

Newsletter : All about Ethanol Blended Gasoline

As of January 8, 2014 all Regular Gasoline sold at fuel outlets in the Okanagan/Similkameen will contain an Ethanol Blend (E10). Premium Gasoline will remain Ethanol Free.

Here are a few interesting facts about Ethanol blended gasoline:



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GENERAL QUESTIONS

What is ethanol and how is it produced?

Why is ethanol used in fuels?

Does ethanol help reduce air pollution?

Can ethanol-blended gasoline be used all year-round?

Is my engine compatible with ethanol-blended gasoline?

Do vehicle manufacturers approve the use of ethanol-blended gasoline?

Can I use ethanol-blended fuel in my vintage vehicle?

Can ethanol-blended gasoline be used in small engines such as lawnmowers, chain saws and leaf-blowers?

Can I use ethanol in my ATV, snowmobile or motorcycle?

Can ethanol-blended gasoline be used in small aircraft engines?

Can ethanol-blended gasoline be used in motorboats?

What about the fuel-system components on the boat?

What is ethanol and how is it produced?

Ethanol is an alcohol produced by fermenting sugar or converted starch, usually from grains such as corn or wheat. It can also be made from 'cellulosic' feedstocks such as corn stalks, grain straw, pulp, wood waste and municipal solid waste, or it can be derived chemically from ethylene. In Canada, corn and wheat are used as the primary feedstocks for ethanol production. Cellulosic ethanol has the environmental advantage of lower greenhouse gas emissions on a lifecycle-basis than corn-based ethanol, however, the technology is not yet fully commercialized.

Why is ethanol used in fuels?

There are a number of reasons why ethanol is used in fuels:

Ethanol is a sustainable, renewable fuel that can help reduce our dependency on nonrenewable fossil fuels.

On a lifecycle-basis, compared to gasoline, ethanol reduces greenhouse gas emissions that contribute to global warming. Ethanol contains oxygen and promotes a cleaner and more complete combustion when added to gasoline.

Ethanol has a high octane rating and therefore is useful in increasing the octane level of unleaded gasoline. This in turn reduces pre-ignition or engine 'knock', which under severe conditions may result in serious damage, especially to high performance engines.

Ethanol also acts as a natural gas-line antifreeze in winter.

Does ethanol help reduce air pollution?

Ethanol contains oxygen, which increases the combustion efficiency of fuels, resulting in less pollution. Specifically, ethanol-blended gasolines lower the exhaust emissions of carbon monoxide, particulate matter and some toxics. Some emissions, for example nitrogen oxides and acetaldehydes, are expected to increase.

Can ethanol-blended gasoline be used all year-round?

Yes, ethanol-blended gasoline can be used all year-round and can serve as a gas-line antifreeze in winter.

Is my engine compatible with ethanol-blended gasoline?

The majority of vehicles powered by gasoline engines are compatible with ethanol blends of up to 10 per cent. However, some older vehicles (pre-1980) may require additional maintenance or modification when fuelled with ethanol-blended gasoline. If individuals have concerns, they are encouraged to check their owners' manuals to obtain definitive information regarding the use of ethanol-blended gasoline with their vehicle.

Do vehicle manufacturers approve the use of ethanol-blended gasoline?

Ethanol-blended gasoline has been widely distributed across the province for over 10 years and accounted for approximately two per cent of the provincial gasoline pool in 2004. All vehicle manufacturers approve the use of up to 10 percent ethanol blends in current vehicles (post-1980). If individuals have concerns, they are encouraged to check their owners' manuals to obtain definitive information regarding the use of ethanol-blended gasoline with their vehicle. What is the impact of ethanol-blended gasoline on fuel consumption? Although 10 per cent ethanol-blended gasoline has 2 to 3 percent lower energy content than pure gasoline, it is an oxygenated fuel that has the ability to improve combustion

efficiency in many vehicles. For most vehicles, this increased efficiency helps to offset the slightly lower energy content in the ethanol-blended gasoline.

Can I use ethanol-blended fuel in my vintage vehicle?

The majority of on-road vehicles are compatible with ethanol blends of up to 10%. However, some older models (pre-1980) may require additional maintenance or modification when fuelled with ethanol-blended gasoline. Individuals with concerns are encouraged to check their owners' manuals to obtain definitive information regarding the use of ethanol-blended gasoline with their vehicle.

My mechanic recommended that I should not use ethanol-blended gasoline because the ethanol can loosen contaminants and residues in the fuel system and this will clog my vehicle's fuel filters. Is this true?

Some mechanics immediately suspect ethanol when a fuel-related problem occurs in an engine. Ethanol-blended gasoline is not new to BC and has been available in the Province for several years. It is true that because ethanol is an efficient solvent, it can loosen contaminants and residues in the fuel system and clog up the fuel filter. This problem however, is uncommon and is likely to happen only in older vehicles that have never used ethanol-blended gasoline. It can easily be corrected by changing fuel filters.

Will ethanol burn valves?

Ethanol burns cooler than gasoline hence it will not burn valves. In fact, many high-powered racing engines use pure ethanol for this very reason.

Can ethanol-blended gasoline be used in small engines such as lawnmowers, chain saws and leaf-blowers?

Most major manufacturers of small engines allow for the use of up to 10 per cent ethanol-blended gasolines in their products as described in their warranties. However, individuals with concerns are encouraged to check their owners' manuals to obtain definitive information regarding the use of ethanol-blended gasolines with their small engines.

Can I use ethanol in my ATV, snowmobile or motorcycle?

Most major manufacturers of ATVs, snowmobiles and motorcycles allow for the use of up to 10 per cent ethanol blended gasolines in their products as described in their warranties. Individuals with concerns are encouraged to check their owners' manuals to obtain definitive information regarding the use of ethanol-blended gasoline with such engines.

Can ethanol-blended gasoline be used in small aircraft engines?

Ethanol-blended gasoline should not be used in small aircraft engines. Most small aircraft engines manufactured in North America are designed to run on aviation gasoline (avgas), which has a much higher octane rating than automotive gasoline. While some of these engines can be modified to run on regular automotive gasoline, owners/operators of small aircraft are advised that ethanol-blended gasoline should not be used in their aircraft, as ethanol can degrade some rubber and elastomeric fuel system components (e.g. gaskets, seals). Owners/operators who use regular automotive gasoline in their aircraft are encouraged to check with their fuel supplier to ensure that their gasoline does not contain ethanol.

Individuals who want more information on the use of ethanol-blended gasoline in their aircraft are strongly encouraged to check their owners' manuals and contact their engine manufacturer to discuss what engine modifications may be required to safely use ethanol-blended gasoline in their aircraft.

Can ethanol-blended gasoline be used in motorboats?

Most major manufacturers of motorboats allow the use of up to 10 per cent ethanol blended gasolines in their products as described in their warranties. It is important to follow the boat manufacturer's recommendations when selecting appropriate fuels. Individuals with concerns are encouraged to check their owners' manuals to obtain definitive information regarding the use of ethanol-blended gasoline with motorboats.

What about the fuel-system components on the boat?

It is important to follow boat manufacturer's recommendations when selecting appropriate fuels. Use of inappropriate fuels can result in damage to the engine and boat components. Fuels with ethanol can degrade some fuel-system components, such as tanks and lines, if they are not made from acceptable ethanol-compatible materials. Individuals are encouraged to check their owners' manuals to obtain definitive information regarding the use of ethanol-blended gasoline with motorboats.