

Ensuring quality and upholding standards in
the european lubricants sector - the role of
EELQMS and SAIL

Zapewnienie jakości i utrzymywanie
standardów w europejskiej branży środków
smarowych - rola EELQMS i SAIL



XIII International Scientific and Technical Conference
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Speaker introduction



Piotr Niemiec

- **Orlen Oil, Poland**
- **Coordinator, Technology Dept.**
- **Member of the ATIEL Board of Directors**
- **Over 15-year career in the Lubricants Industry**

ATIEL related presentations presented to polish audience so far

- Interchange Guidelines and Tests for ACEA Performance Automotive Engine Oils, Środki smarowe 2021, Zakopane
- Role of CEC in Developing Tests for the European Automotive Industry, Środki smarowe 2019, Zakopane
- Benefits of signing the LoC. 2018 update, Środki smarowe 2018, Krynica Zdrój
- Monitoring engine lubricants quality in the market, Środki smarowe 2017, Krynica Zdrój

Today's session - what we will cover

01

ATIEL and its
Code of Practice

02

EELQMS
and SAIL

03

ATIEL's quality
surveys and it's
findings



Today's session

01

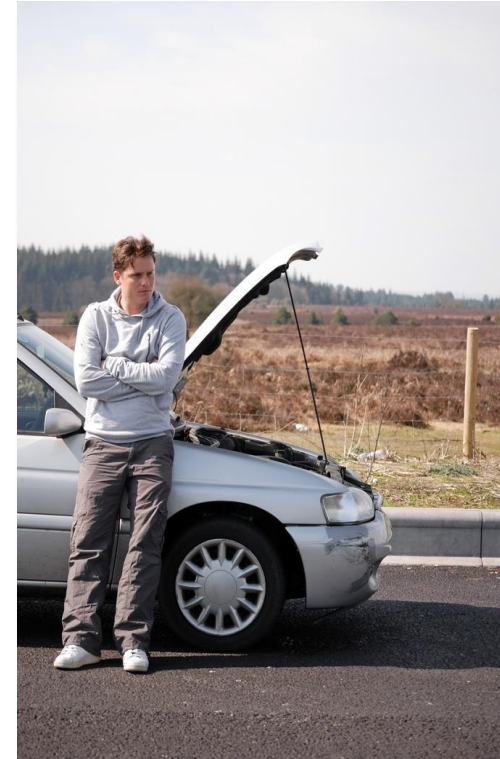
ATIEL and its
Code of Practice



ISO 16750 ENGINE
LUBRICANTS QUALITY
MANAGEMENT SYSTEM

EELQMS is about quality and quality is important

- Vehicle 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 the quality of the products being used in their vehicles.



ATIEL

The technical association of the European lubricants industry

- Non for-profit association under Belgian law (Association Sans But Lucratif-ASBL).

Represents the common interests of European lubricant manufacturing and marketing companies

- Membership open to companies actively engaged in the marketing and/or manufacture of lubricants in Europe.
- Promotes dialogue between its members and associated industries on technical issues, regulations, specifications and Codes of Practice.

ATIEL active Members (as of QIII 2023)



ATIEL Code of Practice

- Been in existence since 1996.
- Provides guidelines to help formulators and marketers in the development of lubricants that meet ACEA performance requirements.
- Has evolved in line with ACEA Oil Sequences



Code of Practice - contribution to quality

- The existence of the ATIEL Code of Practice has contributed to:
 - Higher quality lubricants in the market
 - More precise engine & lab tests
 - Clearer formulation guidelines
 - Development of a robust lubricant quality management system



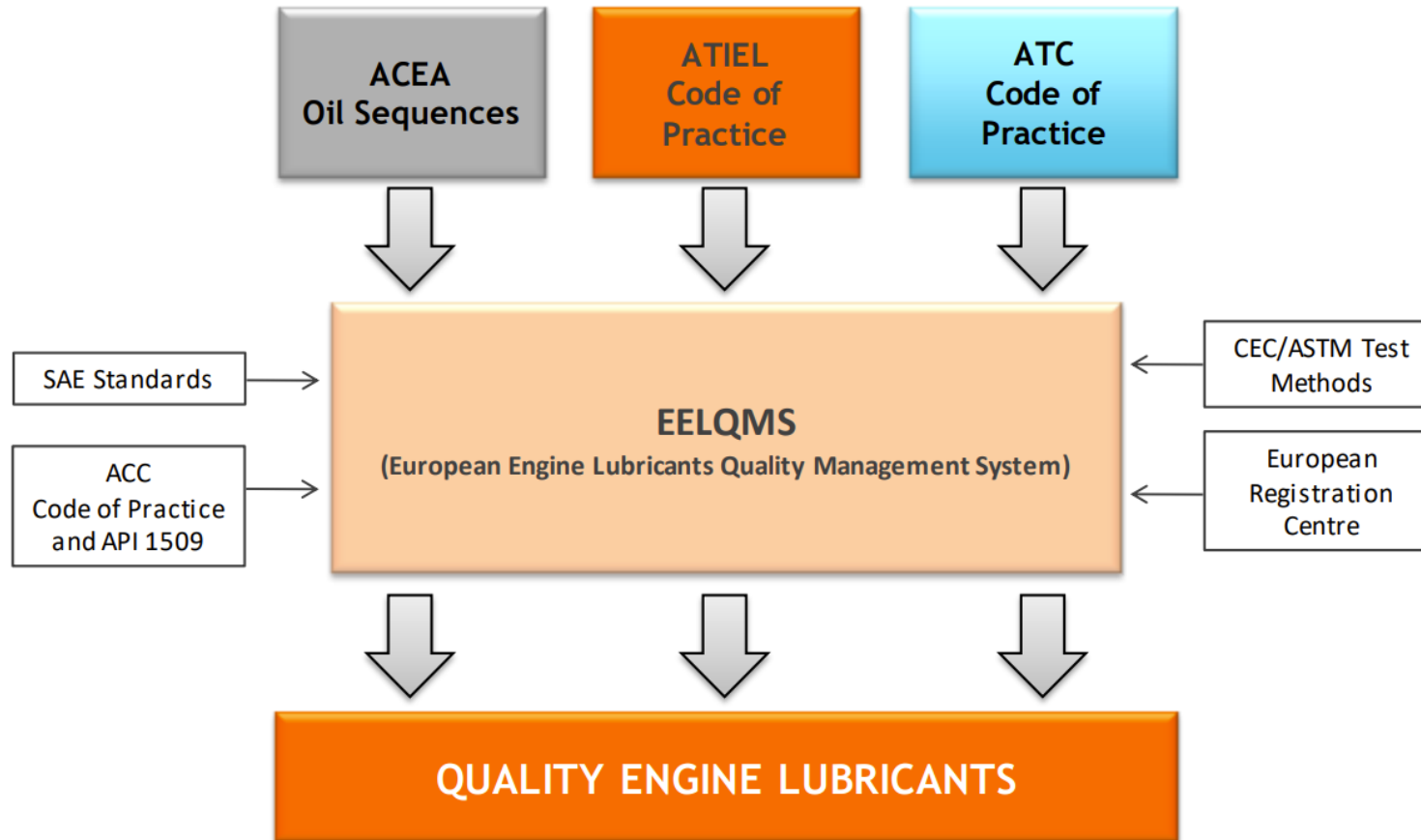
Today's session

02

EELQMS
and SAIL



About the EELQMS



EELQMS

EUROPEAN ENGINE
LUBRICANTS QUALITY
MANAGEMENT SYSTEM

About the EELQMS

- Voluntary quality management system for automotive engine lubricants - but ACEA requires marketers making claims to comply with EELQMS.
- The ONLY system that can be used to qualify engine lubricants against ACEA Oil Sequences.
- 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 performance claims made for them in the marketplace.
- The ATIEL Code of Practice is a key element of the EELQMS.
- Visit: www.eelqms.eu



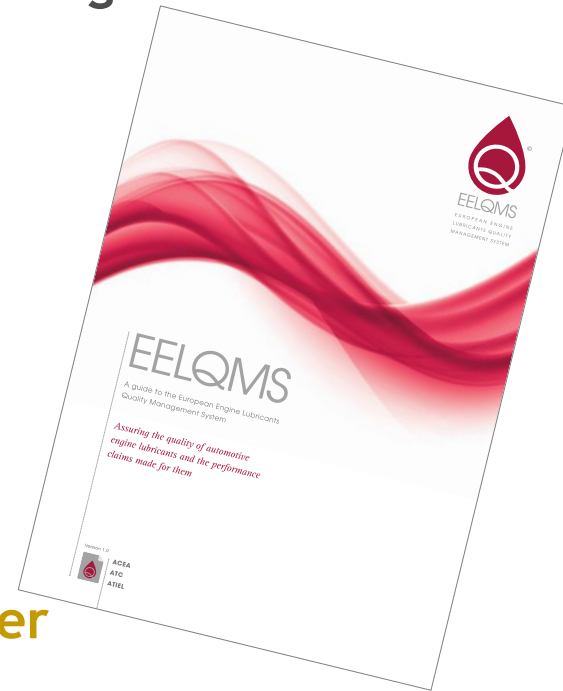
EELQMS

EUROPEAN ENGINE
LUBRICANTS QUALITY
MANAGEMENT SYSTEM

Summary of EELQMS guidelines

Lubricant marketers developing engine lubricants in compliance with ACEA Oil Sequences shall carry out formulation development, blending and marketing in accordance with the guidelines in the ATIEL Code of Practice :

- Incorporating EELQMS guidelines in a quality management system (eg ISO 9001, or ISO TS 16949)
- Ensuring an independent audit of the lubricant development process.
- Having Code of Practice checklists signed off by an authorized company representative.
- Blending products according to requirements of ATIEL Code of Practice, including accreditation to an auditable QMS.
- Signing a Marketers' Letter of Conformance and submitting the Letter and quality certificates to the EELQMS administrators, SAIL.



Lubricant Marketers' Letter of Conformance

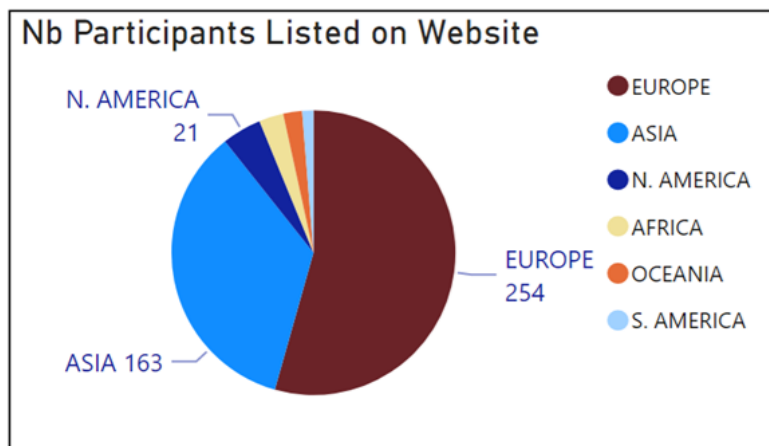
Compliance with the EELQMS includes signing a Lubricant Marketers' Letter of Conformance:

- Required for ACEA performance claims
- Confirms compliance with EELQMS
- Renewed every year
- Details at <https://www.sail-europe.eu/registrations>



Lubricant Marketers' Letter of Conformance Signatories registration status as of June 2023

- Listed on website = 467



Nb Participants Listed on Website - Continent

CONTINENT	Nb Participants	Nb Sig %
⊕ AFRICA	13	2.8%
⊕ ASIA	163	34.9%
⊕ EUROPE	254	54.4%
⊕ N. AMERICA	21	4.5%
⊕ OCEANIA	10	2.1%
⊕ S. AMERICA	6	1.3%
Total	467	100.0%

Polish Lubricant Marketers' Letter of Conformance Signatories registration status as of 10th October 2023

- Listed on website = 6

Benefits of signing the LoC

- Signatories have exclusive right to use of the EELQMS quality logo on product documentation and labels
 - Once registered, signatories can sign a licence agreement to use the logo on their products & literature.
- Quality of products claiming compliance are checked regularly through product survey programme, covering all LoC signatories.
- Access to ATIEL training and educational material.
- Updates on the EELQMS and its stakeholders, such as publication of new ACEA Sequences



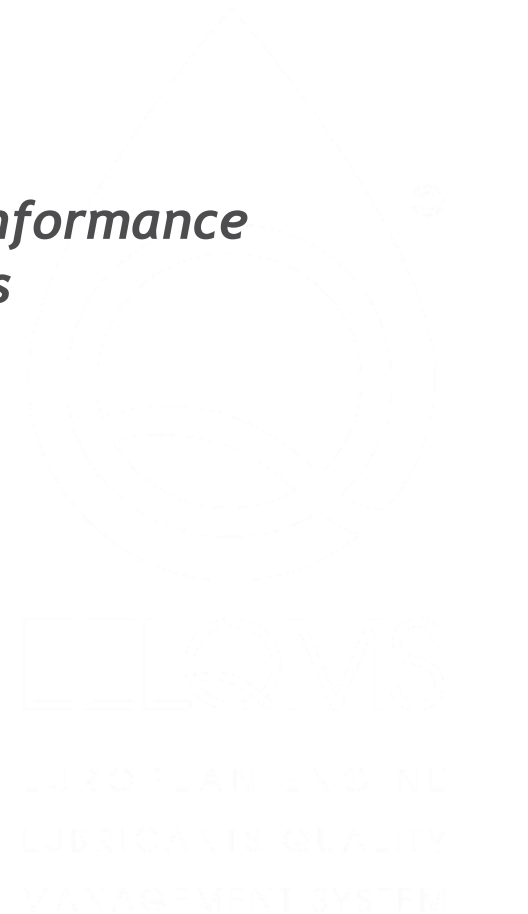
If You are not registered to LoC yet - how to register

- Register with SAIL and submit a signed Marketers' Letter of Conformance
- Template letter available on SAIL website: www.sail-europe.eu
- Pay annual registration fee



Did you know....?

... many OEM's check for an applicant's Letter of Conformance registration status as part of their approval process



ATIEL Compliance Policy

- Launched to support LoC signatory marketers who make valid ACEA performance claims.
- Encourages greater compliance across the industry through:
 - continuous monitoring of lubricant quality in the market
 - exchange of information and technical data that supports education of lubricant marketers.
- Provides framework for supporting marketers in taking corrective action to address non-compliance issues.
- Sets out procedures for ATIEL to give feedback and advice to marketers, or to take action against them, depending on the severity of non-compliance.
- Available on the ATIEL website: www.atiel.org/code-of-practice/compliance-policy.



ATIEL Compliance Policy

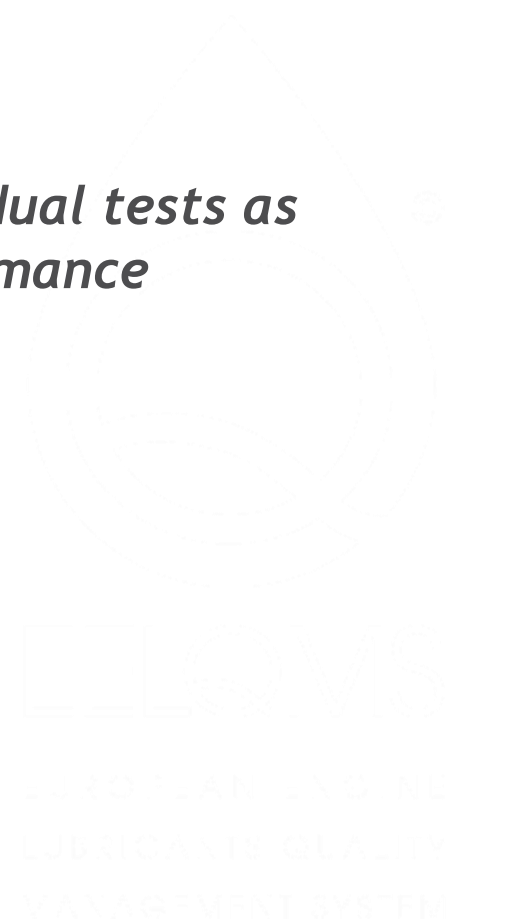
Execution delegated to SAIL

- SAIL (Services to Associations and Industry in the Lubricants sector) is an independent subsidiary to ATIEL, contracted to provide administrative, financial and management services in support of ATIEL's product compliance and Letter of Conformance activities.
- Administers LoC submissions and approves company registrations;
- Manages product surveys on behalf of ATIEL
- Interacts with all stakeholders and protects confidentiality of survey process
- Licences use of EELQMS trademark and logo
- Collects registration fees
- Detailed information available on the SAIL website:
 - www.sail-europe.eu



Did you know....?

... in 2021, ATIEL/SAIL sponsored over 4000 individual tests as part of the Lubricant Marketers' Letter of Conformance compliance program



Today's session

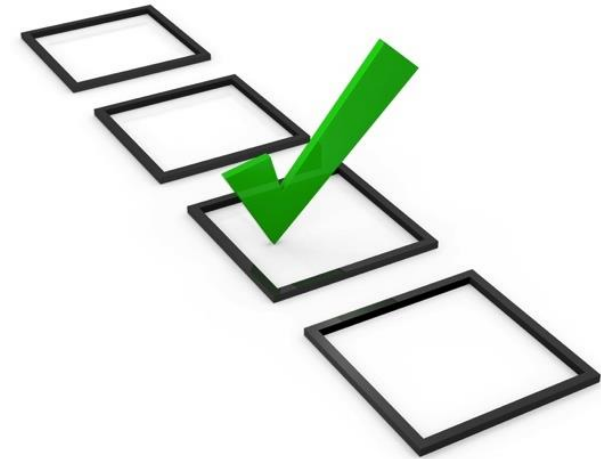
03

ATIEL's quality surveys and it's findings



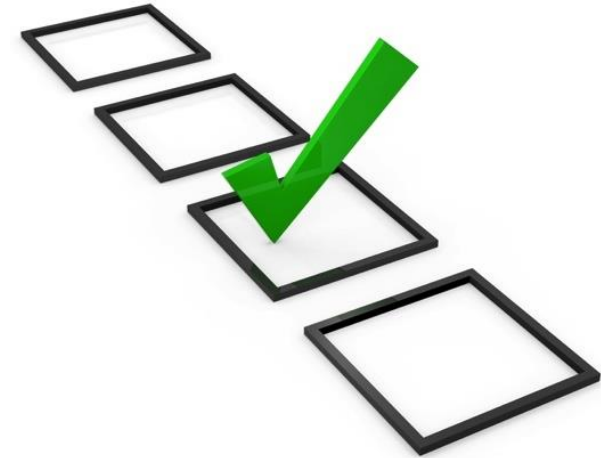
Quality surveys

- Replicate to some extent best practice from other markets (eg API programme in North America).
- Establish a base line for compliance with quality standards in Europe.
- 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.
- The management of the Quality Survey is done by SAIL, the administrator of EELQMS



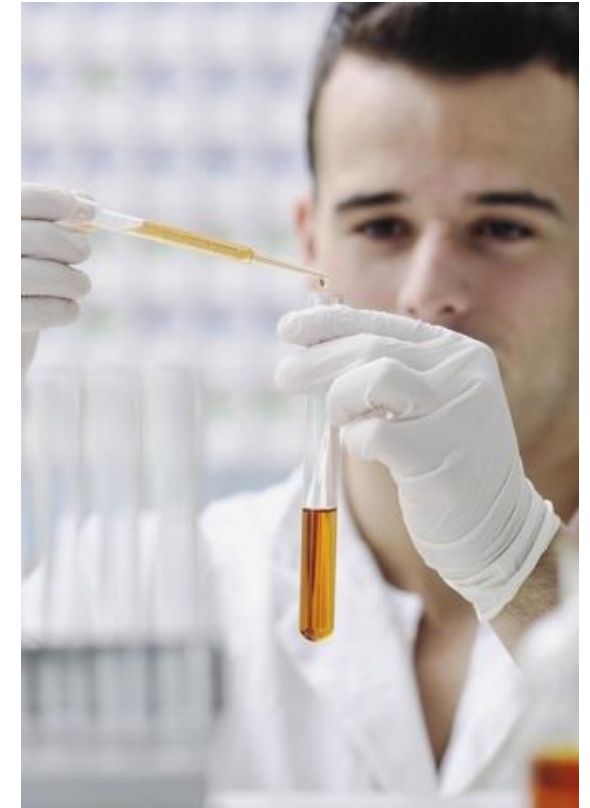
Quality surveys

- The objective is to test lubricants for conformance against the ACEA specifications that are being claimed
- Lubricant brands tested are marketed by signatories of the EELQMS Marketers' Letter of Conformance (LoC)
- Where a product is marketed with an ACEA claim by a marketer that has not signed the LoC, the marketer is informed of the position of ACEA and encouraged to sign or remove the ACEA claim(s) from their products
- Lubricant marketer or Manufacturer must demonstrate a suitable quality system is in place
- Oil products are purchased by independent contractor from retail outlets and authorised distributors
- Objective is to test three different samples from each oil marketer, each three-year period



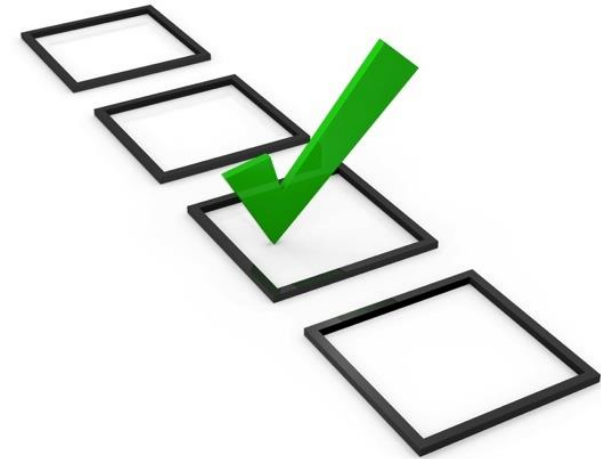
Quality survey methodology

- 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.
- Appropriate follow-up actions and sanctions in case of serious breaches of compliance.



Findings of Quality surveys

- Most failures on the market is due to incompatible combined claims e.g. A3/B4, C3. The other failures include TBN, Sulphated ash, NOACK, HTHS, Phosphorus, MRV and CCS.
- The highlights of findings and proposed corrective actions will be presented on following slides.



Findings of quality surveys - Case study 1

Problem

- Incompatible claim on the same label , example: „A3/B4, C2” or „A3/B4, C3”

Explanation

- Not all ACEA claims could be put at the same time on the label.
- See ACEA combined claims

Corrective actions:

- Withdrawn stock with incorrect labels from warehouses and the market
- Correct labels according to current requirements for certain ACEA performance category
- See ACEA Oil Sequences

ACEA Sequences -Valid Compatible Claims- ACEA HD 2022 and ACEA LD 2021

		Targeted Sequence											
		A3/B4	A5/B5	A7/B7	C2	C3	C4	C5	C6	E4	E8	E7	E11
Validated Sequence	A3/B4		HTHS	HTHS TBN	SA	SA	SA	HTHS SA	HTHS SA	TBN	SA P S		SA P S
	A5/B5	HTHS TBN SA		TBN	SA P S	HTHS SA P S	HTHS Noack SA P S	HTHS	HTHS	HTHS TBN	HTHS SA P S	HTHS TBN	HTHS SA P S
	A7/B7	HTHS TBN SA	TBN		TBN SA P S	HTHS TBN SA P S	HTHS TBN Noack SA P S	HTHS	HTHS	HTHS TBN	HTHS TBN SA P S	HTHS TBN	HTHS TBN SA P S
	C2	SA	HTHS TBN	HTHS TBN		HTHS TBN	HTHS TBN Noack S SA	HTHS	HTHS	HTHS TBN	HTHS TBN P	HTHS TBN	HTHS TBN
	C3	SA	HTHS TBN	HTHS TBN			Noack SA S	HTHS	HTHS	TBN	TBN P	TBN	TBN
	C4	SA	HTHS TBN	HTHS TBN	P	P		HTHS	HTHS	TBN	TBN P	TBN	TBN
	C5	HTHS SA	HTHS	HTHS	HTHS	HTHS	HTHS		TBN	HTHS	HTHS	HTHS	HTHS
	C6	HTHS SA	HTHS	HTHS	HTHS	HTHS	HTHS	TBN		HTHS	HTHS	HTHS	HTHS
	E4	SA	HTHS SA	HTHS TBN SA	SA P S	SA P S	Noack SA P S	HTHS	HTHS		SA P S		SA P S
	E8	SA TBN	HTHS TBN	HTHS TBN	SA P	SA P	Noack SA S	HTHS	HTHS	TBN		TBN	
E7	SA TBN	HTHS SA	HTHS TBN SA	SA P S	SA P S	Noack SA P S	HTHS	HTHS	TBN	SA P S		SA P S	
E11	SA TBN	HTHS TBN	HTHS TBN	SA P S	SA P S	Noack SA P S	HTHS	HTHS	TBN	P S	TBN		
		Not Compatible					HTHS = High Temperature High Shear viscosity					Noack = Noack Volatility	
		Possible Combinations					SA = Sulphated Ash					S = Sulphur	
		Possible but needs care due to physical and chemical requirements					TBN = Total Base Number					P = Phosphorus	
<p>This table is only based on chemical and physical requirements of the different ACEA Oil Sequences. Possibility to combine ACEA Oil Sequences also requires that all engine and lab tests requirements for the targeted Sequences are met.</p>													

Findings of quality surveys - Case study 2

Problem

- Incorrect representation of claims for example: ACEA C3-21 or ACEA A5/B5-21

Explanation

- Year identifiers are not to be used for consumer use.

Corrective actions:

- Withdrawn stock with incorrect labels from warehouses and the market
- Correct label

Findings of quality surveys - Case study 3

Problem

- Incorrect representation of claims + claim against retired sequence for example: A1/B1-04

Explanation

- Year identifiers are not to be used for consumer use.
- To make a claim against a retired ACEA sequence, the claim must be made against the last time the sequence was published in the ACEA Sequences and that all testing requirements for that sequence must be met. ACEA A1/B1 can still be claimed if the testing requirements in ACEA 2012 have been passed.

Corrective actions:

- Withdrawn stock with incorrect labels from warehouses and the market
- Correct label

Findings of quality surveys - Case study 4

Problem

- Incorrect representation of claims + at least one claim against obsolete category for example: “A3/B4-08, C3-16”

Explanation

- Year identifiers are not to be used for consumer use.
- ACEA 2008 and 2016 are obsolete standards, only claims against current issue of ACEA (2021) could be claimed.

Corrective actions:

- withdrawn stock with incorrect labels from warehouses and the market
- remove obsolete ACEA claim from the label

Findings of quality surveys - Case study 5

Problem

- HTHS or NOACK outside 95% confidence limit for certain ACEA performance category.

Explanation

- Production batches of base oils and/or additives delivered to manufacture oil developed according to EELQMS rules may differ from sales specification.
- Incorrect VM or base oil used in blending
- Incorrect VM dosage used in blending

Findings of quality surveys - Case study 5 cont.

Problem

- HTHS or NOACK outside 95% confidence limit for certain ACEA performance category.

Corrective actions:

- Withdrawn oil from production batch from warehouses and the market
- Check quality of delivered raw materials vs sales specification (and contact supplier if discrepancy)
- Check manufacturing records for correct dosages of raw materials
- Check formulation meets all requirements in laboratory scale blend before further production
- Implement steps to avoid re-occurrence of the error
- Ensure right level of quality checks at every production stage

Findings of quality surveys - Case study 6

Problem

- Due to global shortages (the shortage of base oils is not caused by Force majeure), the lubricant manufacturer cannot get proper base oil to continue manufacturing oil with ACEA performance.

Explanation

- Neither ATIEL nor ACEA developed exceptional guidelines or permits for cases where manufacturers/marketers/formulators are not able to secure base stocks for use in formulations, due to global shortages.

Emergency temporary derogation of the ATIEL base stock interchange guidelines are described in ATIEL Code of practice, but this provision can only be invoked in cases of Force Majeure, resulting in unavailability of base oils.

ATIEL ASBL

- Rue Belliard, 40 - 1040 Brussels

Tel : +32 2 470 06 20 04

E-mail : info@atiel.eu

- VAT : BE 750.488.604
- Transparency register number : 673525317243-17
- Website: <https://www.atiel.eu>
- EELQMS website: <https://www.eelqms.eu/>