TRAINING &WORKSHOP

Customized Training & Workshop

We provide training and workshop tailored to customer's requirement. Customized training or workshop covering scientific theory and hands-on instrument operations are provided for Micromeritics' Material Characterization technology.

Charges for the training and workshop services depend on duration and extent of training content. Please request quotation with our Lab Manager.

Continual training courses for laboratory personnel are designed to improve user confidence, performance, reduce instruments downtime due to misuse, and increase lab productivity. The knowledge and understanding gained by those attending will help optimized lab operations.

Material & Powder Characterization Training & Workshop

Gas Adsorption (Physisorption) Instrument Theory and Application Training

Training Duration: 2 Days

Who should attend this training course?
R&D in material synthesis, QA&QC, Lab personnel etc

Training Outline:

- Introduction of gas adsorption theory
- Understand particle texture properties such as surface area and porosity
- Importance of surface area and porosity applications
- Understand the Isotherm classification for gas adsorption experiment
- Classification of porosity
- Construction of a gas adsorption instrumentation system
- Hands-on session – Sample preparation and degas procedures
- Introduction of Surface Area and Porosity models (B.E.T and Langmuir Models)
- Hands-on Session – Gas adsorption analysis using reference materials
- Introduction for Porosity and porosity classification
- Understand the mesopore porosity models (B.J.H models, Dollimore –Heal Model) and its application examples.
- Understand t-Plot and thickness equation and its application examples
- Understand the micropore models (Horvath-Kawazoe, Dubinin-Astakhov, Dubinin-Radustkevich) and its application examples
- Understand Density Function Theory (DFT) and its application examples.
- ·Discussion of latest development of DFT models
- ·Reporting of analysis data and data interpretation
- General discussion and Q&A Sessions

At the end of this course, you will:

- Be able to prepare sample for degassing and sample analysis
- Understand the basic fundamentals of physisorption and basic operation of a volumetric analysis system.
- Be able to use the computer and operational software to perform an analysis on a reference material.
- Be able to properly configure any report format, a combination of reports, and obtain analysis information according to your laboratory requirements.
- Be able to make basic user level maintenance and troubleshooting of gas adsorption instrument.

GAT SCIENTIFIC

TRAINING & WORKSHOP

Customized Training & Workshop

Gas Adsorption (Chemisorption) Instrument Theory and Application Training

Training Duration: 2 Days

Who should attend this training course?
R&D in Catalysis, QA&QC, Lab Personnel etc

Training Outline:

- Introduction of chemisorption
- Comparison between Physisorption and Chemisorption
- Discussion of Static Chemisorption and Dynamic Chemisorption techniques
- Construction of a chemisorption Instrumentation system
- Introduction to Temperature Programmed Reduction (TPR) Technique
- Introduction of Temperature Programmed Oxidation (TPO) Technique
- Hands-on of TPR analysis using reference materials
- Introduction of Pulse Chemisorption/ Gas Titration Technique
- Understand metal dispersion calculations of active metal of catalyst
- Hands-on of Pulse Chemisorption experiment using reference materials
- Introduction of Temperature Programmed Desorption (TPD) Technique
- Hands-on of TPD experiment using reference materials
- How to process TCD signals, peak integration and calibration
- General discussion and Q&A

At the end of the course, you will:

- Be able to carry out chemisorption analysis such as TPR/ Pulse Chemisorption & TPD
- Understand the basic fundamentals of chemisorption and the basic operation of a dynamic (flowing gas) analysis system.
- Be able to properly configure a report format, overlay sample data, and obtain analysis information according to your laboratory requirements.
- Be able to make basic user level maintenance and troubleshooting of chemisorption instrument.

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