

Our Mission

To support pharmaceutical, formulation, and materials research through cutting-edge particle characterization, sorption science, and surface analysis.



Core Analytical Techniques

Dynamic Vapour Sorption (DVS)

This highly sensitive gravimetric technique measures how materials gain or lose weight in response to changes in humidity or organic vapours. It enables researchers to analyse key performance indicators in real-world conditions.

Why DVS?



- Ultra-sensitive to vapour/ gas uptake/loss
- Require minimal sample (~10 mg)
- Controlled RH profiles for real-world simulation
- Non-destructive and highly repeatable

Key Applications



- Water & Organic Solvent Isotherms
- Hygroscopicity Profiling
- Formulation Development
- Stability Studies
- BET Surface Area
- Polymorphic Transitions
- Moisture-Induced Glass Transition
- Amorphous Content

Research Industries



- Pharmaceuticals
- Food/Nutraceuticals
- Polymers/Films
- Catalysts/Adsorbents
- Agrochemicals



DVS Resolution
Dual Vapor Sorption Analyzer

Inverse Gas Chromatography (iGC)

This chromatographic technique delivers detailed insights into solid surface chemistry using probe gas interactions, ideal for powder behaviour, formulation, and stability predictions.



iGC-SEA

Inverse Gas Chromatography
Surface Energy Analyzer



Why iGC?

- Ideal for inhalation materials development
- Diverse organic solvent testing
- Wide temperature range
- Varied sample types for analysis



Key Applications

- Surface Energy & Heterogeneity
- Powder Flowability & Tableting
- API-Excipient Compatibility
- BET Surface Area
- Polymorphism Detection Transition
- Hansen Solubility Parameter



Research Industries

- Pharmaceuticals & Excipients
- Food Powders/ Nutraceuticals
- Polymers, Films & Packaging
- Ceramics, Catalysts & Functional Materials

A Diverse Suite of Solid State Characterization Services

Thermal Analysis

- Solid State Pre-Formulation & Compatibility Studies
- Glass Transition Temperature Determination
- Lyophilisation Trails Optimisation
- Hydrate & Solvate Characterisation & Content Determination

Particle Size Analysis

- Laser Diffraction & Dynamic Light Scattering
- Microspheres PSD Determination
- Special Particle Morphology Parameters

Surface Morphology Analysis

- Optical Microscopy, SEM & AFM
- Tablet Coating Layer Thickness Studies

Viscosity Analysis

- Viscosity of Diluent & Finished Product
- Inherent Viscosity (IV)

Structural/Identification

- Solid State Pre-Formulation & Compatibility Studies
- Proton (1H) & Carbon (13C) Analysis

X-Ray Diffraction

- Solid State Pre-Formulation & Compatibility Studies
- Polymorphs Quantification & Characterisation
- % Crystallinity of API & Excipients
- Polymorphs in Microsphere
- Iron Core Size Determination
- Capillary & Foil Transmission

Contact Us to Submit Your Sample

W: www.particlelaboratories.com • E: info@particlelaboratories.com • M: +91 8019718857

PCL, 4th Floor, Plot No. C-1, Block III IDA, Medchal Malkajgiri, Uppal Mandal, Hyderabad, Telangana, India, 500039