

WELCOME

Understanding and complying with European engine lubricant quality standards

3.30 - 4.00pm

Fuels & Lubes Asia Conference

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Speaker introduction



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- 25 years' experience in automotive and lubricants industries
- Based at Shanghai Technology Centre, China
- Former chairman of ATIEL Industry Liaison committee

Today's session - what we will cover

- Introduction to ATIEL
- The importance of quality standards and meeting the requirements of the ACEA Oil Sequences
- The European Engine Lubricants Quality Management System (EELQMS)
- The ATIEL Code of Practice for engine lubricant development
- Monitoring quality compliance in the market
- Making valid ACEA performance claims

A large, faint background image on the left side of the slide shows a white plastic bottle pouring clear water. The water is captured in motion, creating a dynamic splash and several small droplets. The bottle's neck and the initial part of the pour are visible on the left edge.

ABOUT ATIEL

Introduction to ATIEL

- The technical association of the European lubricants industry.
- Industry body that represents European lubricant manufacturers and marketers.
- Provides expert advice to regulators, industry partners and end-consumers.
- Seeks to enhance the reputation of the lubricants industry by promoting superior standards of lubricant technology and performance.



ATIEL members



ATIEL activities

Contributes to development of best practices and standards that promote superior quality products in the market:

- Through its Code of Practice sets clear and consistent technical guidelines for lubricant development that addresses the needs of OEMs and consumers.
- Monitors current and future technical trends and regulatory programmes
- Acts as a focal point for technical issues relating to the performance and environmental demands of engine oils.
- Carries out quality surveys to assess levels of quality compliance in the marketplace.



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QUALITY

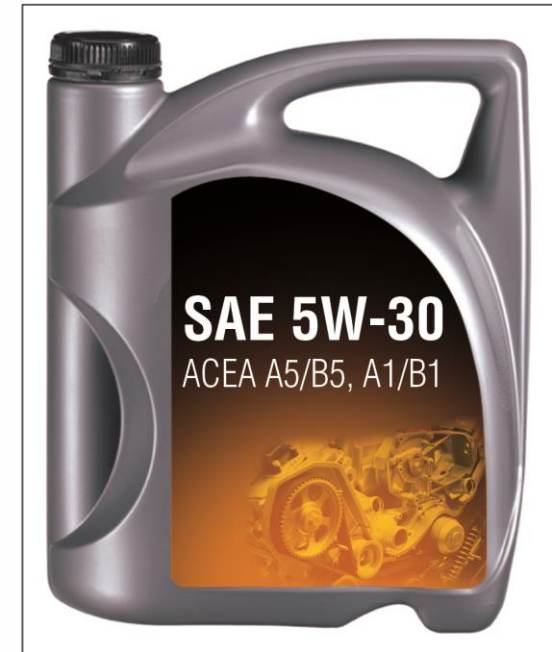
Importance of quality standards

- OEMs need to know that appropriate quality engine lubricants will be available in all their markets.
- Trade/workshops need assurance that inadequate lubricant performance will not lead to warranty claims.
- Consumers need confidence in quality of the products being used in their vehicles.



Quality and performance claims

- Recognise this?
- Why is it important?
- How do you know that your products meet the ACEA requirements?
- As a lubricant marketer you are responsible for all aspects of product liability!



The background of the slide is a light gray with a large, faint, semi-transparent image of a white plastic bottle pouring a golden-yellow liquid. The liquid is captured in mid-pour, creating a dynamic splash and several small droplets. The top of the slide features a decorative header with overlapping orange and red circular shapes and a black area on the right containing the 'atiel' logo.

ACEA SEQUENCES

About ACEA

- ACEA (European Automobile Manufacturers Association) represents the interests of major European car, truck and bus manufacturers.
- Sets performance specifications for engine lubricants through its European Oil Sequences.
- ACEA performance specifications increasingly adopted outside Europe, including here in Asia.



BMW Group

PSA PEUGEOT CITROËN

DAF

DAIMLER



IVECO



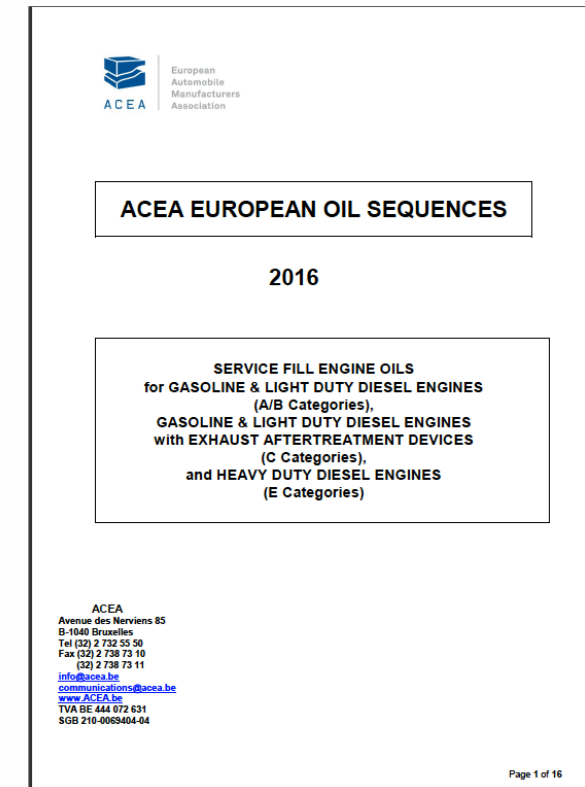
TOYOTA

VOLKSWAGEN
AKTIENGESellschaft



ACEA Oil Sequences

- ACEA European Oil Sequences cover light duty passenger cars & heavy duty trucks.
- The ACEA Oil Sequences are updated regularly to address:
 - Changes in European legislation
 - Changes in engine technology
 - Changes in fuel composition
- The current issue of the Oil Sequences is ACEA 2016, released 1 December 2016.



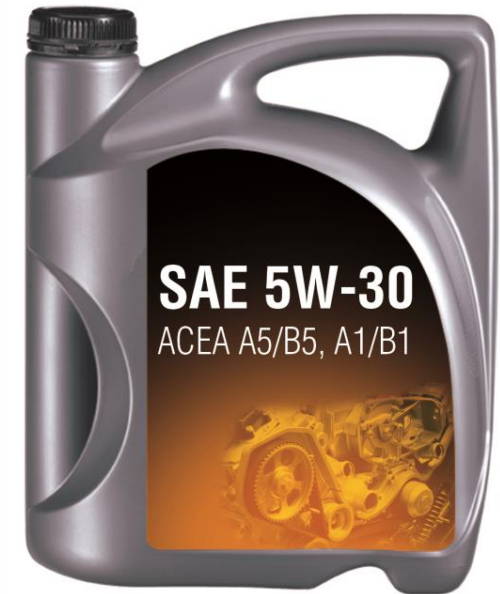
ACEA 2016 drivers

- Increasing use of direct injection engines
 - Higher temperatures, more fuel dilution
- Increasing use of bio fuels
 - Oxidation and engine cleanliness issues
- Push for fuel efficiency/fuel economy
 - Higher M111 FE test targets
 - Allowance for 0W-20/5W-20 viscosity grades with C5
- New seal materials
 - Updated elastomer materials to address EU's REACH regulation



ACEA performance claims

- Lubricant **marketers** are responsible for all aspects of product liability!
- Lubricant marketers claiming ACEA performance can include claims for specific engine categories on their product labelling.
- For these claims to be valid ACEA **requires** these engine lubricants to be developed in accordance with the European Engine Lubricant Quality Management System (EELQMS).



A background image showing a close-up of a white plastic oil container being poured. A thick stream of golden-yellow oil is flowing out of the spout, creating a dynamic splash and ripples. The background is a light, neutral color.

THE EELQMS

(European Engine Lubricants Quality Management System)

About the EELQMS

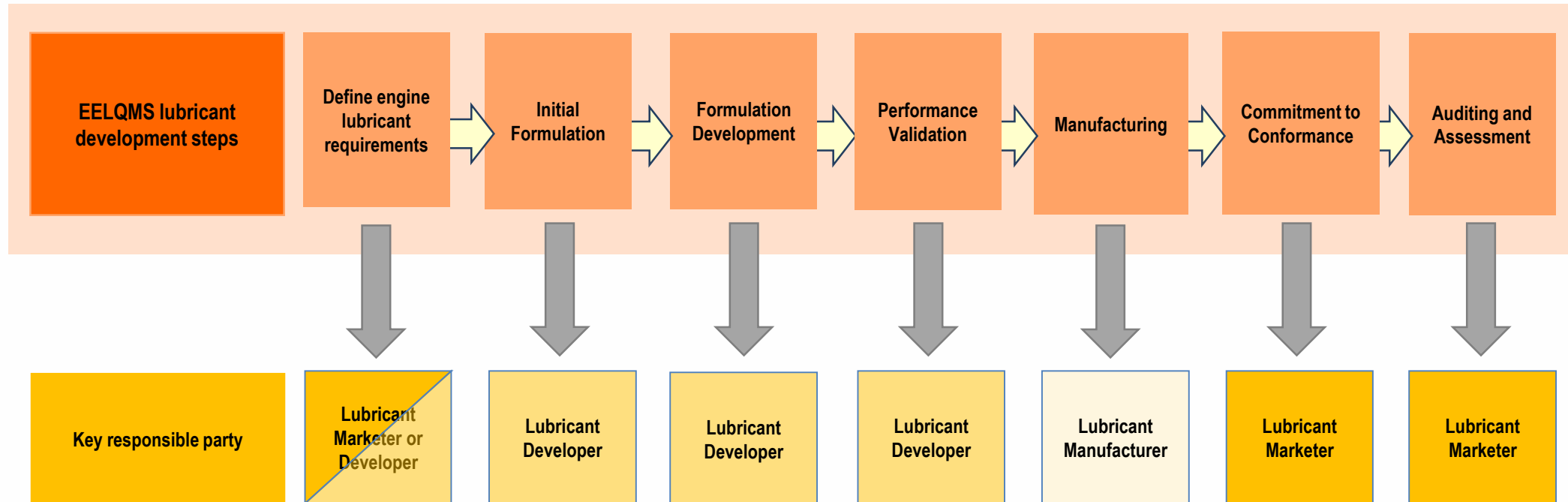
- Voluntary quality management system for automotive engine lubricants.
- Developed by industry stakeholders to promote development of improved, fit-for-purpose engine lubricants that meet increasing technical requirements.
- Designed to assist lubricant marketers in assuring the quality of their lubricants and the performance claims being made for them in the marketplace.



EELQMS stakeholders and inputs

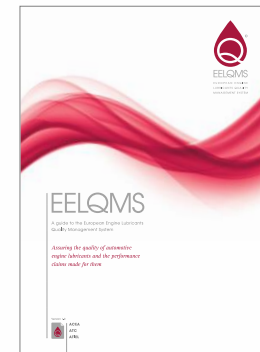


Description of EELQMS development programme



Promoting EELQMS

- New identity with logo and branding.
- New separate document clearly setting out the guidelines for compliance with EELQMS.
- New dedicated website (under construction): www.eelqms.eu
- Logo can be used in marketing material under license, but only by signatories of EELQMS.



Marketing ACEA performance claims

Compliance with the EELQMS includes signing a Lubricant Marketers' Letter of Conformance:

- Required for ACEA performance claims
- Confirms compliance with EELQMS
- Signed Letters held by ATIEL (EELQMS administrator)
- List of signatories on ATIEL website
- Renewed every two years
- Membership of ATIEL not required to be a signatory
- Letter of Conformance template available from ATIEL website: www.atiel.org



A close-up, high-speed photograph of water being poured from a clear plastic bottle. The water is captured in mid-pour, creating a dynamic, flowing shape with visible ripples and a splash at the bottom. The background is a soft, out-of-focus light gray.

ATIEL CODE OF PRACTICE

ATIEL Code of Practice

- Key component of the EELQMS.
- Provides formulation guidelines that represent accepted industry best practices.
- Offers a common approach and standards for the whole industry to follow.
- Enables lubricant companies to comply with EELQMS and the ACEA Oil Sequences.



ATIEL Code of Practice - how does it help?

- **Facilitates efficient lubricant development by:**
 - providing a documented, structured approach
 - eliminating unnecessary or duplicate testing
 - reducing product development time
 - making more effective use of resources
- **Provides standard guidelines and auditable quality management systems to ensure consistent quality of lubricants.**
- **Ensures availability of appropriate lubricants worldwide (different base stocks, viscosity grades) through controlled formulation flexibility.**

ACEA Oil Sequences v Code of Practice

The ATIEL Code of Practice is updated regularly and in line with each evolution of the ACEA Oil Sequences.

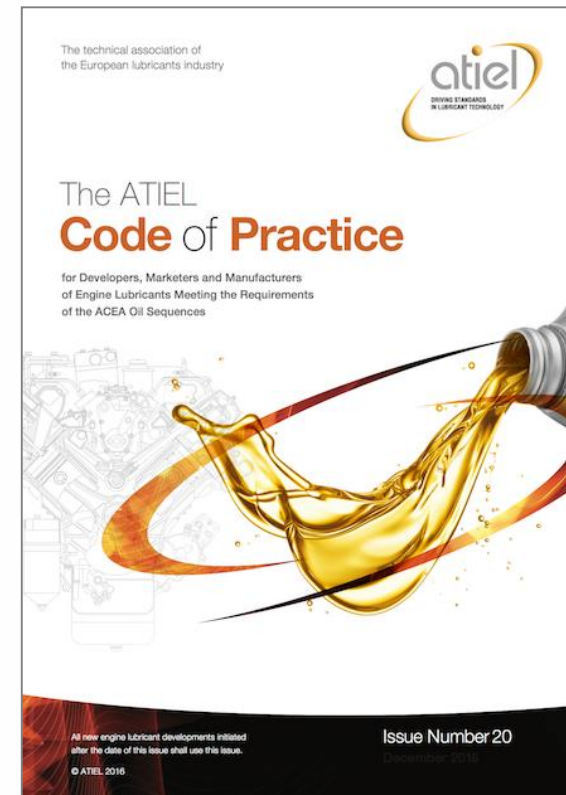
ACEA Oil Sequence issue	ATIEL Code of Practice issue
2008	Issue 16
2010	Issue 17
2012	Issue 19
2016	Issue 20

*Issue 18 was an editorial update with no change to technical requirements.

ATIEL Code of Practice Issue 20

What's new or different?

- **New technical content:**
 - Revised and updated to bring into line with ACEA 2016 Oil Sequences
- **New structure and format:**
 - More user-friendly format
 - Removal of EELQMS (now a standalone system)
 - Closer alignment with ATC Code of Practice
 - Clearer auditing requirements



A background image showing a stream of clear water being poured from a white plastic bottle on the left side. The water is captured in motion, creating a dynamic splash and ripples. The scene is set against a light gray background.

MONITORING QUALITY IN THE MARKET

ATIEL Quality Surveys

- Enhance the overall robustness of quality management.
- One of the most effective ways to measure levels of compliance with EELQMS.
- Has become an ongoing activity and a core part of ATIEL's Quality Management Committee's initiatives.
- Conducted on behalf of ATIEL by independent body.



Quality survey methodology

- All samples sourced independently, coded and 'blind' tested.
- Tested against most appropriate ACEA European Oil Sequences and parameters including:
 - Viscosity (high and low temp)
 - Noack volatility
 - SAPS (Sulphated Ash, Phosphorous & Sulphur)
 - TBN (Total Base Number)
- Testing and statistical analysis conducted by independent expert laboratory.
- Individual results shared only with respective marketer and appropriate follow-up actions taken.



2013 survey

- 200 samples from across Europe
- All ATIEL members represented
- Covered range of common viscosity grades

2015 survey

- Broader range of products and extended beyond ATIEL membership
- Covered marketers that are signatories to the EELQMS Letter of Conformance
- Results becoming more meaningful over time as more data gathered
- Highlighted a number of different types of invalid claims in the market



The background of the slide is a light gray with a large, faint, semi-transparent image of a white plastic bottle pouring a golden liquid. The liquid is captured in mid-pour, creating a dynamic, flowing shape that extends from the left side of the frame towards the center. The top of the slide features a decorative header with overlapping orange and red circular shapes, resembling light flares or bubbles.

INCOMPATIBLE OR INVALID PERFORMANCE CLAIMS

Invalid performance claims found in the market

- Technically impossible or highly improbable claims found in the market.
- Most likely due to lack of technical knowledge or poor understanding of the ACEA Sequences.
- Confusion over requirements of different releases of ACEA Sequences (ie 2010/2012/2016).

NIVEAUX DE PERFORMANCE	
SAE	5W30
ACEA	A3/B3/B4/C3/C4
API	SM/CF
Renault	RN 0720
PSA	C3
CARACTERISTIQUES	

Performance Levels
 API: SL/CH4
 ACEA: A1/B1/A3-B3/B4/E5
 VW 501.00/505.00
 MB 228.3; 229.5

ACEA	C2/C3, A3/B3/B4
ACEA (Meets Engine Test Requirements)	A5/B5
API (Meets Engine Test Requirements)	SL / SM

Types of invalid performance claims

- **Incompatible combined category (ie two or more) claims:**
 - Technically impossible due to conflicting demands of two or more Categories (top right).
 - Highly unlikely due to minimal overlap in properties required for that combination.
- **Partial or incomplete claims - eg:**
 - 'C2 (without fuel economy)' is not valid against the ACEA C2 Category (bottom right).
 - 'C2 (without fuel economy)/C3' is not a valid combined claim.
- **Incorrect labelling**
 - ACEA 'approved', 'certified' or recommended' are not valid.
 - ACEA also states that the year is not to be included.
- **Obsolete category claims**
 - Claims for obsolete categories such as ACEA E2 are valid as long as the claim is from the most recent ACEA issue when category was valid (ie ACEA 2007).
 - See *Industry info* section of www.atiel.org for more information.



ATIEL follow-up activities

- Provide clear guidance and training on technical aspects of lubricant development.
- Provide more information and training on making valid and compliant performance claims.
- Clarify and communicate impact and requirements of new editions of the ACEA Oil Sequences.
- Develop policing policy to address products not meeting claimed specifications.
- Make quality surveys continuous ongoing activity with samples taken and tested every month from across Europe.
- Provide feedback to individual marketers to prevent non-conforming products reaching the market.

Summary

- Quality is important if you want to meet the requirements of the ACEA European Oil Sequences and make valid performance claims.
- The European Engine Lubricants Quality Management System (EELQMS) is the only quality system for meeting ACEA requirements.
- The ATIEL Code of Practice guidelines support and assist lubricant companies with development programmes that comply with EELQMS.
- ATIEL monitors quality compliance in the market and takes appropriate follow-up action where necessary.
- ATIEL provides information and advice to enable lubricant companies to comply with EELQMS through trainings sessions, webinars, presentations and on its website.

Any questions?



Thank you!

For more information visit:

www.atiel.org
www.eelqms.eu

Contact us at: **info@atiel.eu**