LUBRICANTS BLENDBING & QUALITY ASSURANCE

Conducted by Expert Course Director:
Your course leader has worked as Sales, Technical Marketing Manager and Company Director with over 50 years of broad experience in the lubricants, fuels, petroleum additives, with four leading companies Chevron, Caltex, Texaco and Kuwait. His major recent responsibilities have been concerned with leading the Oil Industry Association UKLA, and acting in an advisory capacity as Technical Director to the Association. He is also a Chartered Chemist and a Member of the Royal Society of Chemistry.

What past participants have said about this training course:
"It’s a good training for someone who just stepped into the lubricant business." Quality Manager, UMW Lubetech Sdn Bhd
"By attending this course, it filled the missing gaps that I have in lubricant blending, base oil & quality assurance." Senior Technical Manager, Gulf Oil Marine Ltd
"Overall, great training session." Operation Manager, AC Lubricants
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Course Objectives
This 2-day training course will provide an in-depth understanding of the principles, economics and flexibility of lubricant blending plants and how to operate a lubricants blending plant efficiently and economically. The latest developments and trends in lubricant blending and the advantages and disadvantages of lubricant blending equipment, facilities and operations will be discussed. The importance of testing components and products for each blend, lubricant blend quality control and product quality management will be explained. The course will also clarify the importance of lubricant product filling, packaging and warehouse storage, strategies for optimising existing lubricant blending plant facilities and how to avoid or minimise problems with lubricant blending and product quality.

At the end of Day 2, there will be an examination with multiple choice questions. This course is accredited by the United Kingdom Lubricants Association (UKLA) and it is recognised under the UKLA Continuing Professional Development (CPD) scheme for Registered Lubricant Professional.

Who Should Attend
This in-depth, practical training course will help middle and senior managers to understand how and why to design and operate an efficient and profitable lubricant blending plant. It will help blending plant operators and specialists to improve and optimise current blending plant operations. Manufacturers of lubricants will understand how and why high quality components and effective testing during the entire blending process are important to final lubricant product quality and performance. Lubricant formulators will understand the importance of close communication and co-operation with blending plant managers and operators to minimise blending costs and to thereby maximise product profitability.

Course Agenda in Summary

**DAY 1**

- Synthetic Base Oils; API Groups IV and V: Properties and Characteristics.
- Lubricant Formulation and Ease of Blending.
- Blending Plant Design: Grassroots Plants and Upgrading Existing Plants.
- Blending Plant Equipment and Facilities and Their Operation.
- Lubricant Blending Issues: Avoiding Problems.

**DAY 2**

- Testing and Analysis of Base Oils and Additives
- Testing and Analysis of Blended Lubricants
- Product Quality Control
- Lubricant Packaging and Filling
- Lubricant Storage
- Product Quality Management
- Q&A session and Course Assessments

About your Expert Course Director
Your course leader has worked as Sales, Technical Marketing Manager and Company Director with over 50 years of broad experience in the lubricants, fuels, petroleum additives, with four leading companies Chevron, Caltex, Texaco and Kuwait. His major recent responsibilities have been concerned with leading the Oil Industry Association United Kingdom Lubricants Association, and acting in an advisory capacity as Technical Director to the Association.

He has acquired a wide experience in technical, marketing and sales within the oil industry. The related experience gained with the oil additives industry has provided him with special additional insights. He has also led the Certificate of Lubricant Competence course for the United Kingdom Lubricants Association (UKLA) for 11 years. He is a Chartered Chemist and a Member of the Royal Society of Chemistry.
### DAY 1

**0845hr**  Introduction & Purpose of course

**0900hr**  
**MINERAL OIL BASED OILS: API GROUPS I, II AND III: PROPERTIES AND CHARACTERISTICS**
- Composition of mineral oil base oils
- Physical properties of mineral oil base oils
- Chemical properties of mineral oil base oils
- Why specific base oils are used in particular lubricants
- Effects of chemical and physical properties of mineral oil base oils on lubricant blends and blending

**0945hr**  
**SYNTHETIC BASE OILS; API GROUPS IV AND V: PROPERTIES AND CHARACTERISTICS**
- Composition of synthetic base oils
- Physical properties of synthetic base oils
- Chemical properties of synthetic base oils
- Why synthetic base oils are used in particular lubricants
- Effects of chemical and physical properties of synthetic base oils on lubricant blends and blending

**1030hr**  
*Morning Refreshment Break*

**1100hr**  
**LUBRICANT ADDITIVES: PROPERTIES AND CHARACTERISTICS**
- Physical properties of additives
- Chemical properties of additives
- Effects of chemical and physical properties of additives on lubricant blends and blending
- Effects of blending conditions on additive properties and subsequent lubricant performance

**1200hr**  
**LUBRICANT FORMULATION AND EASE OF BLENDING**
- The importance of communication and co-operation between lubricant formulation chemists and blending plant supervisors
- Formulations that are easy to blend and those that are not
- Dumbell blends and their effects on lubricant properties and performance
- Lubricant product giveaway and its effects on company profitability

**1230hr**  
*Lunch*

**1315hr**  
**BLENDING PLANT DESIGN: GRASSROOTS PLANTS AND UPGRADING EXISTING PLANTS**
- Requirements for blending lubricants
- Calculation of optimum blend size for each lubricant product type
- Designing a grassroots blending plant
- Upgrading an existing blending plant
- Blending plant layout

**1415hr**  
**BLENDING PLANT EQUIPMENT AND FACILITIES AND THEIR OPERATION**
- Blending equipment: In-line blenders, automatic batch blenders and simultaneous metering blenders
- Drum decanting units
- Pigging equipment
- Preparing equipment for blending
- Preparing components for blending
- Blending

**1515hr**  
*Afternoon Refreshment Break*

**1545hr**  
**LUBRICANT BLENDING ISSUES: AVOIDING PROBLEMS**
- Base oil and additive storage
- Blend families; products that can be blended in common equipment
- Lubricants that should be blended in dedicated equipment
- Minimising the production of slop oil
- Avoiding having to re-blend

**1700hr**  
*End of Day 1*
DAY 2

0900hr **TESTING AND ANALYSIS OF BASE OILS AND ADDITIVES**
- Physical tests for base oils
- Chemical tests for base oils
- Physical tests for additives
- Chemical tests for additives
- Why base oils and additives must be tested prior to blending

1000hr **TESTING AND ANALYSIS OF BLENDED LUBRICANTS**
- Requirements for lubricant product testing
- Physical tests for lubricant blends
- Chemical tests for lubricant blends
- Processing and communication of test results

1115hr *Morning Refreshment Break*

1130hr **PRODUCT QUALITY CONTROL**
- Component and formulation codes; identifying which components were used in a specific blend
- Batch numbering and traceability
- Computerised blend records
- Blend sample storage and retention
- Resolving customer queries and product quality problems

1230hr *Lunch*

1330hr **LUBRICANT PACKAGING AND FILLING**
- Role and types of packaging for lubricants
- Lubricant package labelling
- Lubricant filling line design and layout
- Manual and automated filling lines
- Packaging and filling for specialised lubricants
- Reusing and recycling packages

1430hr **LUBRICANT STORAGE**
- Lubricant blending plant product warehouse layout
- Storage of lubricants
- Computerised location of stored lubricant packages
- Blending plant warehouse operation and control

1530hr *Afternoon Refreshment Break*

1545hr **PRODUCT QUALITY MANAGEMENT**
- The importance of lubricant product quality
- ISO 9000, ISO 14000 and ISO 18000 quality systems
- Total Quality Management
- Management of product quality in lubricant blending plants

1645hr Q&A session, Multiple Choice Question Examination and Course Assessments

1700hr *End of Training*

At the end of Day 2, there will be an examination with multiple choice questions.

*This training is proudly accredited by [UKLIA](http://www.uklia.org)*

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**Conduct this training course in-house for more effective savings!**

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**LUBRICANTS BLENDING AND QUALITY ASSURANCE**

**REGISTRATION FORM**

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### DELEGATE DETAILS

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Please note:
- Indicate if you have already registered by Phone + Fax + Email + Web
- If you have not received an acknowledgement before the training course, please call us to confirm your booking
- Photocopy this form to register multiple delegates

**PAYMENT METHODS**
- By Cheque/Bank Draft
  - Make Payable to Asia Edge Pte Ltd
- By Direct Transfer
  - Please quote your invoice number with the remittance advise
  - Account Name: Asia Edge Pte Ltd
  - Bank Number: 508 Account Number: 76293-001
  - Swift Code: OCBCSGSG
- All bank charges to be borne by payer
  - Please ensure that Asia Edge Pte Ltd receives the full invoiced amount

**PAYMENT POLICY**
- Payment is due in full at the time of registration
- Full payment is mandatory for event attendance
- By submitting this registration form, you have agreed to Asia Edge Pte Ltd’s payment terms

**CANCELLATIONS & SUBSTITUTIONS**
- You may substitute delegates at any time
- ASIA EDGE PTE LTD does not provide refunds for cancellations
- For cancellations received in writing more than seven (7) days prior to the training course, you will receive a 100% credit to be used at another ASIA EDGE PTE LTD training course for up to one year from the date of issuance
- For cancellations received seven (7) days or less prior to an event (including day 7), no credits will be issued
- In the event that ASIA EDGE PTE LTD cancels an event, delegate payments at the date of cancellation will be credited to a future ASIA EDGE PTE LTD event
- This credit will be available for up to one year from the date of issuance
- No refunds will be available for cancellations or postponements
- ASIA EDGE PTE LTD is not responsible for any loss or damage as a result of a substitution, alteration or cancellation/postponement of an event
- ASIA EDGE PTE LTD shall assume no liability whatsoever in the event this training course is cancelled, rescheduled or postponed due to a fortuitous event, Act of God, unforeseen occurrence or any other event that renders performance of this training course impracticable or impossible
- For purposes of this clause, a fortuitous event shall include, but not be limited to: war, fire, labor strike, extreme weather or other emergency

**PROGRAM CHANGE POLICY**
- Please note that speakers and topics were confirmed at the time of publishing; however, circumstances beyond the control of the organizers may necessitate substitutions, alterations or cancellations of the speakers and/or topics
- As such, ASIA EDGE PTE LTD reserves the right to alter or modify the advertised speakers and/or topics if necessary
- Any substitutions or alterations will be updated on our webpage as soon as possible

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**4 EASY WAYS TO REGISTER**

- **Online:** [www.petroedgeasia.net](http://www.petroedgeasia.net)
- **Email:** info@asiaedge.net
- **Phone:** +65 6741 9927
- **Fax:** +65 6747 8737

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