

## **SAMPLING GUIDELINES FOR MATERIALS IN POWDER FORM IN BIG BAGS OR DRUMS**

All equipment used will be thoroughly cleaned prior to use to prevent any risk of contamination of the sample. No sample will be left unattended at any time unless it is properly sealed with an XXXXX seal.

The material will be weighed and sampled in Lot sizes as instructed by the client.

The material must first be described by name of warehouse, place of storage within the warehouse location, tonnage, date of storage, weight list per bag/drum/pallet, markings and seals affixed, or if relevant, broken, as found prior to sampling. List of seals affixed by sampler after sampling. The whole consignment will be Gross weighed, each bag / drum being weighed individually and an accurate tare weight will be determined for the bags / drums, preferably by weighing a number of empty bags /drums on each attendance. All bags / drums will be clean on the outside prior to weighing; any extraneous matter will be removed prior to the commencement of weight determination. If the bags / drums are palletised, a significant percentage of each type of pallet, and any strapping used to secure the bags / drums, will be weighed to determine the tare weight of the Lot.

The scale used for weighing will conform to International Standards. The scale must be certified by an independent scale calibration company and must be valid within the last 6 or 12 months, and will be checked with test weights prior to the start of each Lot. The scale will have a maximum capacity of up to 3000 kgs and a maximum interval of up to 1 kg.

The weights and bag / drum markings will be recorded and agreed at the time of weighing.

When material has been received, sampling will take place immediately after the weighing of each bag / drum. Prior to dispatch, weighing will take place immediately after the sampling and sealing of each bag / drum.

Sampling will, for every Lot, be on a 100% basis, every bag /drum will be sampled.

### **Radiation Monitoring:**

Measure background at 25 metres' distance from the material all around.

Slowly walk around the material with the probe at a distance of 30cm - 50cm and note the readings; if more than twice the background reading, report to the customer and take no further part in handling the material.

If less than twice the background reading, monitor the consignment with the probe at a distance of 10mm, recording the readings obtained; if more than twice the background reading, report to the customer and take no further part in handling the material.

The drawing of samples from each bag / drum will be carried out by the use of a sampling spear to obtain an increment mass of 200 to 300 g per position. The diameter of the spear will be at least four times the Top Size of the material and the length shall be sufficient to allow a core sample to be drawn completely from top to bottom of the material. Spear samples will be drawn from five positions in each bag, one in each corner and one in the central position and, in the case of material packed in drums, from one position in each drum. The bags / drums will, if practicable, be sealed with numbered XXXX seals after sampling and the seal numbers will be recorded on the weight record against the bag / drum number.

NB: There are certain materials for which spear sampling may not be recommended, due to the particle sizes; in these instances, tipping of the drums and then mixing and reducing by Coning and Quartering to approximately 300kg, depending on consignment size, is recommended, followed by progressively crushing/mixing/reducing for moisture/quality samples.

The bulk sample for the Lot will be accumulated in a new plastic sack which will be kept in a plastic container equipped with a tight fitting lid that can be sealed. The neck of the bag will be twisted closed between each bag sampling operation and the lid of the container will be closed to prevent moisture loss from the sample.

When the sampling of a lot is completed the collected gross sample, which will be of approximately 20 to 30 kgs, will be transported to the preparation area where the sample will be mixed in the bag and then spread onto a clean metal table. Two portions, each of a minimum of 2kg will be drawn by the increment grid method and then dried in an electronically controlled circulating oven at 105°C until constant weight is achieved, the oven will be sealed. The balance of the sample will be retained in the plastic sack under XXXXX seal as a reserve sample.

If the results obtained from the two dried samples differ by less than 0.3% absolute then the average of both moisture contents is to be calculated. If the two moisture percentages differ by more than 0.3% absolute the drying procedure will be repeated. The net wet and net dry weights will be agreed at this time.

The two dried samples will be combined, thoroughly mixed (preferably mechanically) and then reduced to approximately 2 kgs; the balance of the dried sample will be retained in a plastic sack under XXXX seal as a reserve.

The 2kg dried sample will be milled to pass a 100 mesh (ASTM) sieve.

The screened sample will be thoroughly mixed (preferably mechanically) and then divided into as many sample portions of minimum 50g each as are required for assay purposes.

The sample containers which must be suitable for hermetic sealing will be marked with all relevant information and also clearly marked "TO BE DRIED AT 105<sup>o</sup> C BEFORE ASSAYING", and shall bear the necessary seals.