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| **Particle characterization - Particle size distribution** |
| **Submission dates*** Both request form (via email as a word document to alab.chemeng@uct.ac.za) and samples should be submitted on:

|  |  |
| --- | --- |
| **Monday** | **Friday** |
| 10:00 - 11:00 |

**Minimum mass*** A minimum mass of 5 g of sample is required.

**Information about the sample and dispersant** * For example, quartz:

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| --- | --- | --- |
|  | **Sample** | **Dispersant** |
| Name of sample material | Quartz | Water |
| Refractive index (RI) | 1.55 | 1.33 |
| Absorption index | 0.01 | - |

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**Estimated turnaround time for analysis**

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| --- | --- | --- |
| **Turnaround option** | **Estimated time** | **Max number per week** |
| Normal1 | 1-2 weeks | N/A |
| Fast track2 | 5-7 working days | 15 samples |
| ASAP3 | * 1. working days
 | 6 samples |
| UGP4 | Highest priority | - |

1. Normal turnaround is often shorter than 1 – 2 weeks. It accounts for a queue and/or method development for new samples.
2. Recommended for samples that we have analysed previously. A large batch of samples submitted might take longer than 5 – 7 working days.
3. ASAP turnaround is only recommended for similar samples that we have analysed previously. We should have an established working method already.
4. Reserved for 4th year UCT undergraduate students. Undergrad project samples given highest priority over other samples.
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**HOW TO GUIDE**

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| **SECTION A: TO BE COMPLETED BY CUSTOMER** |

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| **Customer Details**  |
| Name:  |
| Date sample/s + request form submitted: |
| Research group/Department: | Cost Centre/ Fund number: |
| E-mail: | Cell no: |
| Supervisor name: |

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| **Instrument/Type of Analysis** |
| Malvern Panalytical Mastersizer 2000 - Particle size analyser ***(Discuss with analyst if not sure which unit to choose)*** |
| Large volume wet dispersion unit (Hydro2000G - 800 ml) | ***Tick to indicateþ*** |
| Small volume wet dispersion unit (Hydro2000SM - 100 ml) |
| Turnaround time - ***Tick to indicateþ***Normal Fast track ASAP | Supervisor approval for Fast track or ASAP: Yes***(See page 1 for more details)*** |

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| **Sample Information**  |
| Number of samples: |
| Type of sample - ***Tick to indicateþ***

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| --- | --- | --- | --- | --- |
| Mineral ore | Catalyst | Carbon | Soil | Cement |
|  |  |  |  |  |

If other, please specify:Refractive4 index of sample material: Absorption4 index of sample material:4) For more information please click [here](https://warwick.ac.uk/fac/cross_fac/sciencecity/programmes/internal/themes/am2/booking/particlesize/sample_dispersion__refractive_index_guide.pdf) | Type of dispersant - ***Tick to indicateþ***

|  |  |  |
| --- | --- | --- |
| Distilled water | Deionised water | Ethanol5 |
|  |  |  |

If other, please specify:Refractive index of dispersant: 5) Ethanol can only be used in the small volume dispersion unit (Hydro2000SM). |
| Type of additive6 (optional) - ***Tick to indicateþ***

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| --- | --- | --- |
| Igepal CA-630 | SodiumHexametaphosphate | Sodium Pyrophosphate |
|  |  |  |

If other, please specify:6) Discuss with analyst if uncertain. | Analysis7 (optional)If you require different set of procedures, please specify numerically:**Measurement/s Run/s**7) We use a standard procedure of 3 measurements per sample run. |
| **Have you declared all information about your sample? Yes or No** |

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| **Start and Completion of Analysis**  |
| Analysis request number: **RN2024-M** |
| Request number assigned by: |
| Analyst/s assigned to task: |
| Date sample/s submitted: | Date analysis started: |
| Date request form submitted: | Date analysis completed: |
| Date request number sent: | Date report/results sent: |

**SECTION B: TO BE COMPLETED BY ANALYST/S**

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| **Notes on Sample Preparation and Analysis**  |
| **Sample information:**The following table is applicable if all samples are of the same material.

|  |  |
| --- | --- |
| No. of samples |  |
| Type of sample |  |
| Type of wet dispersion unit  |  |
| Refractive index of sample material |  |
| Absorption index of sample material |  |
| Refractive index of dispersant |  |
| Number of measurements per analysis |  |
| Number of analyses per sample |  |
| Type of additive (optional) |  |

**SOP file name/s:****Observations/opinions:** |