

The Importance of Testing

Analysing Quality, Validation Processes and Reliability

By Lubrizol

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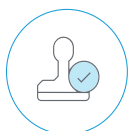
Introduction

1.0

Engine oil is the lifeblood of modern engines and ensuring its quality is critical for reliability and longevity.

In the lubricant industry, a distinction has emerged between engine oils that are considered “Suitable for Use” (SFU), often meaning the product claims to meet certain specifications without formal approvals, and those that carry “Original Equipment Manufacturer (OEM)” approvals. SFU engine oils may self-declare compliance using terms such as “meets the requirements of”, whereas formally approved engine oils have been tested and officially approved by the respective OEM or meet industry standard’s stringent processes.

Understanding these terms is essential, it is often nuanced and not simple to draw a distinction.



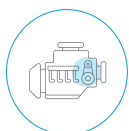
OEM Approved

This highest level of testing means a lubricant has undergone the full suite of tests and met all criteria required by an OEM specification. Such engine oils earn a formal approval from the vehicle manufacturer. Any oil marketer can obtain an OEM approval by formulating to the required standard or specification and having the data reviewed by the OEM, after which the engine oil can be listed as an approved product.



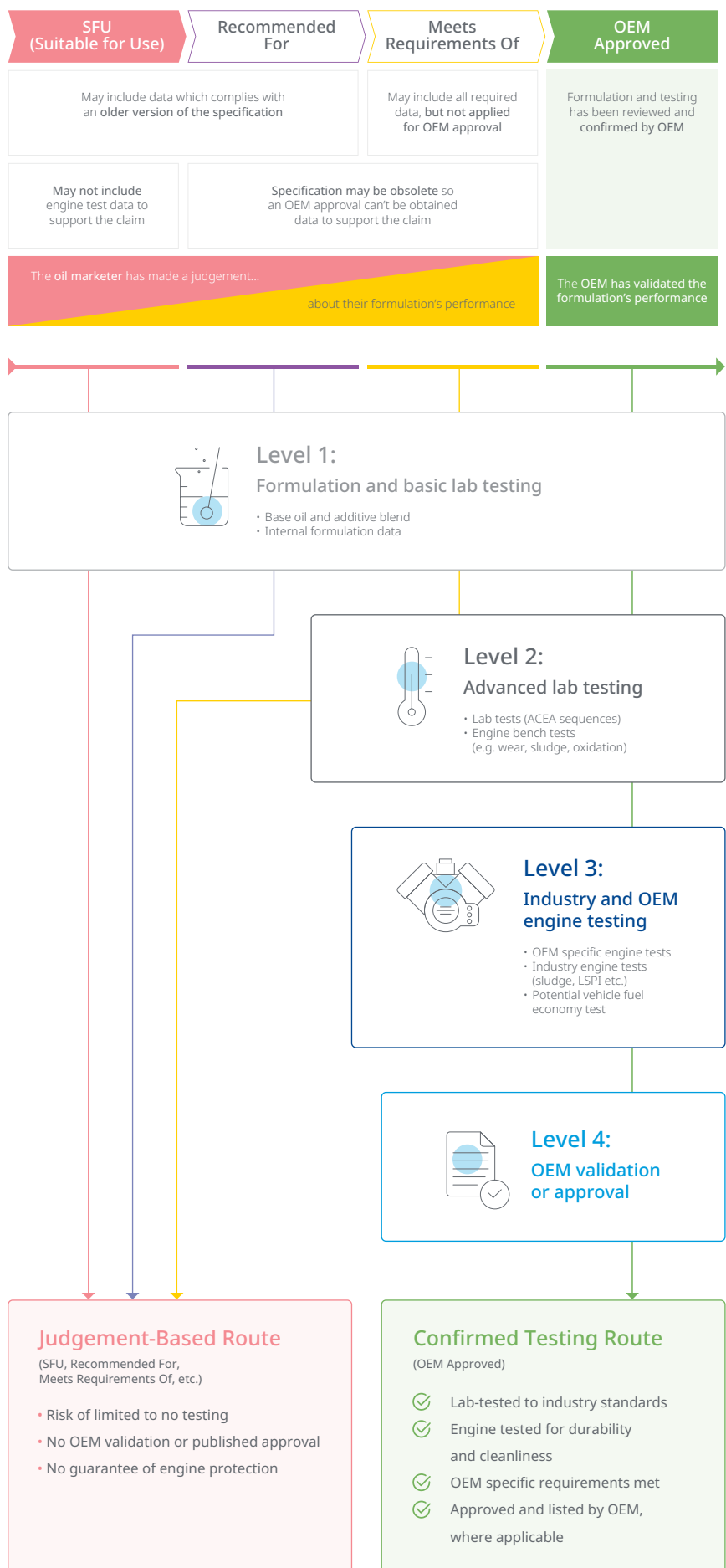
Association des Constructeurs Europeens d'Automobiles (ACEA) Approved

There is no ACEA “approval” for engine oils. ACEA publishes performance sequences and in turn marketers self-declare conformity under the European Engine Lubricants Quality Management System (EELQMS) and register a Letter of Conformance in the Services to Associations and Industry in the Lubricants Sector (SAIL) database. Claims must be supported by data and are subject to audit against The Technical Association of European Lubricants (ATIEL) Code of Practice, but ACEA does not license products or issue approval letters. In short, an ACEA claim provides a defined, auditable basis for performance, yet it is not the same as an OEM approval.



Non-OEM approved (Suitable for Use, meets requirements of, recommended for):

Engine oils in this category have some testing support (often from additive suppliers or in-house data) and claim to meet industry or OEM specifications. They have not however, been through the full official approval process and offer no proof of real-world OEM performance. They might lack certain tests or documentation compared to an approved engine oil. In some cases, an engine oil could technically pass the tests but simply hasn't been submitted for OEM approval, in others, the testing may be incomplete. The burden is on the blender's expertise and integrity to ensure the engine oil is truly up to standard and consumers must trust the engine oil marketer's word that the engine oil would pass all required tests.





Lubrizol has examined the European landscape for SFU engine oil versus ACEA & OEM-approved engine oils, reviewing the potential performance gap between the categories.

Combining our in-house testing with the work of industry bodies, it has become clear that the performance of some engine oils remains a key concern.

This white paper explores the results of the in-house testing Lubrizol has performed and also looks at the industry as a whole.

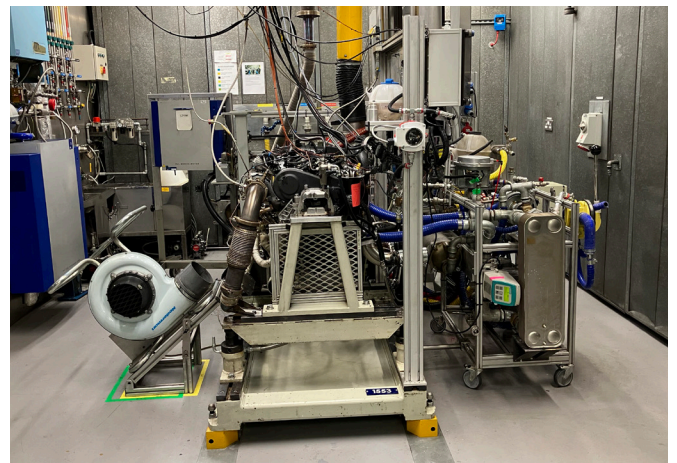


Figure 1.1 - A Lubrizol owned engine test cell rig used to test engine oil performance.

Note: This image is owned and protected by Lubrizol

The Rising Prevalence of SFU Engine Oils in Europe

2.0

Across Europe, most engine oil brands seek to meet the performance requirements set by the industry and the leading OEMs through formal approval.

However, there is an increasingly significant presence of products on the market that rely on self-declared compliance, often using terms such as “Suitable for Use” and “Meets requirements of”. These products claim to meet certain specifications or standards rather than holding an official OEM approval. Some engine oil marketers adopt terms such as SFU to avoid the cost and time of formal approval processes. These SFU engine oils typically claim to meet standards (such as ACEA sequences or specific OEM specifications based on in-house testing or additive-supplier data), without undergoing the full independent validation.

The extent of SFU engine oils in the European market is highlighted by the work of industry bodies.

For example, the Verification of Lubricant Specifications (VLS) is a UK registered independent body and subsidiary of the United Kingdom Lubricants Association. To date it has investigated over 120 lubricant cases since its formation in 2013. The vast majority of these cases concern the performance claims made on passenger vehicle engine oils, reflecting how prevalent and important this segment is. Significantly, VLS reports that “non-compliance with stated specifications and market standards remains the most frequent cause of complaint,” (1) indicating that many engine oils investigated were initially found not to meet all their performance claims but VLS worked with the Lubricant Marketers to resolve issues of non-compliance during investigation and were compliant at the end of the process.

In 2024 alone, more than half of cases opened by VLS related to conflicting or unevidenced OEM specification and market standards claims, i.e. engine oils marketed as meeting or even “approved for” OEM specifications without proof. This underscores growing concern that the engine oil market is becoming increasingly fragmented with many products making multiple performance claims where the technology deployed might not always support the claims being made.

Such findings reveal a compliance gap in the marketplace.

While many engine oils sold by oil marketing companies are tested and validated, there are some products where claims might be exaggerated or unsupported. The Chairman of the VLS Technical Review Panel noted that although awareness of compliance is growing, *“the significant rise in cases over the past 12 - 18 months and the complexity of those cases demonstrates that there is still work to do to ensure an open and fair marketplace that end users can have confidence in”*(2). In other words, despite progress, sub-standard formulations occasionally slip through, claiming to meet the latest specifications but failing to perform effectively in practice. This is the context in which certain SFU engine oils have proliferated. While an SFU product might appear to have the right specifications on the label, the lack of formal approval means the self-certification environment relies on trust and technical honesty.

Open discussion question:

How can the compliance gap between engine oils that carry formal approvals and those that don't, be further closed?

European Validation Frameworks:

3.0

ACEA, ATIEL/EELQMS and OEM Approvals

Ensuring an engine oil truly meets required performance standards involves a complex framework of industry specifications and testing protocols.

In Europe, the backbone of performance definition comes from ACEA, who provide specifications for various classes of engines (e.g. ACEA A/B for passenger car gasoline/diesel, ACEA C for catalyst-compatible engine oils, ACEA E/F for heavy-duty diesel). These sequences define minimum performance requirements in a series of standardised engine tests and laboratory tests. Notably, ACEA does not itself certify engine oils. Engine oil marketers are responsible for testing their products and self-declaring compliance to the sequences. This process doesn't pre-approve the engine oil, but it creates accountability. There is currently no official ACEA stamp on a bottle and no central public registry of ACEA compliant engine oils. The system relies on manufacturers to act diligently when making ACEA claims.

ATIEL plays a central role in supporting this framework.

Representing major engine oil companies and additive manufacturers, ATIEL develops guidelines and codes of practice that underpin the EELQMS. Its role is to ensure that ACEA claims are made consistently and transparently, helping to maintain industry-wide trust in the self-certification process.



The EELQMS is a voluntary quality framework developed jointly by ACEA, ATIEL and the Additive Technical Committee (ATC).

EELQMS is designed to assist lubricant marketers in assuring the quality of their lubricants and the performance claims made by them in the marketplace.

While the ACEA sequences provide a baseline performance standard, many vehicle manufacturers also have their own OEM-specific engine oil specifications that whilst often include ACEA, go beyond it in certain areas.

Obtaining the right to claim an OEM approval involves a formal process. The engine oil formulation must be tested (often at independent labs) according to the OEM's test protocol and the results submitted to the OEM for review. If the engine oil meets all the requirements, the OEM issues an official approval letter and the engine oil can be marketed as approved against that specification.

Open discussion question:

Is a regulated certification process (similar to API in the United States), necessary in Europe to ensure engine oils meet their claimed standards?

Technical Performance Comparison:

4.0

How Do SFU Engine Oils Measure Up?

One of the most direct ways to compare SFU engine oils to formally approved engine oils is through standardised tests.

Lubrizol undertook both bench tests (laboratory tests focusing on specific performance aspects) and engine tests to evaluate a selection of SFU engine oils against the requirements to meet OEM approvals. The areas examined included oxidation stability, low-temperature (cold-start performance) and high temperature (engine operation) viscometrics, deposit and sludge control, corrosion and seal compatibility. The results revealed multiple performance failures in the SFU samples tested, highlighting why formal approvals and thorough testing matters. Below, we explore each performance aspect, with data comparisons between an OEM approved reference engine oil and an SFU engine oil used for the same applications.



4.1

Oxidation Stability and Thermal Resistance



Engine oils must resist thickening and breakdown at high temperatures.

Poor oxidation stability can cause an engine oil's viscosity to increase dramatically and lead to sludge and varnish formation. OEM approved engine oils are required to pass a rigorous series of bench tests, followed by high-temperature engine tests to ensure they maintain stable viscosity and leave minimal deposits under stress. An SFU engine oil, lacking formal validation, may use a cheaper or unbalanced additive package that risks failing these tests, meaning it could thicken excessively or form deposits when subjected to extended high-temperature operation.



Lubrizol evaluated the oxidation stability of an SFU engine oil using the CEC L-109-14 Biodiesel Oxidation Test.

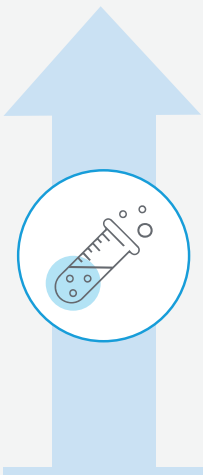
This is a laboratory bench test (150 °C, with 7% biodiesel fuel contamination) that accelerates engine oil aging to simulate severe conditions. The industry limit for this test (as per ACEA sequences) is a maximum 60% increase in kinematic viscosity at 100 °C (KV100) by the end of the test. In our evaluation, an SFU engine oil claiming to suit vehicles requiring the VW 50400 / 50700 specification showed a 1264% increase in viscosity at test end. This is equal to more than 20 times the allowed limit. By contrast, an OEM approved reference engine oil stayed within the limit (for instance, only a single-digit percentage increase, well under 60%).

Table 4.1: Oxidation stability comparison (CEC L-109 test)

Test & Parameter	OEM Approved Engine Oil	SFU Engine Oil	Comparison Statement
Oxidation stability (CEC L-109 – % viscosity increase)	✓ 7% (pass)	✗ 1264% (fail)	✗ 180 x thicker vs OEM approved engine oil (severe failure)

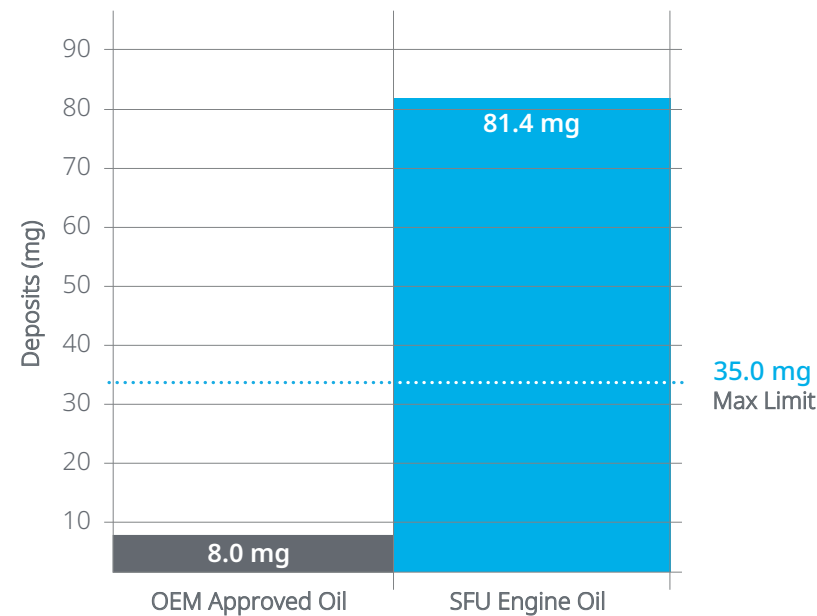
An OEM approved engine oil versus an SFU engine oil.

1264%
increase in viscosity



Such a substantial viscosity rise (as indicated in Table 4.1) will severely impact the oil’s ability to circulate within the engine, compromising its capacity to protect components (e.g. oil may become so thick that it pumps poorly, especially on cold start).

Figure 4.1: High Temperature Deposit Test Results (API SN TEOST MHT)



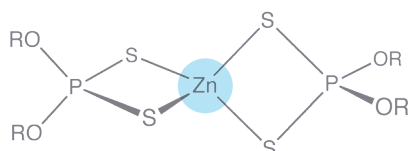
Excessive thickening due to oxidation can lead to oil starvation and deposit formation.

The approved oil, in contrast, stayed within the acceptable viscosity limit, indicating robust oxidation control.

As illustrated previously, the SFU sample's failure in oxidation stability suggests it would not protect an engine from sludge and varnish in real-world high-temperature operation.

4.2

Wear Protection

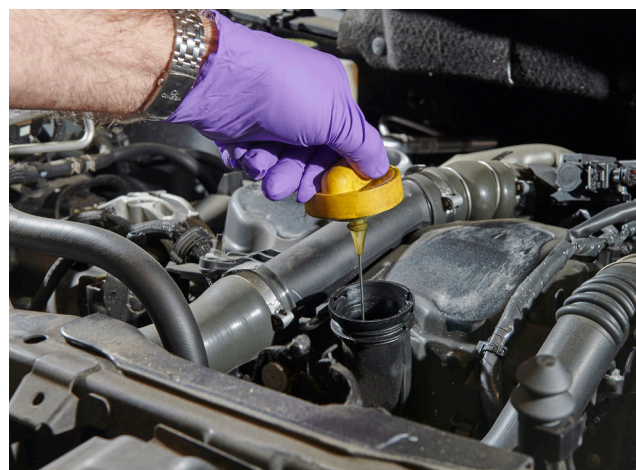


Engine oils contain anti-wear additives (e.g. zinc dialkyldithiophosphate - ZDDP) and must pass strict wear tests to be approved.

For example, the MB OM646LA cam wear test, the Sequence IVB valvetrain wear test and the Sequence X timing chain elongation test are all part of modern specifications. Approved engine oils must also meet High-Temperature High-Shear (HTHS) viscosity requirements to ensure sufficient film strength under high load.

In industry investigations, some SFU engine oils have shown deficiencies in these areas. VLS has reported cases where SFU engine oils had significantly low HTHS viscosity, below the required minimum, which could lead to increased engine wear (3). In our internal testing, we observed that while the OEM-approved reference engine oil met the required HTHS and passed wear test limits, the SFU engine oils sometimes lacked the needed anti-wear performance.

An engine oil that shears down (loses viscosity under stress) or lacks robust anti-wear additive chemistry may allow accelerated wear of valvetrain components, piston rings or turbocharger bearings. Over time, these shortcuts manifest as higher wear metals in the engine oil and physical wear on engine parts.



It's worth noting that **wear protection issues** might not become evident immediately but could **shorten engine life**.

4.3

Cold-Start and Low-Temperature Performance



Cold-start lubrication depends on the engine oil meeting certain low-temperature viscosity criteria (as defined by SAE J300, the engine oil viscosity classification).

These include tests like the Cold Crank Simulator (CCS) and Mini Rotary Viscometer (MRV) tests at sub-zero temperatures. Engine oils must not become too thick at the coldest ambient temperatures and must not exhibit yield stress or gelation (which would indicate risk of wax crystallisation and engine oil flow blockage). OEM approved engine oils are required to pass these CCS and MRV tests for their given viscosity grade, ensuring they will pump and flow in cold-start conditions.



Our testing revealed that some SFU engine oils exhibited **inadequate oil flow** at low temperatures.

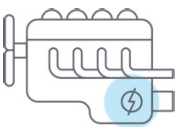
In contrast, the OEM approved 5W-30 flowed with no issues. Such a failure means that on a winter morning, the SFU engine oil could struggle to circulate, leading to engine oil starvation in the first critical seconds of engine start. This can cause immediate wear (as engine parts move past each other unlubricated) and, if severe, can lead to engine damage or failure to start.

In particular, an SFU 5W-30 that was tested showed borderline failing results in the MRV test at -35 °C. The measured yield stress indicated developing gelation. While the engine oil was labelled 5W, it likely would not have met the formal 5W requirements if tested in a certification context.

Low-temperature pumpability problems in engine oils can stem from insufficient or incorrect pour point depressants. By avoiding some costly additives, an engine oil marketer might save money, but the end user can pay the price.

4.4

Sludge, Varnish and Deposit Control



Modern engines, especially those with turbochargers or direct injection, are prone to deposits and sludge if the engine oil’s detergency or thermal stability is lacking.

Approved engine oils must demonstrate piston cleanliness, sludge handling and turbo deposit control through tests like the Sequence VH (for sludge), the MB M271 EVO (black sludge test), VW TDI3 (piston deposit test) and various other OEM tests. These tests ensure the engine oil can prevent piston ring sticking, keep the crankcase clean and avoid harmful deposits that could block engine oil passages or hinder turbochargers.



Some SFU engine oils, which may lack formal validation, risk insufficient performance in deposit control. Our evaluations included both a **laboratory deposit test** and an **engine test for deposits**.

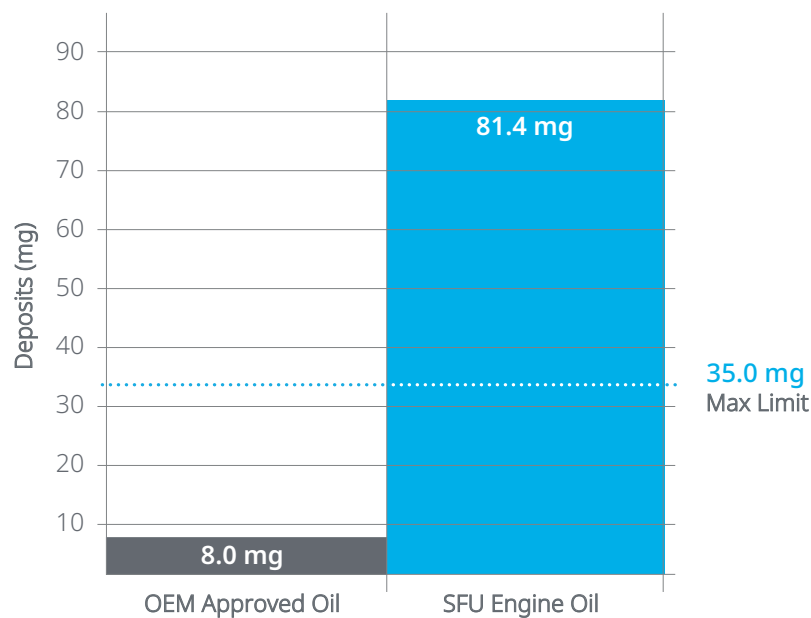
High-Temp Deposit Bench Test (API SN TEOST MHT):

This test measures an engine oil’s tendency to form deposits in a turbocharger simulation (at c.285 °C). The pass limit is ≤ 35 mg of deposit. The OEM approved reference engine oil produced a very low deposit amount (around 7-8 mg, which is well under the limit, as expected for a high-quality engine oil). The SFU engine oil, yielded 81.4 mg of deposits, more than double the allowable limit. In fact, this was about 10 times more deposits than observed with the approved engine oil. Such heavy deposit formation in the TEOST bench test signals that the SFU engine oil could leave significant hard carbonaceous deposits on turbocharger components and piston surfaces in real engines.

Test & Parameter	OEM Approved Engine Oil	SFU Engine Oil	Comparison Statement
Deposit formation (TEOST MHT) – mg deposits	✓ 8 mg (pass, low deposits)	✗ 81.4 mg (fail)	⚠ 10 x more deposits vs OEM approved engine oil (high risk)

Table 4.4: High-temperature deposit test (TEOST) results

Deposits formed by an OEM approved engine oil vs an SFU engine oil.



Effective control of sludge and varnish is also critical, particularly for extended drain intervals. Approved engine oils contain robust dispersant and detergent additive systems to keep sludge and soot in suspension and neutralise sludge precursors, respectively. Some SFU engine oils might use reduced treat levels of these additives.

The consequences became evident in a diesel engine sludge test that Lubrizol performed on an OEM approved engine oil versus an SFU engine oil claiming the same specification. The approved engine oil completed the test with minimal sludge (it received a high merit rating 9 out of 10 for sludge).

Sludge Test Result

9/10

OEM approved oil

The OEM approved oil completed the test with **minimal sludge** (it received a high merit rating 9 out of 10 for sludge).

Figure 4.4 Piston Comparison from OEM biodiesel sludge test

The left-hand piston is from the engine that failed, while the right-hand piston is from the engine that ran the full test on the approved engine oil.



Note: This image is owned and protected by Lubrizol

The SFU engine oil generated sludge which leads to a restriction of oil flow around the engine, blocked engine oil passageways become restricted with deposit buildup, leading to lack of piston undercrown cooling and causing seizure in one of the engine cylinders. The result was failure partway through the test, running only about 25% of the intended duration (23 hours out of a 96-hour test) before the engine experienced catastrophic failure.



In contrast, the approved engine oil successfully completed the full 96-hour test with the engine intact.

This stark outcome vividly illustrates the worst-case risk. An SFU engine oil with poor deposit/sludge control can destroy an engine in short order under challenging conditions.

Open discussion question:

Would you want an SFU engine oil with this level of performance used in your vehicle?

Figure 4.4: Engine oil sump condition after deposit/sludge engine testing.

Figure 4.4 illustrates the engine oil sump condition following engine testing at Lubrizol's test facility. The left image shows the results with on OEM approved engine oil - demonstrating clean pick-up and normal varnish levels, while the right image shows the results with a SFU engine oil.



OEM Approved Engine Oil



SFU Engine Oil

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4.5

Piston Cleanliness Engine Test (VW TDI3 - CEC L-117)

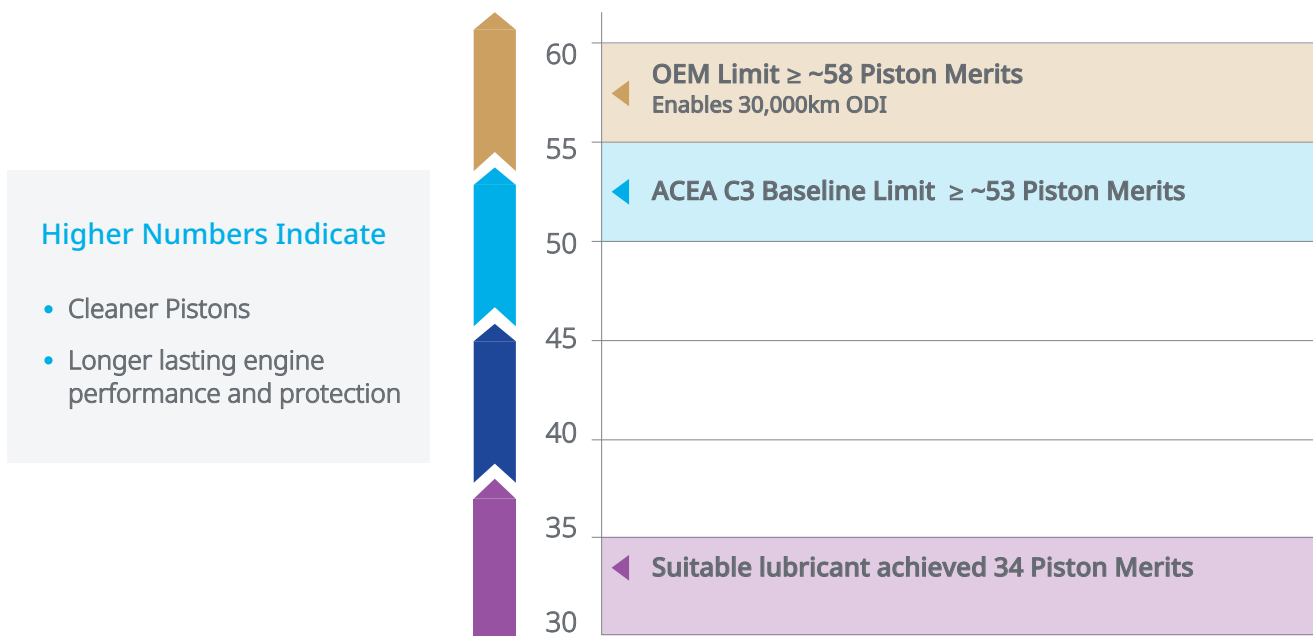


This is an engine test measuring piston deposit and ring sticking tendency.

A passing result for the VW specification requires a minimum piston cleanliness merit of 58. In our comparison, the OEM approved engine oil achieved a passing merit ≥ 58 , (indicating good piston cleanliness). The SFU engine oil, however, had a piston merit of only 34. This is just over half of the required merit and below the ACEA baseline requirement of 54.

In practical terms, the SFU engine oil allowed heavy piston deposits and significant ring sticking, such that the engine using the SFU engine oil would be at high risk of power loss or even severe damage. Stuck rings can lead to loss of compression, blow-by and excessive engine oil consumption.

ACEA Baseline Engine Testing | CEC L-117-20 Results



4.6

Seals Compatibility



Engine oils must be compatible with the various elastomer seals in an engine (gaskets, O-rings, seal rings, belts etc).

If an engine oil causes these elastomers to harden, shrink or crack excessively, it can lead to **oil leaks and failures**.

OEM and ACEA approved engine oils undergo seal compatibility testing (e.g. ASTM D7216 or CEC L-112) to ensure they cause only acceptable levels of swelling or hardness change in specific seal materials.

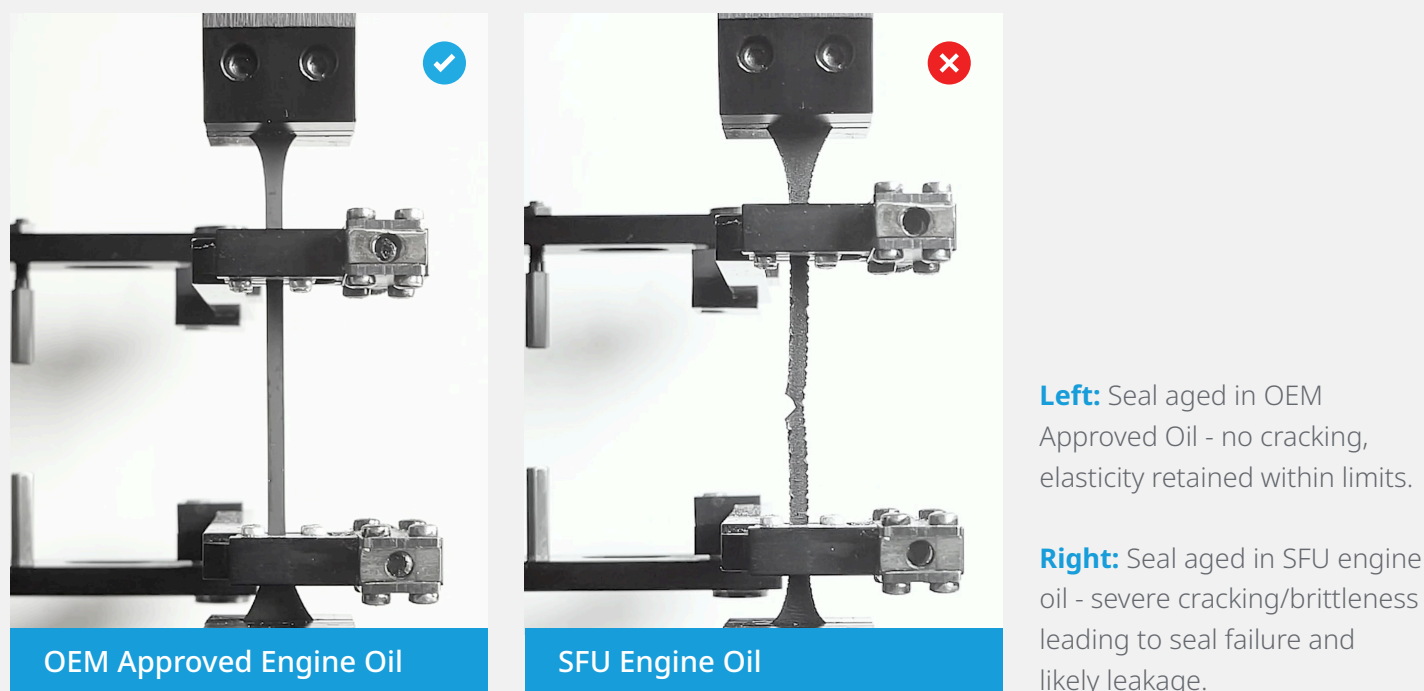
In our bench tests, the OEM approved engine oil showed no issues in elastomer compatibility. Test specimens remained pliable and intact within the test limits. However, the SFU engine oil caused severe degradation of the seal material. In a seal compatibility elastomer test (CEC L-112, which evaluates rubber material after engine oil exposure at high temperature), the elastomer sample immersed in the SFU engine oil cracked and significantly reduced tensile strength. By contrast, the sample tested after exposure to the approved engine oil showed no cracking and maintained normal elasticity within the test limits.

Table 4.6: Results of Seal Compatibility Rig Test

Test & Parameter	OEM Approved Engine Oil	SFU Engine Oil	Comparison Statement
Seal compatibility (CEC L-112) – elastomer integrity	✓ No cracking; seal intact	✗ Severely cracked; seal broke	⚠ SFU engine oil caused seal failure (leaks likely)

Table 4.6 shows an example of this outcome: in Lubrizol’s seal rig test, the seal which was immersed in the SFU engine oil (right) is visibly cracked and brittle, whereas the one which was immersed in the approved engine oil (left) remains intact and flexible. In an engine, a cracked seal could fail entirely, resulting in rapid engine oil loss and even engine seizure.

Figure 4.6 Elastomer compatibility (CEC L-112).



Note: These images are owned and protected by Lubrizol

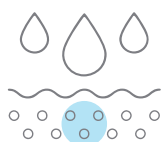
The implication for real engines is serious. A lubricant that causes cracked seals can lead to engine oil leakage, loss of engine oil pressure and contamination of the environment.

Engines that use timing belts that run in engine oil (wet-belt) introduce an additional compatibility risk. Unlike dry-belts, wet-belts are immersed in the lubricant. Their elastomeric matrix (e.g. HNBR) and adhesive systems depend on the engine oil's chemistry. Engine oils with imbalanced solvency/detergency or with high levels of oxidation by-products and acids can extract plasticisers, cause swelling or embrittlement and accelerate tooth wear or delamination of the belt surface.

Using an engine oil that has not been validated to the relevant OEM specification for wet-belt systems, or stretching drain intervals, raises the likelihood of belt distress, timing loss and secondary engine damage. Notably, the elastomer-compatibility failure observed with the SFU engine oil in our programme (CEC L-112) signals a broader material-compatibility concern for elastomeric components including wet timing belts, whereas the approved engine oil maintained integrity within the test limits.

4.7

Corrosion protection (VW PV1401)



To assess susceptibility to rust in moisture and acid-forming conditions, we evaluated the oils using the Volkswagen PV1401 visual corrosion method.

Under the standard PV1401 conditions, the OEM-approved oil rated Grade 1 (no corrosion), whereas the SFU engine oil rated Grade 5 (heavy corrosion). This shift from the lowest to the highest severity category indicates that the SFU formulation provides inadequate corrosion inhibition and is at significantly higher risk of ferrous-surface attack during short-trip operation, storage or water ingress. Combined with the low-deposit and oxidation performance advantages of the approved oil, the PV1401 outcome reinforces that formal approvals correlate with robust protection across multiple failure modes.

4.8

Summary of Bench Test Outcomes

Table 4.8 below summarises key bench test results comparing an OEM approved engine oil to a non-approved SFU engine oil in our evaluation:

Table 4.8: Summary of OEM approved vs SFU bench tests conducted by Lubrizol.

Test & Parameter	OEM Approved Engine Oil	SFU Engine Oil	Comparison Statement
Oxidation stability (CEC L-109 – % viscosity increase)	✔ 7% (well within limit)	✖ 1264% (fail)	✖ 180 x thicker vs. OEM engine oil (severe failure)
Deposit formation (TEOST MHT) – mg deposits	✔ 8 mg (pass, low deposits)	✖ 81.4 (fail)	⚠ 10 x more deposits vs. OEM engine oil (high risk)
Corrosion protection (VW PV1401) – visual rating	✔ Grade 1 (no corrosion)	⚠ Grade 5 (heavy corrosion)	⚠ 5 x worse corrosion rating vs OEM (visible rust)
Seal compatibility (CEC L-112) – elastomer integrity	✔ No cracking; seal intact	⚠ Severely cracked; seal broke	⚠ SFU engine oil caused seal failure (leaks likely)

Key

✔ Pass

✖ Fail

⚠ High Risk

All data above is from Lubrizol's internal testing of market oils.
Comparisons are approximate and for illustration only.

In summary, comparative performance of SFU versus approved engine oils can only be truly known by testing.

A legitimately formulated SFU engine oil could perform as well as an approved one however, without testing, it's hard to distinguish a well-formulated SFU product from a sub-standard one. The evidence from Lubrizol's testing suggests a non-trivial number of SFU claims do not fully meet the performance requirements. We witnessed examples of too-high phosphorus (risking catalytic converters), too-low base number (risking corrosive wear) and insufficient HTHS viscosity in some SFU engine oils that were on sale to consumers. Each of these failures translates to a potential engine problem under the right (or wrong) conditions.

Industry Response:

5.0

Improving Transparency and Compliance

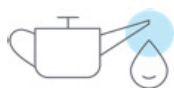
The lubricant industry, including trade associations, additive companies and OEMs, are aware of the challenges posed by misleading or sub-par SFU claims.

A number of initiatives and responses have been put in place or strengthened in recent years to protect market integrity and ensure customers get the quality they expect.



5.1

ATIEL and ACEA Compliance Measures



ACEA and ATIEL have tightened the rules for ACEA engine oil sequence claims.

Since 2021 any marketer making an ACEA claim must register a Letter of Conformance via SAIL, the official online database managed under the EELQMS framework. SAIL provides a central registry where engine oil marketers declare that their products conform to ACEA sequences in line with ATIEL's Code of Practice. This system increases transparency and accountability by creating a documented trail of claims, accessible for verification by industry stakeholders, OEMs and regulators.

Engine oils found to be non-compliant with claimed specifications can result in the marketer being pressured to correct or withdraw the claims. In serious or repeated cases, ATIEL (with ACEA's backing) now has the authority to remove a company's Letter of Conformance from the registry, effectively restricting them from making ACEA claims until issues are resolved. These measures, while not the same as a formal licensing system, have begun to close loopholes by adding consequences for false claims.

5.2

Role of VLS in the UK (and Other National Bodies)



The UK's VLS has been a leading example of national-level enforcement.

VLS independently investigates lubricant products for compliance issues. When VLS receive a complaint or spot a dubious claim, they test the product against its stated specifications. The results are made public, and the lubricant marketer is pressured to take corrective action (either reformulate, retest, or relabel the product). In the UK, VLS operates in cooperation with Trading Standards, giving it a pathway to escalate serious cases to legal enforcement if needed. For example, if a lubricant is found to pose safety risks or is marketed fraudulently, Trading Standards can mandate its withdrawal from the market.

A Shared Responsibility and the Path Forward

6.0

The debate between “Suitable for Use” and formally evidenced engine oils shows that verifiable performance is what matters.

Whilst two products may look alike on the shelf, an OEM-approved engine oil, or an ACEA claim made in line with EELQMS and SAIL, comes with defined tests, auditable data and traceability.

Safeguarding quality is a shared responsibility across the market. Industry bodies such as ACEA, ATIEL, UKLA VLS and UEIL set and uphold codes and guidance. OEMs define application-specific needs. Lubricant marketers and additive suppliers generate, retain and stand behind the data that supports their claims. Distributors and retailers provide accurate labelling and advice at the point of sale. Garages and workshops apply the right products in service and guide drivers toward compliant choices. Regulators oversee compliance and act where there is wilful non-compliance.

Clarity of language will help. If the term “Suitable For Use” is used, it should be anchored in published data and defined test results. Otherwise, use precise statements of approvals and performance levels that match labels, data sheets and EELQMS/SAIL declarations.

This whitepaper has shown what can go wrong when evidence is thin. The path forward is collaborative. Tighten communication, evidence and oversight across the chain so quality keeps pace with engine innovation, environmental goals and customer expectations.



Trust matters.
Proof protects.

(1) UKLA Verification of Lubricant Specifications (VLS). Managing Conformance and Assuring Compliance: A Case Review 2013–2024. UK Lubricants Association (UKLA), 2024.

(2) UKLA VLS Technical Review Panel. Chairman's statement on market compliance and case volumes, cited in the VLS Case Review 2013–2024.

(3) UKLA VLS. Case Library, 2013–2024. Selected investigations highlighting low HTHS viscosity non-compliance in passenger car engine oils. VLS Case Reference 010203. www.ukla-vls.org.uk



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