



DSC 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.

Standard Testing Conditions:

A specification of parameters should be included with submission. If it cannot be provided, additional fees for method development and/or sample identification may apply to ensure the safety of our staff and equipment. A program that exceeds 90 minutes is considered an extended run and is subject to an additional charge. The capabilities of our DSC are outlined in the "Technique Limitations" for reference.

USP <661> and cGMP samples must include their required method (type of material) and will be processed in accordance with the applicable requirements and customer specifications.

General Sample requirements:

- **The following substances are NOT suitable for DSC analysis** without explicit approval of the run conditions by H&M staff to mitigate the risks of damage to the instrument: explosive substances, or any other substances that produce toxic or corrosive gasses upon heating.
- Submission of samples containing any substance that leads to damage of the instrument will result in a fee to cover any damages.
- If the customer cannot ensure that the sample is safe to run within the requested temperature range, additional testing may be required prior to DSC analysis that is not covered in the basic DSC analysis quote.
- Bulk samples must be no larger than 2mm diameter round X 1mm tall to fit into the pans.

Reporting:

Analysis includes a description of the sample procedure and preparation, the DSC curve plot with any thermal events noted, including onset temperatures, peak temperatures, and enthalpies of reactions (where applicable). Our DSC plots are oriented exotherm up by default. Unless a reference or specification is provided for comparison, basic analysis does not include the identification of the specific type of change occurring at each event (i.e. labeling an endotherm as a melting point) as this requires a working knowledge of the submitted material to definitively determine without a reference or standard.

USP <661> samples will be tested and reported upon using the methods defined in the latest issue of the USP.

Technique Limitations:

- The temperature range of the instrument is from -40°C to 400°C.
- The instrument is equipped with a cooling unit that allows for controlled heating and cooling cycles.
- Maximum volume capacity of the sample pans is ~10 micro-liters which will typically hold 3-15mg depending on material density. Over packing the material may result in the sample pan bursting and may impact the result. Requests to use more sample mass than can reasonably fit into a sample pan is not advised.
- The analysis must be performed in Nitrogen.
- Our standard ramp rate can be set slower or faster depending on requirements and holds can be set at specific temperatures.
- Turnaround times for multiple samples are dependent upon the run times and required conditions and may require several days to process depending on the current demand. Please notify the lab of turnaround time requirements on samples that require extended run times or when sending more than 5 samples.

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>
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