Due to the court case in the states between Mobil and Castrol, you may not always be getting what you think you are so be careful, hydrocracked oils are not synthetics in the true sense of the word as they are molecularly converted petroleum oils, synthetics are not, they are built by chemists in laboratories "brick by brick" and are far superior.

Unfortunately, apart from in Germany, a manufacturer can label the inferior "hydrocracked" oils as synthetics and therefore the only true way of working out the quality is price although even this is not certain as there are some very expensive "hydrocracked" oils out there which are sold on their brand name, Castrol is a good example as they were the Company that Mobil took to court over the labelling issues.

Here is some more reading for those interested:

“HYDROCRACKED” (HC) or MOLECULARLY CONVERTED (MC) BASESTOCKS

There are many petroleum oils available on the market that are so pure and refined, they can now be passed off as synthetics.
They are not made from true synthetic basestocks (at least not in the way that synthetics have traditionally been defined), but they have so little in common with traditional petroleum basestocks, it is really somewhat silly to classify them as petroleum oils.
Petroleum oil basestocks can be put through a super-extreme refining process called “hydrocracking”. In some cases, as in the case of one particular name-brand "synthetic" oil, these highly refined petroleum basestocks can actually be termed and sold as "synthetic".
It is completely legal for lubricants manufacturers to label these oils as "synthetic".

These are extremely high performance petroleum basestocks, but they are not truly synthetic the way that most people understand the term and will not necessarily perform to the same level as a premium synthetic oil like PAO (poly alfa olefins) or Esters.

Hydrocracking involves changing the actual structure of many of the oil basestock molecules by breaking and fragmenting different molecular structures into far more stable ones. This results in a basestock which has far better thermal and oxidative stability as well as a better ability to maintain proper viscosity through a wide temperature range - when compared to a typical petroleum basestock.

Although contaminants are still present, and these are still petroleum basestocks, contamination is minimal and performance characteristics are high. This process also can turn a wider range of crude oil stock into well-performing petroleum lubricant basestocks.

TYPES OF SYNTHETIC BASESTOCKS

Synthetic basestocks are not all the same. There are few different chemical types that may be used as synthetic basestock fluids. There are only three that are seen commonly in automotive applications:

Polyalphaolefins (PAO's)
These are the most common synthetic basestocks used in the US and in Europe. In fact, many synthetics on the market use PAO basestocks exclusively. PAO's are also called synthesized hydrocarbons and contain absolutely no wax, metals, sulfur or phosphorous. Viscosity indexes for nearly all PAO's are around 150, and they have extremely low pour points (normally below –40 degrees F). Although PAO's are also very thermally stable, there are a couple of drawbacks to using PAO basestocks. One drawback to using PAO's is that they are not as oxidatively stable as other synthetics. But, when properly additized, oxidative stability can be achieved.

Diesters
These synthetic basestocks offer many of the same benefits of PAO's but are more varied in structure. Therefore, their performance characteristics vary more than PAO's do. Nevertheless, if chosen carefully, diesters generally provide better pour points than PAO's (about -60 to -80 degrees F) and are a little more oxidatively stable when properly additized.
Diesters also have very good inherent solvency characteristics which means that not only do they burn cleanly, they also clean out deposits left behind by other lubricants - even without the aid of detergency additives.
They do have one extra benefit though, they are surface-active (electrostatically attracted to metal surfaces), PAO’s are not “polar”, they are “inert”.

Polyolesters
Similar to diesters, but slightly more complex. Greater range of pour points and viscosity indexes than diesters, but some polyolester basestocks will outperform diesters with pour points as low as -90 degrees F and viscosity indexes as high as 160 (without VI additive improvers). They are also “polar”.

Other synthetic basestocks exist but are not nearly as widely used as those above - especially in automotive type applications. Most synthetics on the market will use a single PAO basestock combined with an adequate additive package to provide a medium quality synthetic lubricant. However, PAO basestocks are not all the same. Their final lubricating characteristics depend on the chemical reactions used to create them.

Premium quality synthetics will blend more than one "species" of PAO and/or will blend these PAO basestocks with a certain amount of diester or polyolester in order to create a basestock which combines all of the relative benefits of these different basestocks.

This requires a great deal of experience and expertise. As a result, such basestock blending is rare within the synthetic lubricants industry and only done by very experienced companies. In addition, although such blending

creates extremely high quality synthetic oils, they don't come cheap. You get what you pay for! Or do you?

You can find downloadable technical data on oils here:
http://www.opieoils.co.uk