

CASTROL VECTON 15W-40 CK-4/E9 FAQ'S



WHY CASTROL VECTON 15W-40 CK-4/E9?

As you would be aware, American petroleum institute (API) has released new Diesel engine oil specs recently. Initially codenamed PC-11 (proposed Category -11), it's now split into API CK-4 & API FA-4 category of lubricants.

The official first license date from API is December 1, 2016. Castrol will be one of the first oil manufacturers' to offer an API CK-4 product to the market. Castrol will launch Castrol VECTON 15W-40 CK-4/E9 from 1st Dec 2016. It will be available in Bulk, 1000L, 205L & 20L packs.

WHAT IS PC-11?

PC-11 has been designed in response to the US EPA's (Environment Protection Authority) latest emission and fuel economy legislation for diesel-powered commercial transport vehicles. Scheduled to come into effect in 2017, it will require changes in diesel engine technology.

The EPA's move created the need for a new category of lubricant specifications, collectively called PC-11 during their development. American OEMs have actively promoted it because they know that only high-performing engine oils will ensure next generation engines can achieve their full potential for fuel economy without compromising hardware durability.



WHO IS DRIVING THE CHANGE?

The US EPA announced a first ever program to reduce greenhouse gas emissions and improve fuel efficiency of Heavy duty trucks and buses. The targets defined by the EPA have been taken forward by API, who in turn have proposed a new category for DEOs (Diesel Engine Oils). In order to achieve the targets set by the EPA, Truck and engine OEM's are working alongside the API (American Petroleum Institute) and lubricant companies to develop this new category of oils. API had initially codenamed this category of engine oils as PC-11 (proposed category -11).



WHAT ARE THE BENEFITS OF THESE PC-11 OILS?

The principle goals of the new engine oil categories are to increase fuel efficiency and to help reduce CO₂ emissions. However there are some performance upgrades that are being introduced as well. These new engines may run hotter, so to ensure maximum protection, the new oils will be formulated to deliver greater oxidation stability. This improvement will benefit not only the new engines, but also existing engines that are running at very heavy duty cycles.



WHAT ARE THE BENEFITS TO THE INDUSTRY?

There are new PC-11 performance requirements for Castrol VECTON 15W-40 CK-4/E9-4 over Castrol VECTON 15W-40 CJ-4/E9. Most notably, new Castrol VECTON 15W-40 CK-4/E9 will have improved oxidation stability. This means that it is formulated to provide improved protection against oxidative breakdown, even when it's exposed to the very high operating temperatures that are common in today's hard working engines. You can be assured that Castrol VECTON 15W-40 CK-4/E9 is up to the task of protecting your customers' engines, even under the harshest of conditions.

PC-11 is taking into account recent technical advancements in diesel engine design and will provide improved protection from higher engine operating temperatures as well as oil shearing, while also reducing fuel consumption. As such, PC11 will be a win-win for the transport industry.



IS CASTROL VECTON 15W-40 CK-4/E9 BACKWARDS COMPATIBLE?

Yes, Castrol VECTON 15W-40 CK-4/E9 is fully compatible with Castrol VECTON 15W-40 CJ-4/E9 and can be used wherever Castrol VECTON 15W-40 CJ-4/E9 is being currently used.



HAS THERE BEEN ANY LOCAL TESTING & TRIALS IN AUSTRALIA?

Castrol technology team along with the Technical Services Team have been doing extensive product trials of Castrol VECTON 15W-40 CK-4/E9 products right here in Australia to ensure our new products stand up to the rigorous work conditions that Australian fleets work with. The trials were run with leading mixed fleets including Cummins, Detroit's & Mack's and pushing the oil to its absolute limits.



An Australian Government Initiative

WILL THE NEW CASTROL VECTON 15W40-CK-4/E9 BE CARBON NEUTRAL?

Yes, new Castrol VECTON 15W-40 CK-4/E9 launched in Dec 2016 will be certified Carbon Neutral. This is a true differentiator of Castrol VECTON's range of Diesel engine oils in the market place. The Castrol VECTON range of Engine oils is certified Carbon neutral by NCOS (National Carbon Offset standard) that sits within the Australian Government Department of environment.

The benefits of using Australian Government's Carbon Neutral Program is that it allows products, and services to be certified as carbon neutral against the Standard. This means that the net associated emissions are equal to zero. Consumers can have confidence that products and services bearing the certification trademark have achieved carbon neutrality in a credible and transparent way.

What's more, when other businesses use Castrol VECTON, it will help them lower their own carbon account.



WILL OEM'S BE ISSUING THEIR OWN SPECIFICATIONS ALIGNED WITH THESE NEW CATEGORIES?

It has become common for engine makers to issue their own specifications which incorporate requirements from API along with additional OEM-specific requirements to help customers spec oils that are appropriate for use in their engines.

In some cases, this involves using the same performance tests, but with more stringent limits. In other cases, new OEM-specific tests are introduced and required alongside the standard tests. This is particularly true for OEM-specific material compatibility tests and other bench tests that the engine builder has determined to be particularly relevant to their needs. Castrol VECTON carries most of the necessary OEM approvals on the relevant products in its range.



WILL THE PC-11 PRODUCTS BE LONGER DRAIN PRODUCTS?

The best advice is to follow the vehicle manufacturer's oil drain recommendation. It's possible some manufacturers may change the recommended oil drain intervals with the introduction of PC-11 engine oils. Castrol has the expertise to understand your fleet requirements and can recommend an extended drain plan for your fleet in conjunction with Castrol's Used Oil Analysis program.

FA-4

WHAT DOES FA-4 STAND FOR?

The "F" doesn't really have a specific meaning. The API committee was primarily looking for a naming convention that didn't sound like "C" to avoid customer confusion. However, the "A" denotes the first chapter/iteration of "F" designations, and "4" is the designation for diesel engine oils.



DOES A TRUCK WORKSHOP NEED TO CARRY 2 DIFFERENT ENGINE OILS?

Trucks manufactured from 2017 will only be required to use FA-4 oil ONLY if an OEM makes it a requirement.



WHAT IS THE DIFFERENCE BETWEEN CK-4 AND FA-4?

The primary difference in the two categories of PC-11 is with backward compatibility. API CK-4 oils will support the older engines that were using CJ-4, as well as new engines that are currently being developed.

Use of API FA-4 oils will be OEM dependent and may not be suitable for use in older diesel engines. This category will focus on the next generation of diesel engines that are currently in development to deliver greater fuel efficiency.

Other differences include:

- **API CK-4**
 - Viscosity grades include both SAE xW-40 and xW-30 engine oils with >3.5 cP HT/HS viscosity
 - Higher level of wear and oxidation protection versus API CJ-4 oils
 - Improved shear stability
- **API FA-4**
 - Improved fuel economy performance versus API CJ-4 oils
 - Applies only to SAE 10W-30 and SAE 5W-30 viscosity grades that have HT/HS viscosity in the range of 2.9 to 3.2 cP
 - Developed to deliver excellent engine parts protection even with thinner oil films



Castrol has a whole suite of material available for you to be the industry expert on the changes in Diesel Engine Oil category.



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