XRD Technique, Reporting, and Sample Policies

The submission of samples for testing constitutes acknowledgment of the information, sample requirements, and financial responsibility of the submitter which are provided in this document.

XRD Data collection only:

- The customer will be sent the raw data of the XRD scans via email in any of the formats listed below. This option does not include any level of analysis or reporting.
- Data export options: XY plot (.xy) CSV file (.csv) image of the diffraction pattern (.jpg or .png) XML file (.xrdml) (File readable by most XRD analysis software such as Jade or Highscore)
- Our standard runs use the following settings:

Radiation	CuKα (CoKα radiation also available upon request)
Power	45KV/40mA
Spinner Stage	On - 4 sec/rev
Monochromator/filter	Ni filter in diffracted beam (or Fe for Co radiation)
Diffractometer radius	240mm
Detector	X'Celerator - resolution set at 0.0084°
Soller Slits	Incident - 0.04 Rad; Receiving - 0.04 Rad (or 0.02, 0.02 for pharma)
Divergence Slits	Fixed - 1/2°; ASS - 1° (or ¼, ½ for pharma)
Receiving Slit	None
Sample Holder	Selected based on amount of sample to optimize the scan
Scan Range	6° - 80° [6° - 100° on Co] (standard) , or 3° - 50° (for pharmaceuticals)
Step Size	0.0167° or 0.0131° (depending on machine)
Counting Time	250 sec/step (200 for Co radiation)

- If alterations are requested that significantly increase the run time or require set-up, such as switching out hardware, the price will be adjusted according to the amount of time required to perform the test. Alterations requested after the scans have been run are subject to additional run costs. Please contact us with your requirements before submitting materials.
- All cGMP submitted materials will be documented and run on a designated cGMP approved machine (Cu radiation only) with audit trail software enabled in accordance with cGMP requirements.

General Sample requirements:

- Preferred sample quantity is 0.5g or more, but XRD can be performed on as little as ~20mg if needed.
- Samples must be a fine powder or solid material with a flat surface in order to analyze.
- Coarse powders that can be easily ground will be ground with a mortar and pestle prior to analysis.
- Samples that consist of hard materials, such as carbides, that cannot be ground using a mortar and pestle will be ground in a ball mill prior to analysis and a milling fee will apply
- Samples with a high plasticity such as polymers and metals that cannot be ground to a fine powder are not suitable unless they are bulk pieces with a flat surface that can be analyzed (Bulk object must be able to fit into a 40mm diameter circle no thicker than 5mm to fit into a sample holder, larger samples will require an additional setup cost, please contact us for details).
- Samples that are received wet/damp will be dried prior to analysis. If air drying is insufficient, the sample(s) will be oven dried at a suitable temperature and an oven drying fee will be applied. If the sample is damp/wet and temperature sensitive, inform the lab prior to sending to avoid potential issues with improper handling.

Please submit your samples with the required documents to the following address:

H&M Analytical Services
1301 Whitehorse Mercerville Road
Suite 101
Hamilton, NJ 08619

https://h-and-m-analytical.com
Tel: +1 609 758 5700
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