group II base oils
optimise automotive engine oils
Chevron group II can help optimise formulations in more than 93% of the world’s automotive lubricants.
Simplifying a complicated world of tightening specifications starts with Chevron

With an extensive portfolio of qualifications in place, we can help you optimize formulations across your entire product line. Our Group II base oils have purity comparable to Group III, and they are available in a much broader viscosity range. So you can optimise formulations for 5W, 10W, 15W and 20W engine oils, as well as the majority of your industrial oil formulating needs.

High purity enables economic formulations for demanding AEO specs

- Low sulphur for low SAPS formulations
- Low volatility for reduced oil consumption
- Excellent oxidation and thermal stability for extended drain intervals
- Excellent soot handling (dispersancy) for HDMO
global slate can reduce complexity and improve supply reliability

3 plants designed for supply reliability

Each plant was designed to produce technically substitutable Chevron group II base oils. As a result, you can customise formulations for regional needs or confidently formulate for global specifications. With our comprehensive approvals portfolio and expansive supply network, we can help you minimise the need for expensive requalification testing with alternative base stocks; reduce tankage requirements and improve security of supply.
Large diesel engines are subject to grueling workloads. They need lubricants with sufficient high temperature/high shear (HTHS) viscosity to ensure adequate wear protection for the long haul. They also need lubricants with minimal amounts of sulphated ash, phosphorous and sulphur (SAPS) in order to meet tightening emissions specifications in many locations around the world.

Protecting heavy duty engines

High torque + low speed = lubrication film breakdown

Engines depend on the continuous presence of a very thin – millionths of an inch – film of lubricant between moving parts. If there is insufficient lubrication, or if the lubricant has lost its lubricating properties, the result is metal-to-metal contact, increasing wear and ultimately engine failure.
The improved fuel economy in long-haul trucking is minimal when going from a 15W-30 to a 5W-30, while the wear risk goes up substantially. The only way to mitigate this is by using more expensive and complex additive technology.

The commercially available lubricants tested had E9, CJ-4 and multiple OEM approvals. The lubricants in this test formulated with Chevron group II base oils provided better wear protection than the full synthetics formulated with group III base oils. Proof that a heavier base oil viscosity is critical to wear control.
Chevron group II base oils are the optimal alternative for meeting tightening HDMO specifications. They have the higher viscosity needed for extended wear protection as well as the purity necessary for tough low sulphur specifications. Chevron group II/II+ base stocks are essentially sulphur-free.

Group II/II+: The optimal formulating alternative for CJ-4 and low SAPS HDMO

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<tr>
<td>10W-30</td>
<td>10W-30/40</td>
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<td>10W-40</td>
<td>15W-40</td>
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- Reduced cost
- Higher performance

With Chevron’s group II/II+ base oils, you can produce cost-efficient, qualified, extended-drain lubricants.
Lower additive treat rate with Chevron group II

Additive treat rate as much as 3% lower for mainline HDMO CI-4 and E7 with better performance

- Gp II benefits realised with CH-4 and later categories
- Gp II performs equally well in API & ACEA formulations

Base oil blend significantly affects performance

The sequence III simulator test measures the oxidation resistance of a base oil, helping us to predict engine oil life.

In this test, lubricants blended with Chevron group II base oils can outperform semi-synthetic blends.
Engine manufacturer consolidation is leading to global OEM specifications. Formulating with Chevron Group II/III+ is an efficient global solution. Qualify in one market and you can formulate anywhere in the world without additional testing and costs.

Plus, with a large portfolio of qualifications in place for a broad range of ACEA, API, JASO and OEM specifications, your initial approval process may be more efficient than ever.

The PDSC indicates an engine oil's ability to resist oxidation at high temperature that can result in viscosity increase, piston deposits and wear. In the commercial oils we tested, the 15W-40, blended with all Chevron group II, performs statistically better than the HDMOs blended with group III and comparable to the one blended with PAO.
passenger car motor oils

pcmo - optimise formulating costs for premium lubricants with group II/II+ /III blends

Lower cost for your largest volume lubricants

While 0W lubricants get a lot of attention they are a tiny fraction of the market. 5W and 10W lubricants represent the largest market share of automotive lubricants in many parts of the world. Formulating work with major additive companies shows that both of these products can be blended with 100% group II/II+ base oils with no loss in performance. In fact, more than 90% of the world’s automotive engine oil volume, both for heavy duty and passenger car motor oils, can be blended with the majority component being group II.

Lower total formulating costs for your blend plant

With Chevron’s group II base oils as the cornerstone of your blending strategy, lubricants ranging from heavy monograde to high performance multigrade motor oils can be produced while minimising formulating costs. In many applications, optimised group II/II+ formulations can reduce costs while delivering comparable, or even better performance than Group III based formulations. This gives you the greatest flexibility in responding to market place needs.

PCMO formulations

Group II: An efficient formulating alternative for modern PCMO

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• Reduced cost
• Higher performance

• Reduced cost
• Comparable performance
**Chevron group II enhances formulating flexibility**

Chevron group II-only 10W-40 formula passes all criteria for stringent VW T4 performance

Additive technology closes the gap between group II and group III performance in the sequence III-G

- **Group I/III base oil blend has less oxidation stability**
- **Piston merit is a 248-hour test under various loads & cycles**
chevron’s diagnostic tool shows how to optimise formulations

**Graphic diagnostic tool identifies optimal blending ratios**

By graphically displaying the performance range of base oil blends, one is able to identify the most efficient blend for meeting a desired performance objective. How it is done:

- Curves are created by blending two base stocks in varying ratios
- Target base oil blend viscosity and volatility is established by backing out contributions from the additive and viscosity modifier (VM) packages
- If the curve lies below the target, the blend of the two base stocks is capable of meeting or exceeding the volatility and viscosity requirements

In some cases, a third base oil, (correction fluid) is required to meet specifications.

We’d like to talk with you about optimising your blending needs.

We happily share our technical expertise and large portfolio of qualifications with our customers.
globally available, regionally approved, & ready for delivery
Let’s talk about your business.

We can be reached at Chevronbaseoils.com or call:

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