



POWER AND ELECTRICAL TRAINING

Transformer Oil Analysis

3 day course

Classroom, online or in-house

Course overview

Insulating oil carries the earliest evidence of almost every fault that develops inside a transformer, which makes its analysis the cheapest diagnostic available. This course covers reading it properly. Delegates work through oil functions and degradation, the routine physical and chemical tests and what each indicates, and dissolved gas analysis in detail, including the interpretation schemes used to distinguish partial discharge from thermal fault from arcing. Furan analysis and its relationship to paper insulation ageing are covered, alongside sampling technique, which is where most misleading results originate. The course closes on trending, deciding when a result requires action, and the treatment options available for oil that has degraded.

What you will learn

- Explain the functions of insulating oil and how it degrades
- Interpret routine physical and chemical oil test results
- Apply dissolved gas analysis and the main interpretation schemes
- Distinguish partial discharge, thermal fault and arcing from gas ratios
- Use furan analysis to assess paper insulation ageing
- Sample oil correctly and recognise a sampling artefact
- Trend results and decide when a finding requires action

Who should attend

- Electrical and substation engineers
- Condition monitoring and reliability staff
- Laboratory analysts testing insulating oil
- Maintenance technicians
- Asset managers responsible for transformer fleets

Course outline

- 01 Oil functions, degradation and contamination
- 02 Physical and chemical routine tests
- 03 Dissolved gas analysis fundamentals
- 04 Interpretation schemes and gas ratios
- 05 Partial discharge, thermal fault and arcing signatures
- 06 Furan analysis and paper insulation ageing
- 07 Sampling technique and avoiding artefacts
- 08 Trending, action limits and oil treatment options

Upcoming dates

Dates	Venue	Format	Fee per delegate
2 to 4 December 2026	Windhoek, Namibia	Classroom	R14,950
28 to 30 December 2026	Casablanca, Morocco	Classroom	USD 995
15 to 17 March 2027	Online	Online	R6,500

Fees and how to register

This 3 day course is **R6,500** per delegate online, **R14,950** in the classroom in South Africa, Botswana, Namibia,



Lesotho and Eswatini, and **USD 995** in the classroom elsewhere in Africa. In-house training is quotation on request. Book 2 or more delegates on this course and save 10%.

To register or request an in-house proposal, visit www.afrisciencegroup.com, email info@afriscience.co.za, or WhatsApp us on **+27 63 479 1136**.

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