



TGA 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:

Our standard TGA run is from 30°C - 1000°C at a rate of 20C/min in a nitrogen atmosphere with a flow rate of 60ml/min using a platinum sample pan. A method, including maximum temperature (up to 1000°C), gas (nitrogen or air), ramp rate(s) and any isothermal steps or temperature holds MUST be specified. If no specification is provided, the material must be identified prior to use to ensure the safety of the equipment and staff and a method can be developed based on the sample composition.

cGMP samples should include their required method and will be processed in accordance with cGMP requirements and customer specifications.

General Sample requirements:

- **The following substances are NOT suitable for TGA analysis** without explicit approval of the run conditions by H&M staff to mitigate the risks of hazards: samples containing halogens (Cl, F, Br), lithium compounds, metals and metal oxides with reducing substances such as carbides and organic compounds, explosive substances, or any other substances that produce corrosive gasses and/or are known to react with platinum upon heating.
- Submission of a sample containing any substance with a request for a temperature range that leads to damage of the equipment, knowingly or unknowingly, will result in a fee to cover any damages.
- If the customer cannot ensure that a sample is safe to run within the temperature range, additional testing may be required to identify any potential hazards prior to running the sample and will be billed for in addition to the TGA testing. Please contact us before sending if you have any questions.
- Powdered samples should be fine powder for an accurate analysis. Coarse powders that can be easily ground will be ground with a mortar and pestle prior to analysis unless otherwise specified.
- Bulk samples must be no larger than 8mm in any dimension to fit into the pans and must weigh less than 1g.

Reporting:

Unless otherwise specified, standard TGA reporting includes the conditions and program used for the run(s), the TG graph (weight vs. temperature) with any major weight change event noted, the temperature range at which the change occurs, and the weight percentage change over each temperature range. cGMP reports will be issued in accordance with the requested method, and any customer requirements. If different or more specific reporting is required, it must be requested prior to sample submission otherwise a report revision fee will apply.

Technique Limitations:

- The temperature range of the instrument is from room temperature to 1000°C. Temperatures calibrations are verified to within an accuracy of $\pm 5\%$ for this technique.
- Sample weight range must be within 2mg-1,000mg
- The analysis must either be performed under an Air or in a Nitrogen environment.
- Our standard ramp rate can be set lower or faster depending on requirements and holds can be set at specific temperatures – additional fees apply for runs exceeding 90 minutes in total length.
- 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.

You may 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
admin@h-and-m-analytical.com