

ANALYSIS ACCEPTANCE CRITERIA

NOTE: Please carefully read the "Sample Acceptance Criteria" below before filling in the Analysis Request Form.

SAMPLE ACCEPTANCE CRITERIA

General Criteria

- . Analysis Request Form must be filled.
- . If the data of the analysis results are requested electronically, the application should be made with 2 blank CDs.
- . Special storage conditions, if any, of samples MUST be stated on the form. Otherwise, no special measures are taken in the preservation of the samples.
- . It is the customer's responsibility to transport, do the packaging, label and store the sample until its acceptance to NUMERLAB. NUMERLAB cannot be held responsible for any negativity in the analysis results due to these factors.
- . Sample containers should be in a non-contaminated and non-contaminating manner. Open packages that are cracked, broken or do not have a clean appearance will not be accepted as they may have deteriorated the properties of the sample.
- . Samples must be labeled briefly and clearly by the customer. Sample packages must have a label containing information to explain the sample.
- . Explosive, toxic, radioactive, carcinogenic substances are NOT accepted for analysis. Samples that may cause poisoning by contact and respiratory tract are not accepted for analysis. In case of doubt, the relevant Unit Supervisor should be consulted. By filling and signing the application form, the person requesting the analysis accepts that s/he has declared the harmful effects of the sample sent for analysis (if any) on human health and the environment.
- . If the same results are obtained in the analysis repetitions made with the objection of the customer to the analysis results, the full service fee is charged from the customer. Objection period for analysis results is 20 working days.
- . Samples must be protected from moisture.
- . When requested or deemed necessary, the customer is informed and the grinding and drying operations are carried out for a fee.
- . All information, requests and opinions regarding the analysis should be stated in the Analysis Request Form, if any, in the Other Requests section.
- . The test results cannot be used without the permission of the sample owner and cannot be given to third parties.

Special Criteria

XRD Analysis Sample Acceptance Criteria:

1. The responsibility of the storage of the samples until they are brought to NUMERLAB belongs to the owner of the sample.

2. Samples with deteriorating properties (due to heat, light, humidity) should be delivered to the laboratory on the same day if necessary.
3. If samples have special storage conditions, they MUST be specified in the relevant section of the Test Request Form.
4. The powder samples to be sent for analysis should be delivered to the Central Laboratory in a finely ground form. The weight limit for powder samples is approximately 10 g for rock samples; and at least 100-150 mg for samples synthesized in the laboratory and which cannot be supplied in large quantities.
5. Samples in the form of thin films or plates should be prepared in minimum 1x1 cm dimensions and should not be thicker than 7 mm.
6. Powder sample / samples representing the original sample must be delivered in sample bags, plastic containers, glass bottles or centrifuge tubes, and if sensitive to light, in dark colored packages. As for the thin film samples, they should be delivered to the laboratory in suitable containers or boxes so that the film / films are not damaged.
7. Packages that are cracked, worn or do not have a clean appearance are not accepted as they may have impaired the properties of the sample.
8. Sample packages must have a label containing information to explain the sample. Samples must be coded by the customer starting from 01. Only sample codes will be specified in the Test Report.
9. After reading the "XRD Sample Acceptance Criteria" in the XRD applications, those interested can apply to the the NUMERLAB Sample Acceptance Unit with an "XRD Test Request Form", payment receipt and sample.
 1. The amount of sample to be sent for Kidney Stone Analysis should be at least 5 mg.
 2. Before the kidney stone reaches the laboratory, it must be removed from body fluids such as blood, pus, etc. and from surgery residues.
 3. Kidney stone samples should be sent in a health-friendly, covered, plastic, and transparent container.

Gas Chromatography (GC) Sample Acceptance Criteria

1. The sample (s) should be delivered in sealed bottles, preferably in polypropylene tubes or in amber or glass bottles according to color sensitivity, in accordance with their volume and properties.
2. Samples to be sent for analysis should be brought ready for analysis so that no processing is required. Samples should not contain impurities that could damage the GC / MS column and instrument, and liquid samples should not contain undissolved particles. It should be stated whether the sample has been pre-treated (extracted, filtered, diluted, etc.) before sending it for analysis.
3. The standards required for quantitative analysis must be provided by the party requesting the analysis.
4. For qualitative analysis, the library scan is charged after the first 10 peaks.
5. In the library matches, the result of the top 5 peaks is given.

Mass Spectrometry (MS) Sample Acceptance Criteria

1. The sample (s) should be delivered in sealed bottles, preferably in polypropylene tubes or in amber or glass bottles according to color sensitivity, in accordance with their volume and properties.
2. Fragmentation other than the main peak fragmentation in the spectrum is subject to charge.

X-Ray Fluorescence Spectroscopy (XRF) Sample Acceptance Criteria

1. The solid sample to be sent for analysis must be 75 microns in size and at least 50 grams. The thickness of the samples in metal or piece form should be at most 5mm and the sample cross section should not exceed 35 × 35 mm.
2. Samples must be homogeneous, otherwise analysis results may differ. NUMERLAB cannot be held responsible for this situation.

Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS) and Atomic Absorption Spectroscopy (AAS) Sample Acceptance Requirements

1. Liquid samples should be at least 50 mL and brought to NUMERLAB with plastic (PP, PE or PTFE) packages.
2. For solid samples (soil, rock, etc.), the particle size should be less than 100 µm and the sample amount should be at least 5 grams. If the sample is to be dried before taking into solution, the analysis should be stated in the application form.
3. Metal and similar solid samples should be delivered in powder, chips or very small pieces.
4. If there are organic compounds or organic solvents in the sample, they must be stated in the Analysis Request Form.
5. If the sample is taken into solution, the process of taking into solution should be specified in detail and it should be brought to our center with blank (blind).
6. Samples must be homogeneous and representative of the entire sample.

Spectroscopic Ellipsometer (SE) Sample Acceptance Criteria

1. The sample should be in a case so that both surfaces are not corroded.
2. The sample must have a minimum size of 2cmX2cm.

Mechanical Profilometer Sample Acceptance Criteria

1. The sample must be delivered in a container so that both surfaces are not corroded.
2. The sample must be at least 2cmX2cm in size.
3. The sample must be delivered in a state with the middle of the coated surface, with a 2mm step (uncoated area) formed before coating.

ZETA Potential Sample Acceptance Criteria

1. The required sample and liquid volume for Zeta-Potential measurement is approximately 1 cm³.
2. Sample should be at most 2% of the total volume.

3. Sample sizes should be between 3 nm and 10 mm.
4. If the sample sizes are between 2 nm and 3mm, particle size analysis can also be performed on the same device.
5. The same volume of sample and liquid is sufficient
6. Particle size analysis requires 200 mg for the wet method.

SEM Sample Acceptance Criteria

1. *SEM samples to be imaged should be solid samples that are not moist or non-aqueous.*
2. *For technical reasons; SEM images cannot be taken from samples that are not dry.*
3. *Samples to be sent for analysis must be in block. Solid samples should not exceed 10 mm in diameter.*
4. *If the sample is not conductive (its resistance is greater than 10-10 ohms), some problems will arise when working with scanning electron microscopy. Such samples need to be coated. However, coating may prevent the structures below approximately 20-50 nm in size, depending on the contrast it gives to the sample. Coating causes EDX analysis to differ from the material content.*
5. *If the dimensions of the shapes desired to be seen in the sample are below 20-50 nm and the sample is insulating or has low conductivity, the sample should be viewed in a low vacuum environment. However, low vacuum causes low resolution. If the sample is conductive or if a coating is to be made, it will be more useful to examine the sample under high vacuum.*
6. *In order for more than one sample to be vacuumed and examined at the same time, the sample sizes must be such that they do not make any difference to each other. Samples of different sizes will be loaded into the vacuum chamber and analyzed separately, which will cause a waste of time.*
7. *The customer is responsible for the conditions such as preparing the samples for analysis by placing them in sample holders and keeping the samples under suitable conditions (temperature, humidity, etc.) until the analysis day.*