



# PARTICLE SIZING

Image: Iron Ore rock formation

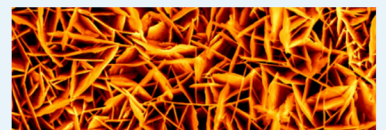
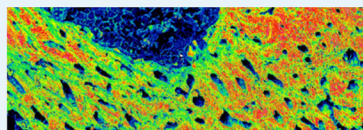
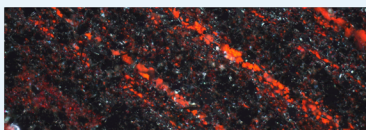
## Particle Sizing

Microanalysis Australia can provide a range of particle sizing analyses for all applications. From shipping classifications to process refinement, particle size is a critical parameter across many industries.

Our expert particle sizing team utilise NATA accredited sieving, laser diffraction, particle counting and automated feature analysis methods to deliver both precision and accuracy to your particle size analytical needs.



Image: Particle counter equipment



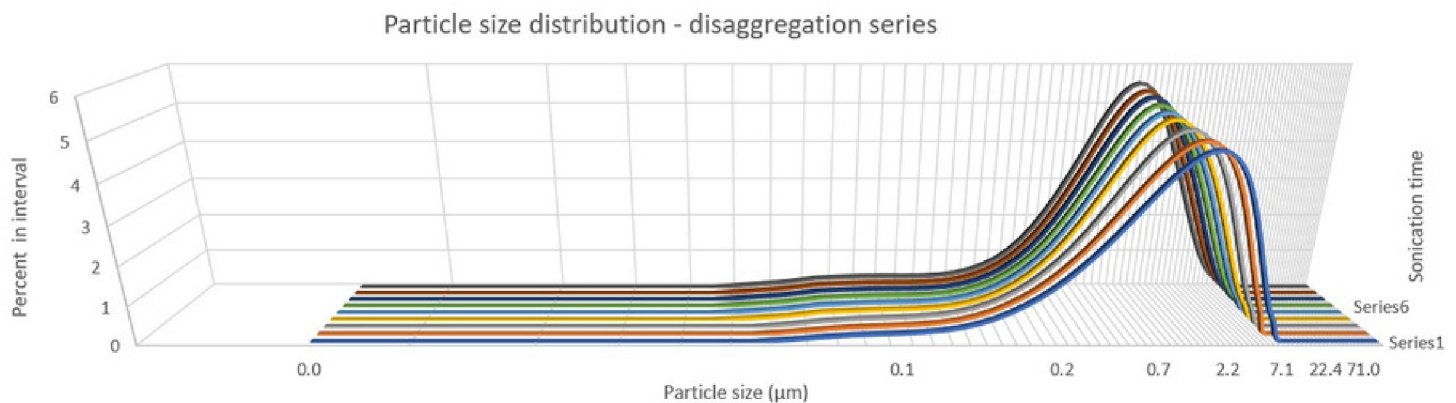
## Sieving

Microanalysis offers NATA accredited particle sizing by dry sieving, wet sieving, and sieving with solvent. A rapid assessment of the particle size using the second highest diameter, this is an appropriate test for coarse samples, for assistance with the determination of shipping schedules, and as a preparatory test for laser diffraction. We keep a full range of sieves from 32  $\mu\text{m}$  to 32 mm.



## Laser Diffraction

Particle sizing by laser diffraction easily and rapidly measures particles between 0.02  $\mu\text{m}$  and 2 mm, allowing for assessment of respirable fraction for hazard assessments, settling rate determination for tailings and for dredge plume modelling, and comminution/process parameter determination. Samples can be analysed in a variety of dispersants to ensure that the solubility and reactivity of the samples do not compromise the results. Accurate and versatile, laser diffraction is an ideal method for the determination of particle size.



## Particle Counting

Particle counting by laser extinction allows for particle size and count quantification of low concentration, low particle size suspensions. With a measurement range of 1  $\mu\text{m}$  to 400  $\mu\text{m}$ , this quantitative analysis can provide cleanliness classifications by NAS 1638, ISO 4406, and SAE AS 4059, as well as providing valuable information regarding filtration efficiency, water quality, condition monitoring, and product specifications for fuels, oils, and lubricants.

## Automated Feature analysis by Scanning Electron Microscopy (SEM) with Energy Dispersive X-ray Spectroscopy (EDS)



SEM Feature analysis can combine high powered electron microscopy with automated size and morphology measurements to provide a complete picture of a granular sample. SEM Feature analysis provides a statistical analysis of particulate size, morphology, aspect ratio, shape, and composition.

From mineral assessment to contaminated waterways, and pharmaceutical specifications to novel material synthesis, the analysis can be tailored to provide a wealth of information.

Images: Top: range of sieves from 32  $\mu\text{m}$  to 32 mm; Middle: Size distribution chart showing disaggregation ; Bottom: Polished mount of a mineral sample for size distribution and composition by SEM Feature analysis.