MICROMERITICS PHARMACEUTICAL SERVICES

A2LA ACCREDITED
CERTIFICATE # 3636.01

# PRICE LIST

## Particle Size and Particle Shape

### *Laser Light Scattering – Mie and Fraunhofer Theories*

520 – 00 Aqueous-based dispersion (ISO 13320, USP ‹429›) using Saturn DigiSizer ..... $265
520 – 01 Non-aqueous – based dispersion (ISO 13320, USP ‹429›) using Saturn DigiSizer ..... $265
520 – 50 Dry dispersion Malvern Mastersizer (ISO 13320, USP ‹429›) ..... $265
520 – 51 Liquid Dispersion Malvern Mastersizer (ISO 13320, USP ‹429›) ..... $265

### *X-Ray Sedimentation - Stokes' Law*

510 - 00 Liquid dispersion, inorganic materials only (ISO 13317-3)
(requires skeletal density 133-00 prior to analysis if value is not supplied) ..... $265

### *Electrical Sensing Zone – "Coulter Principle"*

538 – 00 Aqueous and non-aqueous based dispersion (ISO 13319) ..... $315
538 – 02 Particle Size Distribution plus particle concentration analysis (ISO 13319) ..... $340
538 - 50 Particle Size Analysis of particles collected on filters (ISO 13319) ..... $340

### *Particle Shape Analysis*

005 – 80 Particle shape using Wet dispersion and Dynamic Image Analysis ..... $290
005 – 81 Particle shape using an Automated Microscopy technique ..... $800

### *Nano Particle Size*

005 – 70 Average particle size calculated from BET surface area ..... $265
005 – 71 Dynamic Light Scattering/Photon correlation spectroscopy (ISO 22412) ..... $265

### *Sieve Analysis*

010 – 16 Dry or Wet sieving available/Ro-Tap apparatus ..... $190
010 – 71 Alpine Airjet Sieves ..... $190
010 – 72 Sonic sifter for small volumes ..... $190

### *Other Particle Size Techniques*

005 – 73 Particulate count and concentration using the Light Obscuration technique
(USP method ‹788› and USP ‹789›) ..... $315
005 – 74 HEL Sub-sieve auto-sizer (ASTM B330, ASTM C721, ISO – 10070)
(requires density prior to analysis) Air permeability Diameter ..... $265

### *Zeta Potential*

120 – 00 Zeta potential (ISO 13099-2) ..... $315
120 – 01 ISO-electric point determination and pH titration ..... $650

Not all tests listed are included in our A2LA Scope of Accreditation. Please consult A2LA Certificate 3636.01 for a list of accredited tests.

### *Microscopy*

010 – 50 Particle size using automated SEM techniques.....$605 + up

### *Mayer and Stowe*

942 - 09 Particle size calculation from Mercury Intrusion Analysis..... $315

## B.E.T. or Langmuir Surface Area

005 - 00 Single-point surface area using Nitrogen gas (ISO 9277) ..... $190
005 – 01 Multipoint surface area using Nitrogen gas (USP<846>, ISO 9277)..... $215
005 – 02 Multipoint surface area using Krypton gas (ISO 9277) .....$245
005 - 16 Single point surface area using Krypton gas (ISO 9277).....$220

## Pore Volume Distribution | Pore Size Distribution

### *Pore Size by Gas Adsorption*

Pore size samples may include the following reports as appropriate: BET or Langmuir surface area, BJH mesopore analysis, DFT pore size calculations, single-point total pore volume, and t-Plot micropore volume (ISO 15901-2)

005 – 50 40-point Nitrogen adsorption isotherm (20 Å to 3000 Å).....$375
005 – 05 Surface area and 40-point Nitrogen desorption isotherm (20 Å to 3000 Å)..... $400
005 – 08 40-point Nitrogen adsorption and 40-point desorption isotherm (20 Å to 3000 Å)..... $575
010 - 03 Sample encapsulation in glass tube .....$100

### *Micropore Pore Size Distribution*

Reports may include H-K, Dubinin, and/or DFT methods for micropore analysis (ISO 15901-3).

201 – 03 High-resolution micropore analysis plus mesopore isotherm (4 Å to 3000 Å) ..... $950

### *Pore Size by Mercury Intrusion*

Report will include calculations of bulk density, skeletal density, porosity, average pore diameters, median pore diameters, and total intrusion volume. Additional summary reports such as tortuosity, fractal dimension, permeability, and compressibility are available upon request for an additional fee (ISO 15901-1).

942 – 03 Mercury intrusion analysis (pore size range 360 to 0.00 3 µm).....$350
942 – 04 Mercury intrusion and extrusion analysis (pore size range 360 to 0.003 µm)..... $400
942 – 10 High-resolution macropore analysis (pore size range 900 to 4 µm) .....$325
942 – 11 High-resolution macropore plus a complete intrusion and extrusion analysis.....$500
942 - 05 Additional mercury porosimetry reports..... $50

## Density

133 – 00 Skeletal density (Helium or Nitrogen pycnometry) (ISO 12154, USP <699>) ..... $105
133 - 01 Skeletal density at specific temperature..... $130
942 – 07 Mercury bulk density..... $150
136 – 00 Envelope density of solid, non-powder samples using the GeoPyc® 1360..... $145
136 – 01 T.A.P. ™ (Transverse Axial Pressure) density using the GeoPyc® 1360.....$200
136 – 02 Specific pore volume and percent porosity calculations (Includes true density analysis and envelope density analysis)..... $235
010 – 70 Bulk and Tap Density USP <616>/(Carr index)..... $165
010 - 77 Bulk Density only..... $125

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## Microscopy

010 – 23 Optical Microscope Photos (price per photo) ..... $55
010 – 50 Microscopy Techniques courtesy of MVA Scientific Consultants ..... Call
010 - 40 SEM Imagery ..... Call
010 - 41 Elemental analysis by Energy Dispersive Spectroscopy ..... Call

## Vapor Sorption

005 – 63 Water Vapor Isotherms – Dynamic Vapor Sorption (DVS) gravimetric analysis ..... $800
005 – 64 Vapor Isotherms using volumetric adsorption technique ..... $800

## Thermal Analysis

005 – 66 TGA – Room temperature–900° ..... $370
005 – 67 DSC - Room temperature–600° ..... $395
005 – 68 mDSC – Modulated DSC Analysis ..... $525
005 – 69 Combination TGA/DSC ..... $690

## Chemisorption / Pharma Catalyst /Reactive Materials

201 – 10 Volumetric Chemisorption analysis (specify analytical method) ..... $750
291 – 23 Dynamic or pulse Chemisorption analysis (specify analytical method) ..... $750
291 – 03 Pulse Chemisorption using liquid vapors (specify analytical method) ..... $850

### *Temperature-Programmed Studies*

291 – 01 Temperature-Programmed Reduction (TPR) ..... $650
291 – 10 Temperature-Programmed Desorption (TPD) ..... $650
291 – 02 Temperature-Programmed Oxidation (TPO) ..... $650
291 – 06 Mass Spectrometry analysis of effluent gas from chemisorption experiment ..... $225

### *Other Chemisorption Experiments*

291 - 20 Heat of Desorption, first order Kinetics ..... $1800
291 - 50 Isosteric Heat of Adsorption ..... $1250

## Special Vapor Sorption Services/Surface Energy

005 – 65 Inverse Gas Chromatography (IGC) Surface Energy Measurement ..... $950
005 – 75 Surface energy heterogeneity (Requires BET 005-01) ..... $1275

## Scientific Services

010 – 00 Non-Standard Laboratory Analysis ..... Call
010 – 10 Method Development service ..... Call
010 – 11 Method Validation or transfer ervices ..... Call
010 – 06 Consulting services and detailed results interpretation ..... Call

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# Other Services

| | | |
|---|---|---|
| 010 – 15 | Viscosity of Newtonian liquids using cone/plate theometer | $80 |
| 010 – 18 | pH | $60 |
| 010 – 19 | Percent moisture (weight loss upon drying) | $80 |
| 010 – 22 | Specific gravity of slurry | $80 |
| 010 – 24 | Total dissolved solids | $80 |
| 010 – 25 | Total suspended solids | $80 |
| 010 – 26 | Specific gravity at user specified temperatures | $130 |
| 010 - 76 | Material Characterization using XRD | $650 |
| 005 – 86 | Magnetic Content using BUCK analyzer | $150 |
| 005 – 87 | Expert Testimony | Call |
| 010 – 50 | Contamination or Particle Identification (outsourced) | Call |
| 010 – 80 | Special Sample Preparation or storage | $55 |
| 010 - 01 | Certificate of Analysis, reports, per project | $50 |

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# Additional Information

**There is a 25% surcharge for all DEA-controlled substances and hazardous materials. There is a 10% surcharge for all cGMP and GLP samples or projects and A2LA Accredited Reports. Not all tests listed are included in our A2LA Scope of Accreditation. Please consult A2LA Certificate 3636.01 for a list of accredited tests.**

## *Volume Discount Schedule*

Volume discounts are based on the number of samples sent in for same test number, not just total number of samples.

1–5 samples..... List Price
6–10 samples..... 5% discount
11–20 samples.....10% discount
21–40 samples .....15% discount
More than 40 samples.....20% discount

## *Sample Turnaround times*

Turnaround times are typical are most samples. Some exclusions do apply.

| | | |
|---|---|---|
| Normal | 5–7 days | List Price |
| Priority | 2–4 days | List Price + 50% surcharge |
| Rush | Next sample analyzed | List Price + 200% surcharge |

All orders are subject to Micromeritics Analytical Services terms and conditions (see separate terms and conditions document at www.particletesting.com). Credit card orders are welcomed.

Unless otherwise requested, samples will be retained for a minimum of 3 months. Samples can be returned at the customer's expense, provided correct shipping and payment information is received. Sample results will be maintained for a minimum of 5 years.

All samples and related customer information is kept confidential.

## *Instrument Purchase Allowance*

Half the cost of applicable analyses completed within 120 days of instrument purchase may be credited toward instrument purchase. The maximum credit allowed is 4% of the instrument purchase price. Customer must notify Micromeritics of credit due when instrument is ordered.

## *Return Sample Fee*

There is a flat fee of $50 per project for all sample returns, $200 if samples are considered hazardous unless shipping account number is provided. SDS are required for all samples.

MICROMERITICS PHARMACEUTICAL SERVICES

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