Q8 Research

T R A I N I N G

AWA02: Statistics in Petroleum

AWARENESS

Petroleum products needs to meet stringent specification requirements all around the globe. International standardisation bodies develop standardised test methods dedicated for petroleum product testing. These test method include precision data to which laboratories can judge their testing performance against the requirements in the test method. How to judge your own laboratory testing performance requires basics in petroleum statistics.

Course Objective

The program is designed for petroleum professionals, including lab personnel involved with **product quality assurance, managers, lab QA/QC personnel** wanting to enhance their understanding on statistical aspects of specifications and to evaluate laboratory performance against the standardisation requirements.

The course includes:

- Core principles and concepts associated with basic statistical testing.
- Different types of specifications and their purposes.
- Meaning and usage of normal and non-normal distribution curves.
- Relation between internal and external specifications
- Avoid misconceptions on sampling error and process variability

This course alternates theory with exercises. The course leader is an independent statistical consultant who supports various companies in their research efforts by designing experiments and analysing the results thereof. The main industrial fields he worked at are foods, clinical trials, consumer research, lubricants and fuels.

Course Modules

Module 1: *Objective and Awareness of Basic Statistics*
Statistics are daily practises in various fields of the petrochemical world. Designing unit, setting up experiments, comparing results are just a few examples. This module will guide the participant through basic statistical concepts.

- What is a true mean
- Normal Gauss distribution curve
- Statistical test for a single mean

Module 2: *Specification Types and Purposes*
Designing and conducting experiments, formulating, testing, producing and selling products require all proper specifications. This module will explain types of specifications, their use and the relation between internal and external specifications.

Module 3: *Measuring Adherence to Specifications*
It is imperative and necessary for processes to be statistically evaluated towards precision and variability. This module will explain principles, uncertainty in results, process capability indices and the relation between process and specifications.

- Process Capability Indices
- Uncertainty in results: process error and variability and analytical precision
- Use of historical data

Practical

Course duration:	*4 days*
# participant:	*max. 15*
Location:	*on request*

Extensive hands-on knowledge shared by our experts

For more information: please visit www.Q8Research.com
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