine through corrosion, particularly in cars produced before 2011, when cars didn't need to be compliant with E10. This happens because E10 contains more ethanol than E5 petrol, and because ethanol binds
moisture, this can increase the amount of water and therefore corrosion in your engine. Using Redex Petrol System Cleaner in every tank of petrol. It contains an additive that has been specially formulated for this specific reason. Use it alongside Redex Petrol Power Booster to give a bit more
oomph to your petrol engine. The UK is likely to phase out E5 petrol as part of its initiatives to lower carbon emissions. Despite this move, E5 petrol, is still offered, primarily for older vehicles that cannot use E10. E5 is also sold as premium fuel, allowing high-performance vehicles to make use of the increased combustibility of E5 fuel. Although newer
vehicles can use E10 without any problems, many older models still need E5. The government intends to maintain the availability of E5 as a 'protection grade' fuel for these older cars. However, with an increasing number of vehicles becoming compatible with E10 and the environmental advantages becoming more evident, E5 petrol is anticipated to
be gradually discontinued in favour of more sustainable options. Mixing E5 and E10 petrol is usually okay. E5 has up to 5% ethanol, and E10 has up to 5% ethanol, and E10 has up to 10%. When you combine them, you get a mix with an ethanol content between 5% and 10%. Most modern engines can handle this blend. However, it's best to check your vehicle's manual or ask the
manufacturer to make sure your engine is compatible, especially if it's an older model. Generally, using a mix of these fuels won't cause any issues for most vehicles. You can also use the Government's website to check whether your vehicle is E10 compatible. Using E10 petrol (which contains 10% ethanol) in a car that isn't designed for it can lead to
several problems. Ethanol can corrode parts of the fuel system not built to handle it, causing leaks or failures. It can also dislodge deposits, which can clog filters and injectors. Older engine, fuel lines, and seals, leading to expensive
repairs. Always check your vehicle's manual or ask the manufacturer to make sure your car can use E10 petrol. Redex Petrol System Cleaner has been re-developed to provide an additional layer of protection to prevent corrosion from the increased ethanol content found in E10 Petrol. This means with the addition of 1 shot of Redex Petrol System
Cleaner in each tank, any vehicles manufactured before 2011 can still use E10 Petrol system Cleaner is compatible with both E10 & E5 Petrol and is suitable for Hybrids. For those new to Redex fuel additives, our extensive range of petrol system Cleaner, and is suitable for Hybrids. For those new to Redex fuel additives, our extensive range of petrol system Cleaner is compatible with both E10 & E5 Petrol and is suitable for Hybrids.
Petrol Power Booster, and Petrol Emissions Reducer. Using a combination of all or some of these products can improve engine health and performance, and all our additives are safe to use with E10 petrol. We hope this guide has shed some light on what E10 is and how it could affect your day-to-day driving. For more guides and features, head to the
Redex blog, or visit the homepage to learn more about our wide range of fuel additives and system cleaners. We received a report on Twitter today showing e10 fuel being sold at a higher price than regular unleaded. This prompts the question, is e10 better than unleaded in terms of fuel efficiency, price and performance and at what point does the
cost factor in? Are there any other considerations to using e10 fuel, such as environmental factors? Help inform this thread and we'll award some BS buster badges for your profile. e10 prices E10 for 3 to 4 cents a litre less than U91 E10
needs to be around 3% cheaper than U91 to achieve the same running cost due to ethanol being consumed faster than petrol, thus resulting in reduced mileage. Canstar - 19 May 18 Petrol is available in four different types, making the choice of petrol more confusing. So what petrol should you be filling your car with? P.S. It is Monday morning so
that may explain the price board mixup. 6 Likes I see @fred123 has beaten me to the post but I'll join anyway. e10 has 3-4% cheaper, all things being equal. United servos around Melbourne used to keep it 4c/l below 91, but it has crept up to 3c/l as the big players have started offering it, and
seems they are increasingly pushing it. This being a United servo sign begs whether as @fred123 posts, it is a genuine error, or the actual pricing. 7 Likes e10 has a lower energy content that regular unleaded fuel such as RON91. To offset the
increased fuel consumption using e10, the cost of e10 would need to be around $1.54/L to make it stack up economically. In relation to the environment or reducing the volume of non-renewable fuel used by the same vehicle, there could be still a net saving
in non-renewable fuel used when changing to e10. This could be around 9.7% in non-renewable fuel used. While this many not seem significant, if all of Australia's car (most of the existing car fleet that can run on e10) there could be significant, if all of Australia's car (most of the existing car fleet that can run on e10) there could be significant, if all of Australia's car (most of the existing car fleet that can run on e10) there could be significant non-renewable fuel used.
ethanol used in e10. Ethanol can be generated from food products or non-food products or non-food products where its production agricultural land The reason for this is that if ethanol products where its production competes with food products, there will be less food available for
the planets population and it is likely to drive up food prices which it competes with. The last factor is some recognised ethanol, it can damage the fuel system (see if you can can run on ethanol here). E10 also has a scouring effect on the fuel system and poorly maintained
vehicles it can result in blockages in the fuel filter. The last consideration is ethanol absorbed water and a vehicle not doing regular kilometres may have water buildup in the fuel tank/fuel system or can result in water coming out of solution and entering the fuel system causing poor running or the engine
failing to ignite. 7 Likes For all of the above reasons it makes little difference whether you choose E10 or not providing your car or mower etc has an engine able to use E10. As noted there is a potential benefit to the environment in using ethanol when it is produced from a renewable resource such as sugar cane. However there is no price benefit.
There is only a loss when using E10 based on typical SE Qld price differences of 2-3c per litre less for E10. You might also need to fill up if using E10, 2-3 times more each year due to the lower energy content and approx 3% higher consumption compared to regular unleaded. This may depend on how low you dare to go on the tank! There is a cost in
time, and use of E10 perhaps makes it more likely you might hit another high in the petrol price cycle? For some it might be an unlikely issue if you fill up the same day of the week, every week regardless. But such habits are likely not a cost decision. Which it is better for the environment? Clearing land including rainforest to produce more ethanol,
future. P.S. As an aside the maximum benefit of ethanol blends is achievable in engines designed specifically to run on a high ethanol content. Eg E85, or even pure ethanol? Combining the use of ethanol can also match or exceed regular
unleaded for fuel economy. Note pure ethanol is a great racing engine fuel at RON 108.6 and has a history of use in motor sport. Ref en.m. wikipedia.org An octane number, the more compression the fuel can withstand before
to correct that it is correct. Wherever goes the US the world tends to follow because of the overweighted US marketplace. taxpayer.net 339.46 KB 6 Likes PhilT: Wherever goes the US the world tends to follow Is it that simple? The dynamics of our agricultural industry would appear a little different. There is a strong allegiance to cattle, cane and
coal. As far as I can ascertain Australia has not in recent decades provided an agricultural subsidy directly for cropping to produce ethanol. Indirectly ethanol produce less ethanol bio fuel than we import. Imported biofuel! Yes
we import more than we produce and the imports are taxed at full rate with no exemption. apps.fas.usda.gov 1 Like Interestingly, Brazil has been using motor vehicle fuel of up to 100% ethanol,. en.m.wikipedia.org Brazil is the world's
second largest producer of ethanol fuel. Brazil and the United States have led the industrial production of ethanol fuel for several years, together accounting for 85 percent of the world's production in 2017. Brazil produced 26.72 billion liters (7.06 billion U.S. liquid gallons), representing 26.1 percent of the world's total ethanol used as fuel in 2017
Between 2006-2008, Brazil was considered to have the world's first "sustainable" biofuel indu... On a slightly different note, when I was at school, we would sometimes be at the speedway at the Cairns Showgrounds on a Saturday night, which consisted of mainly JAP bikes which were said to be running on Shell A, and the
smell of the exhaust was unmistakeable. When I was based in Townsville around 1970, a guy who was said to be in the army had a Mk2 GT Cortina which was highly modified, and it was said that it could only run on Shell A, and he rarely drove it due to the high fuel cost. I saw it a couple of times on a Saturday night driving along Charters Towers
Road and the smell was also unmistakable. There also used to be claims that engines running on vegetable derived fuels had to also use vegatable derived fuels had to 
Like BrendanMays: is e10 better than unleaded I can't answer that question but have noticed a few things. Know what you are comparing. One of my local petrol stations sells a blend of Unleaded 94 and ethanol i.e. not directly comparable with 100% Unleaded 91. Typically the signage says "up to 10% ethanol". That's pretty dodgy since it isn't a
commitment to have anything more than no ethanol (or perhaps even could have no ethanol). There are plenty of non-car petrol-fuelled devices that say that they can't use ethanol at all. So e10 definitely isn't better for them. 2 Likes Fred123: I have not been able to find any reference to Shell A but I presume it was a fuel with a very high or 100% to the say that they can't use ethanol at all.
ethanol content. Shell aviation gas. Old school up to 115/140 rated for piston engined aircraft. Or Jet A-1 for non propeller heads. The world has moved on a little since then shell.com Avgas is ideal for use in small piston engine powered aircraft, this page summarises the available fuel grades and the history of Avgas. 3 Likes I top up with E10
occasionally to remove any water in the fuel system as the ethanol will mix with any water in the fuel tank in the first instance. Secondly the best way to remove any quantity of water from the tank will mix with the ethanol in the first instance.
to drain the bottom of the tank with the vehicle on level ground. Unleaded fuel and water do not mix and the fuel floats on top of the water will drop out of the blend and sink to the bottom of the fuel tank where it will remain. Of course it
teenagers with hotted up vehicles, we would add some 115 or 145 avgas to the tank, but avgas is just higher octane leaded fuel, and the exhaust fumes smelt nothing is usually simple, nor often possible to follow 'the money' from and to all the requisite
sources. Some countries have greater economic dependence on foreign exchange, some (like the US) subsidise their farming industry in multiple ways from tax breaks to price supports to outright gifts that are not packaged as gifts, and so on. The cynicism in me suggest at least a small part of our equation is that by 'topping up' domestic fuel with
e10 (and beyond) the oil companies have more to export yielding dollars in pockets from profits and the meagre taxes they might pay, and corn farmers have 'the customer' so all is good. 6 Likes PhilT: The cynicism in me suggest at least a small part of our equation is What ever the reasoning behind the financial interests in blended ethanol fuel
production, it would seem there is little cost benefit in it for the consumer. E10 users get insufficient saving in fuel excise per km travelled due to the discounted fuel excise per km travelled due to the discounted fuel excise per km travelled due to the discounted fuel excise per km travelled due to the discounted fuel excise per km travelled due to the discounted fuel excise per km travelled due to the discounted fuel excise per km travelled due to the discounted fuel excise per km travelled due to the discounted fuel excise per km travelled due to the discounted fuel excise per km travelled due to the discounted fuel excise per km travelled due to the discounted fuel excise per km travelled due to the discounted fuel excise per km travelled due to the discounted fuel excise per km travelled due to the discounted fuel excise per km travelled due to the discounted fuel excise per km travelled due to the discounted fuel excise per km travelled due to the discounted fuel excise per km travelled due to the discounted fuel excise per km travelled due to the discounted fuel excise per km travelled due to the discounted fuel excise per km travelled due to the discounted fuel excise per km travelled due to the discounted fuel excise per km travelled due to the discounted fuel excise per km travelled due to the discounted fuel excise per km travelled due to the discounted fuel excise per km travelled due to the discounted fuel excise per km travelled due to the discounted fuel excise per km travelled due to the discounted fuel excise per km travelled due to the discounted fuel excise per km travelled due to the discounted fuel excise per km travelled due to the discounted fuel excise per km travelled due to the discounted fuel excise per km travelled due to the discounted fuel excise per km travelled due to the discounted fuel excise per km travelled due to the discounted fuel excise per km travelled due to the discounted fuel excise per km travelled due to the discounted fuel excise per km travelled due to the dis
or the higher rated premium fuels, have been subsidising the road users who choose the E10 blend. Excise tax for ethanol at $0.081 vs gasoline at $0.412 per litre. Oct 2018. Cynicism appropriate. 4 Likes Fred123: Shell A was not avgas. Apologies @Fred123: Shell A was not avgas. Apologies @Fred123. Perhaps my grey matter is a little off. Hope you find the answer you are seeking. It will be
good to have this clarified further. Traditional piston engine aircraft Avgas had a much greater TEL content compared to automotive fuel. TEL = Tetraethyl-lead. Aside from being toxic it is considered one of the compounds that contributed to a sweet smelling exhaust from the aircraft. 1 Like mark_m: Excise tax for ethanol at $0.081 vs gasoline at
$0.412 per litre. But then we can keep on making more ethanol but we can't make any more petrol. Whether ethanol has any place as a transport fuel long term is unknown. Maybe it will all (ethanol, petrol, diesel, LPG) be replaced by the hydrogen economy. 1 Like Yes, ethanol is certainly renewable and so we do need to further advance it's use
where fuel burning is necessary. Engine manufacturers also need to step away from using oil based fuels and it appears so far most have been hesitant, or appear to have been hesitant, to make all motor vehicles engines more alcohol fuel friendly and more fuel efficient. Both these would lead to a decreased need for X amount of fuel per kilometre
and a somewhat more eco-friendly outcome. Completely avoiding burning carbon based fuels is the better aim, until then reducing non-renewables is a good step in the right direction. The Chinese Tokamak achieved 100 million degrees sustained for 10 seconds late last year so maybe more a heavy hydrogen economy Back to the Future DeLorean
with fusion reactor isn't perhaps so far away anymore as it once appeared. One fusion reaction for a lifetime but then how to store the energy from that reaction for a lifetime of use? phb: Diverting wheat (starch) and sorghum to ethanol production
effectiveness without using non-renewables or subsidies? Until someone tries to see I guess it is hard to accurately answer either way. Should we continue using it? It may become a preferred fuel for certain uses particularly if we stop burning oil based fuels. In the near Medium term I would hope we step away from burning carbon wherever it is
possible to achieve that. 3 Likes grahroll: ethanol is certainly renewable In the general sense yes, but still has some strings attached. To be renewable, it assumes that the CO2 produced through its production and use is being recycled in the carbon cycle...that being, all CO2 is captured by plants. The other issue is in Australia is ethanol is currently
produced from wheat starch, grain sorghum and molasses. While could argue the later is good as it may reduce sugar available in the rest of the market place, the first two are foods and their use directly competes with the food industry. This does pose an ethical dilemma. Diverting wheat (starch) and sorghum to ethanol reduces food for human
mouths. I am not sure if this is a sustainable solution if one wants to ensure that there is adequate food for the world's population. The third point is that these main inputs to ethanol production require significant fertiliser inputs. This places potentially additional demand on phosphorus which is finite and winnable resources quickly being depleted.
Preference would be ethanol from non-food products or waste to ensure its long term sustainability. 2 Likes phb: sustainability (although theoretically we might find a way to manufacture methane, and potentially even higher alkanes, that is
economically viable). 1 Like Page 2 A person I have known for many years operated the first dyno business in Cairns before he was devasted by MS. If anyone knows, he would know, but I have not seen him for a few months, and I will definetly ask him next time we meet. On one occassion when I had one of our vehicles at his business for a tune-up.
he had a customer's drag strip Mazda RX3 which had a turbo charger fitted to the rotary engine, and was being prepared for a drag meet in Townsville. He said that it was running on 100% ethanol and the fuel line from the tank had been upgraded to 0.5". caoacity. Way back when I was in high school, one of my best mates acquired an ex-racing go
kart which was powered by a hotted up Villiers chainsaw engine. We used to drive it along a dead end gravel road but some of the local "fun police" must have complained and the real police station had attempted to drive it
behind the station and had refilled the tank with Super petrol. I do not recall what my mate said the fuel was but I assume it must have been ethanol aka Shell A., and after he drained and refilled the tank with Super petrol. I do not recall what my mate said the fuel was but I assume it must have been ethanol aka Shell A., and after he drained and refilled the tank with Super petrol. I do not recall what my mate said the fuel was but I assume it must have been ethanol aka Shell A., and after he drained and refilled the tank with Super petrol. I do not recall what my mate said the fuel was but I assume it must have been ethanol aka Shell A., and after he drained and refilled the tank with Super petrol. I do not recall what my mate said the fuel was but I assume it must have been ethanol aka Shell A., and after he drained and refilled the tank with Super petrol. I do not recall what my mate said the fuel was but I assume it must have been ethanol aka Shell A., and after he drained and refilled the tank with Super petrol. I do not recall what my mate said the fuel was but I assume it must have been ethanol aka Shell A., and after he drained and refilled the tank with Super petrol. I do not recall what my mate said the fuel was but I assume the fuel
number than necessary. There are as @phb is suggesting also considerations in the sustainability of ethanol fuel production of biofuels and total carbon footprint, and not just the combustion products of the fuel need to be taken into account. A further factor is the ability of Australia with a large land
mass and low population to produce enough feedstock without risk to other land use. Currently less than 2.0% of our petrol fuel needs are provided from local ethanol production. That is a very significant step change. Australian Bureau of Statistics Estimates of; kilometres travelled, tonne-kilometres travell
annual estimates. Dependence on any carbon based fuel still relies on adding an excess of CO2 to the environment where it remains until reclaimed by agriculture etc. person: although theoretically we might find a way to manufacture methane, and potentially even higher alkanes, that is economically viable There are risks around methane as a fuel
given it is a green house gas many many times more destructive than CO2. (30 times is typically quoted). It is the principal component of reticulated town gas and LNG (edited not LPG see post following). Although as a fuel it produces approx half the CO2 of liquid hydrocarbon fuels. It is a quick solution to rapidly improve the situation, but it does not
eliminate CO2. The current export industry for LNG (edit not LPG) has substantial losses and CO2 production in Australia. These occur with mining, pumping and compressing the product. The national accounts of fugitive emissions are estimated from data provided by the major companies producing and exporting the LNG! 1 Like mark m: There are
risks around methane as a fuel given it is a green house gas many many times more destructive than CO2 Yes, fugitive emissions are a problem. mark m: It is a quick solution to rapidly improve the situation, but it does
not eliminate CO2. Yes, neither methane (nor LPG) nor ethanol look like a long term solution to me - but who can predict the future? Synthesised methane (or ethanol) more or less eliminates the CO2, in the sense of creating a balanced carbon cycle and not causing an increase in atmospheric CO2 - unlike burning fossil fuels. You have to take the CO2, in the sense of creating a balanced carbon cycle and not causing an increase in atmospheric CO2 - unlike burning fossil fuels.
out of the atmosphere first, in order to create the fuel, and when you burn the fuel, you put the same amount of CO2 back. Doesn't improve the current situation but doesn't make it worse either. It's sort of the difference between something that is known to be flawed. 2
Likes I will never use E10 in my car. When I bought my new car in 2014, I found it was gutless and could barely climb hills and buy something else, I really hated driving it. One day when buying petrol, the service station was out of E10 so I had to buy unleaded.
From that day on, the car was normal, I could climb hills with no problems and acceleration is normal. There's no difference in fuel economy between the two types of fuel, but a huge difference in performance. Person: LPG is primarily a mix of propane and butane, not methane. Thanks for the correction. I intended to say LNG which is our principal
gas export and is mainly methane CH4 and a dash of ethane. As you pointed out LPG is a different gas mix. I've made an edit. I'll blame a Seniors moment for the slip up, although the iPad sometimes makes it's own interpretation belated. I don't think it was the iPad this time. 2 Likes What I want to know is the price of the Premium 98? There's not
even a window on the sign. I always use Premium 98 because I understand it's kindest on the wear & tear of the motor, so in the long run, it's either cheaper in money or hassle terms. By the way, I keep my cars until they start becoming expensive to maintain or to Register, unlike others who flog their cars & then trade it in for the next new model.
always buy a car with low mileage, but never a new car. I'm not that rich! 1 Like Astrac: What I want to know is the price of the Premium 98? NSW has fuelcheck is an online tool designed to provide consumers with real-time information about fuel prices at every service station across NSW. FuelCheck will be accessible on any
device connected to the internet, including smartphones, tablets, desk top... which can be used to check prices before heading off to the bowser. Astrac: Premium 98 has no benefits unless one's car has been designed to run on it. Otherwise, it
would be an expensive choice at the bowser... racq.com.au Fair Fuel Prices helps you find the cheapest fuel in your area. Find the best petrol prices today and save. mynrma.com.au Why is fuel sold in different grades and what are benefits of paying more for a premium
product? 3 Likes Astrac: What I want to know is the price of the Premium 98? The Wollies Fuel app (and probably those competing with them) let you need and it shows the local prices for each Woolies servo. 3 Likes I understand what you mean. Usually they post the E10, standard Unleaded and diesel cost on the big boards
outside their stations but there is never any reference to their Premium 95 or 98 prices. One station may charge a certain extra on each type they carry and another may be a few cents different again. If not using phones/apps you first have to pull in and look at the prices on the bowser to find out those costs. 3 Likes This older thread is relevant
Local Woolies servos have recently upped their 91-95 and 91-98 margins another $0.13 and $0.20 above 91, respectively, although not the first off the rank to do so. A note that Vic has changed the rules since that thread re what they have to display. Games Petrol Companies Play Transport A decade ago the price spread between 91
and 98 was about $0.12/litre. About 5-7 years ago it went to about $0.16, and today I found it had gone to $0.20 at my local Coles Shell servo. Why? a) servos are not required to post their discounted price for 91 (at least in VIC). b) more cars today require 95 and 98 so the ratio of 95/98 to
91 is increasing over time, and they can price it "under the radar" (ref "a" above). c) human... 3 Likes mark m: I intended to say LNG which is our principal gas export Hmmm. I can see that I started the confusion. Sorry about that. In practical terms today in Australia, LPG is an option to fuel your car whereas LNG is not. There is no technical reason
for the latter. It is just the lack of infrastructure for it. (Some metros in Australia run LNG-powered bus fleets but they have the scale and other attributes to deal with the lack of public infrastructure.) So in a wide-ranging discussion about the "e10 is better than
unleaded" - we should be mentioning both LNG and LPG, as long as we understand that they are not the same chemically, generally they are not interchangeable (unless an engine or other apparatus has been specifically designed to be bi-fuel for those two fuels), they have different advantages and disadvantages when compared with each other, and
they are currently used in different ways in the wider economy. Unless we find an economically and environmentally viable way of synthesizing the relevant alkane(s) from CO2 and water, I don't see either LNG or LPG as being a good long-term option for a transport fuel. 1 Like Thank you, TheBBG - I appreciate the information. 3 Likes Thank you,
phb. No, my car isn't turbo charged so I'll buy 95 from now on. I appreciate the information. 3 Likes My motor vehicle maintainer told me many years ago not to use E10 in my vehicles (which are around 15-20 years old). This was when there was a government campaign stating that pretty much any car can take it. Apparently ethanol does bad thingsner told me many years ago not to use E10 in my vehicles (which are around 15-20 years old).
to engines that have not been designed with it in mind - or more particularly to the rubber and other sealants that are used. grahroll: USA produces a lot of it's ethanol from corn It also uses corn syrup instead of sugar. Disgusting! mark m: person: it infinitely better than fossil fuel, which has exactly zero sustainability Perhaps infinitely better is a
larger number than necessary. As soon as you divide any positive number by zero, you get infinity and thus an infinite difference - thus any sustainability. That said, infinity does not come in just one size. en.wikipedia.org Hilbert's paradox of the Grand Hotel (colloquial: Infinite Hotel Paradox or Hilbert's Hotel)
is a thought experiment which illustrates a counterintuitive property of infinite sets. It is demonstrated that a fully occupied hotel with infinitely many rooms may still accommodate additional guests, even infinite sets. It is demonstrated that a fully occupied hotel with infinitely many of them. The idea was introduced by David Hilbert in a 1924 lecture "Über das
Unendliche", reprinted in (Hilbert 2013, p.730), and w... 3 Likes postulative: any sustainability is infinitely better than no sustainability. Are we drifting, full power on opposite lock, wheels spinning in circles until the fuel runs out or the tyres shred? Neither option is sustainable. Both impose change on our environment. We just get to defer the
inevitable longer using hydrocarbon fuels produced from agriculture as a substitute for a small portion of the hydrocarbons produced from fossil fuels. Global agricultural production capacity is finite. Our demand for energy if provided through this resource is likely greater than this resource can provide. Every increase in agricultural production
takes away from the environment. That includes loss of diversity, natural vegetation, and water resources. There are also agricultural needs for inputs from other resources that are limited in availability. P.S. Zero divided by a finite number is still zero. Infinity divided by a finite number is still zero. Infinity divided by a finite number is still zero. Infinity divided by a finite number is still zero. Infinity divided by a finite number is still zero. Infinity divided by zero or any number is still zero. Infinity divided by zero or any number is still zero. Infinity divided by a finite number is still zero. Infinity divided by zero or any number is still zero. Infinity divided by a finite number is still zero. Infinity divided by zero or any number is still zero. Infinity divided by a finite number is still zero. Infinity divided by zero or any number is still zero.
Sustainability is a concept and not a mathematical number. The concept is not defined consistently or concisely. What is the end point? Evolution and decay are inevitable. Since the real world is finite in all dimensions it's difficult to see how any analysis relating to our finite environment can have an answer that is also
not finite. Unfortunately there is insufficient space on the planet for a hotel with an infinite number of rooms. Philosophically change is inevitable and incremental. We have an opportunity to influence the rate of change or size of the incremental. We have an opportunity to influence the rate of change is inevitable and incremental. We have an opportunity to influence the rate of change or size of the incremental.
infinity is undefined. I think this would be 1 (one). Dividing two likes equals ones in Maths 101. Yes, except that the value of infinity may not be equal to the value of infinity may not be equal to the value of infinity you wish to choose. 3 Likes mark m: Are we drifting Yes. mark m: Global agricultural production
capacity is finite. True but 'sustainable' and 'finite' are two different things. By highlighting the 'finite' aspect, aren't you just saying that it could be sustainable but there are too many people)? Sustainable means that the cycle does not consume any resource and hence can be performed over and over forever (or at least until the
sun dies, but by then we have bigger problems than fuelling your car). I suggested above that we directly synthesise methane from CO2 and water - which is definitely possible - but unless a new process is discovered, that involves intermediate hydrogen in which case perhaps it is better simply to use a hydrogen economy. The point of direct synthesis
is that it avoids all the valid issues that you raise regarding land clearing, habitat destruction, diversion of food production etc. But it takes us away from ethanol, and hence e10, an
person: aren't you just saying that it could be sustainable but there are too many cars (really too many people)? Simply, yes. But the situation is more complex. That is a new topic as I might describe it? Growth, Consumption and Resources. P.S. person: Zero divided by zero is undefined. Zero divided by any other number is zero. It's good to see the
correct answer! Although in a practical sense sharing nothing with nobody is the same outcome as sharing nothing with nobody still ends up with nothing. Fortunately I'm not a mathematician and can accept my lack of precision in this instance, phb: Infinity divided by infinity is
undefined. I think this would be 1 (one). There is actually an infinite number of solutions. Infinity is a concept. It is not a real number however maths as @person has responded has a proof for zero divided by zero having multiple possible answers. Hence the result is undefined. Perhaps
reason it's not great for fuel pumps. Given the negligible savings, reduced performance, and maintenance downside I just don't see E10 as being worth it. I use 98 whenever I can get it. Yes it's dear but the increased response and improved economy (by about 10% in my experience even in cars designed for 91 fuel) are well worth it IMHO. Page 3
mark m: infinite number of solutions The first answer was a bit tongue and cheek. Possibly the equation more likely can't be defined and therefore has no answer. If infinity cauld be defined and therefore has no answer. If infinity can't be defined and therefore has no answer. If infinity can't be defined and therefore has no answer. If infinity can't be defined and therefore has no answer. If infinity can't be defined and therefore has no answer. If infinity can't be defined mathematically, then it would be possible to have infinity can't be defined and therefore has no answer. If infinity can't be defined and therefore has no answer. If infinity can't be defined mathematically, then it would be possible to have infinity can't be defined and therefore has no answer. If infinity can't be defined mathematically, then it would be possible to have infinity can't be defined mathematically.
fuels it contains no lubricant additives and that's not good news for things like injectors which are expensive items and need them. A reliable advice applicable to the average modern vehicle in as sold condition. E10 after all is 90% or higher regular
unleaded. E10 blended fuel contains the same formula package as similar grade regular fuel. One well known expert has this to say. shell com.au Shell Unleaded fuels are for unleaded petrol vehicle drivers who care about efficiency and quality. Shell fuels are for unleaded petrol vehicle drivers who care about efficiency and quality.
 Australian car industry has demonstrated its support for ethanol blended petrol, reassuring drivers that E10 fuels are safe for 10% ethanol blend compatible vehicles and improved economy (by about 10% in my experience It may help all of
us if you can share some empirical data to aid our future decision making. You may also have a very special example. phb: The first answer was a bit tongue and cheek. Yes, we need an appropriate emoji perhaps? More directly it is a difficult choice between concise mathematics and being informative? I think we are failing there? 1 Like I was
interested to read the comments that it is OK to run your mower on E10. I have been told numerous times to do it. 1 Like MalR: OK to run your mower and whipper sniper. It costs a fair bit more to use '95 but I have been told numerous times to do it. 1 Like MalR: OK to run your
mower on E10 It looks like it can vary depending on the manufacturer of the motor. It appears that Briggs and Stratton motors are engineered to take e10, but others not. It is best to check with the manufacturer if one is considering using e10 in a power tool or in other motor application such as outboard motors, to ensure that the manufacturer if one is considering using e10 in a power tool or in other motor application such as outboard motors, to ensure that the manufacturer if one is considering using e10 in a power tool or in other motor application such as outboard motors, to ensure that the manufacturer if one is considering using e10 in a power tool or in other motor application such as outboard motors, to ensure that the manufacturer if one is considering using e10 in a power tool or in other motor application such as outboard motors, to ensure that the manufacturer if one is considering using e10 in a power tool or in other motor application such as outboard motors, to ensure that the manufacturer if one is considering using e10 in a power tool or in other motors are engineered to take e10, but of the manufacturer if one is considering using e10 in a power tool or in other motors are engineered to take e10, but of the motor application is one in other motors are engineered to take e10 in a power tool or in other motors are engineered to take e10 in a power tool or in other motors.
indicates that e10 is comparable with the motor. It could be that the manufacture of the motor has not indicated e10 component) absorbs water and if one doesn't use their power tools regularly, there could be water accumulation in the
fuel tank. 1 Like person: perhaps it is better simply to use a hydrogen economy Except that dirigibles tried that. Hydrogen is not stable. Neither is oxygen, for that matter - both are extremely reactive which is great for producing power but not so great when you're trying to control that power. When it comes to producing power for humans, we ideally
want a power source that is either 'effectively' infinite (like the sun, since we die when it dies) or one that is reproducible - like products powered by the sun such as plants. We are currently type 0 on the I - IV Kardashev scale for civilisations' energy consumption (which considers, after detection, how to measure the technological capacities of extra-
terrestrial life). A type II kind of technology is shown in Star Wars: The Force Awakens with the planet-busting beam. 1 Like postulative: Hydrogen is not stable. Yes it is, sometimes? It is simply a matter of scale and not standing too close. EG The Sun. Although ultimately it too will become unstable. On the more mundane issue of powering 2 or 4
stroke yard equipment! As they are not quite ready for the transition to self contained nuclear power. MalR: I have been told very clearly by several mower service companies never to put E10 in a two or 4 stroke mower. If the manufacturer says it can run on E10 then it is ok to do so. My Toro (Kohler Vee-twin) can and also the Honda FP and
generator. In practice I never use E10 for any or the other petrol powered tools. There is no cost saving. E10 looses volatiles rapidly over only a few weeks, which marginally decreases the fuel quality and ease of starting. Overtime there is a risk of water absorption in the ethanol portion of the E10 caused by condensation in part empty fuel tanks or
storage containers. Not likely a risk if you maintain the fuel tanks at full at the equipment under cover, and not in the open to minimise condensation. The same good practice is useful with regular unleaded, although leaving these small
motors unused for more than a few weeks at a time, it is better to drain the fuel systems and follow the manufacturers storage procedure. There are fuel additives that act as stabilisers that may be useful in some circumstances, although I have not researched if there is any difference in outcomes with E10 fuel. On a totally different path the range of
powered yard equipment that is battery powered has continued to expand. Stihl is one supplier with a usable number of options including chainsaws etc. Perhaps a better option than petrol powered (E10 included) for home and light farm use. Our fencer and land contractors have made the change. The extra cost is offset in part by convenience and
reduced maintenance needs. 1 Like mark m: Yes it is, sometimes? It is simply a matter of scale and not standing too close. EG The Sun. The sun is an ongoing, absolutely enormous explosion - that's not stable! (And yes, I am simplifying how the sun converts hydrogen to helium using nuclear fusion.) Hydrogen is a reactive non-metal - meaning
unstable. The sun looks very much the same today as it did yesterday. In this one instance I am happy to remain fooled by innocence, rather than being blinded by science. I'll reserve science for less 'critical' events, just noting that the sun is zero carbon. I noted the reference to Kardashev responds to energy needs, without making any judgement on
the environmental. In summary some of the points so far suggest: For many users E10 fuel appears to offer no economic benefit. (Unit cost saving is less than the cost of loss of economy). While modern engines are designed to use E10 fuel appears to offer no economic benefit.
fuel is used when fresh and fuel managed to reduce the risk of moisture absorption into the ethanol component). Australia produces less ethanol for vehicle fuel than is consumed, relying on imported product to provide the balance of consumption. Domestic ethanol product to provide the balance of consumption.
The environmental benefits of substituting ethanol for fossil fuel sourced petroleum products are very dependent on the feedstock source and production methods used. If anyone has a reference to any published scientific work on the feedstock source and production methods used. If anyone has a reference to any published scientific work on the feedstock source and production methods used.
Brazilian (sugar cane) and USA (corn syrup) production had this to say. The use of ethanol as a substitute for gasoline proved to be neither a sustainable nor an environmentally friendly option. Considering ecological footprint. As
revealed by the ecological footprint approach, the direct and indirect environmental impacts of growing, harvesting, and converting biomass to ethanol far exceed any value in developing this alternative energy resource on a large scale. 3 Likes postulative: Yes, except that the value of infinity may not be equal to the value of infinity, depending upon
the infinity you wish to choose. True there are many infinities. Doing arithmetic with any of them is perilous and only useful in pure mathematics, not being a very pure mathematician I should be quiet now. "One pill makes you larger, and one pill makes you small And the ones that mother gives you, don't do anything at all" No more white rabbit
chasing, back to fuel. 1 Like phb: It appears that Briggs and Stratton motors are engineered to take e10, but others not Talking generally about fossil fuel-powered engines, you need to be careful because the manufacturer (branding) on the engine may be different from the manufacturer (branding) on the unit as a whole. My choice is to avoid E10 on
everything except cars. If the main reason for using E10 is the environmental benefit then the number of kilometres in a car - while the hassle and risk of getting good info about E10 compatibility for those additional engines is higher. So if it is petrol
powered then I will use Unleaded 91. 1 Like mark m: Australia produces less ethanol for vehicle fuel than is consumed, relying on imported product to provide the balance of consumption Although as a comparison with petrol. We import a lot of crude oil and as we phase out all domestic refining we will
eventually import 100% of our refined product. On top of that we aren't even "compliant" with the required 90-day stockpile of the various products. So our energy security posture is weak. In the event of a hot war causing substantial supply disruption we would be stuffed, to put it politely. It is a fairly complacent position. 1 Like postulative:
Hydrogen is not stable. That basically applies to all fuels. The point of a fuel is that the fuel can be used to release stored energy density (energy stored per unit time) and high energy density (energy stored per unit time) and high energy density (energy stored per unit time) and high energy stored per unit time and high energy stored per unit time and high energy stored per unit time) and high energy stored per unit time and high energy stored per unit time and high energy stored per unit time and high energy stored per unit time) and high energy stored per unit time and high energy stored per unit time.
your typical petrol vehicle. It needs good engineering to extract the energy from the fuel as safely as possible, but it is never risk free. postulative: dirigibles tried that That's not directly comparable though because in those cases the hydrogen was used statically, and without consumption as such, as a lifting gas, rather than as a fuel - well, not
intentionally as a fuel. Propulsion of the airship is provided by an engine that likely will not use hydrogen as a fuel. However all of those incidents do indeed illustrate that hydrogen is highly explosive, and dangerous when things like
injectors which are expensive items and need them. A reliable source has also told me that for the same reason it's not great for fuel pumps, mark m I doubt that is reliable advice applicable to the average modern vehicle in as sold condition. E10 after all is 90% or higher regular unleaded. E10 blended fuel contains the same formula package as
similar grade regular fuel. One well known expert has this to say. shell.com.au Shell Unleaded Fuels Shell Unleaded Fuels Shell Unleaded Fuels Shell Unleaded fuels of the Australian car industry has demonstrated its support for ethanol blended petrol, reassuring drivers that E10
fuels are safe for 10% ethanol blend compatible vehicles and will not affect warranties. Regarding reliable sources, Shell sells E10 so there's a conflict of interest. Try taking them on and proving it was E10 that caused your car to fail outside warranty. See below for a link to another well know expert, albeit this time one that doesn't sell the product.
My source has seen the effects of it across a large sample size for many years and has nothing to gain from its sale. Mustang: I use 98 whenever I can get it. Yes it's dear but the increased response and improved economy (by about 10% in my experience phb: It may help all of us if you can share some empirical data to aid our future decision making.
You may also have a very special example. Mustang: No, nothing special here at all. Empirical evidence? Tracking fuel economy under similar conditions for several weeks using both E10 and 98 is as good as it gets. It was enough of a difference to make 98 a no brainer. As for performance increases, again nothing tested under lab conditions
unfortunately but the lab of my pants seat has been a good indicator for many years of driving and riding high performance factory vehicles; if the difference is positive and noticeable, then it's all I need. Of course if you can feel it then there's likely to be a significant difference, as opposed to difference is positive and noticeable, then it's all I need. Of course if you can feel it then there's likely to be a significant difference is positive and noticeable, then it's all I need. Of course if you can feel it then there's likely to be a significant difference is positive and noticeable, then it's all I need. Of course if you can feel it then there's likely to be a significant difference is positive and noticeable, then it's all I need. Of course if you can feel it then there's likely to be a significant difference is positive and noticeable, then it's all I need. Of course if you can feel it then there's likely to be a significant difference is positive and noticeable, then it's all I need. Of course if you can feel it then there's likely to be a significant difference is positive and noticeable, then it's all I need. Of course if you can feel it then there's likely to be a significant difference is positive and noticeable, then it's all I need.
instruments. A random Google search found what another expert had to say, albeit one that doesn't sell E10, and I believe there are further articles on the Royal Chemical Society website: phys.org Ethanol, which is produced from corn, is commonly-used as an additive in engine fuel as a way to reduce harmful emissions and scale back U.S. reliance
on foreign oil. But since ethanol is an oxygenated fuel, its use results in a lower energy output,... Ethanol, which is produced from corn, is commonly-used as an additive in engine fuel as a way to reduce harmful emissions and scale back U.S. reliance on foreign oil. But since ethanol is an oxygenated fuel, its use results in a lower energy output, as well
as increased damage to engines via corrosion. 1 Like I turns out my car manufacturer DOES recommend Premium 98. The link suggested above gave the impression that only turbo charged engines which the handbooks state should use
a minimum of 95 octane petrol. As 94 octane E10 is much cheaper than 95 ULP I have run both cars mainly on E10 with no noticeable difference in performance and certainly no audible pinging. I keep a record of all fuel purchases and use spreadsheets that calculate trip and overall average fuel consumption but any difference between the two fuels
is too small to register. One of the cars has done over 70,000kms and has performed faultlessly, the other is near new and also runs as it should. 4 Likes all assuming that your manufacturer has documented that it is acceptable to use E10 at all in those cars. We informally monitor our fuel consumption (L/100km) but there is such variability due to
e.g. highway cycle v. city cycle and e.g. got caught in 10 km traffic jam due to accident on highway, or whatever, that any difference between fuels is too difficult to isolate. That is, for our situation, the only way we could detect any difference between fuels is too difficult to isolate.
jams i.e. not.going.to.happen. person: all assuming that your manufacturer has documented that it is acceptable to use E10 at all in those cars. Yes, and a check for compatibility Check | e10 nsw.gov.au'. This comparability checker
uses information sourced from the vehicle manufacturer in relation to the comparability with ethanol blends, then the vehicle manufacturer in relation to the comparability of using e10 in the
vehicle. If a vehicle is listed as being compatible, the use of e10 in the vehicle will not void warranties as it is specifically recommended for use by the manufacturer/nominated as being compatible by the manufacturer. 3 Likes
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