

18.3.3 Material units for sampling

Consignment

A quantity of material transferred on one occasion and covered by a single set of shipping documents. It may consist of one or more lots or portions of lots.

Notes:

- (1) The presence of different lots in a consignment is important from the point of view of the sampling plan and the interpretation of the results of analysis.
- (2) The term "population" is used as the general term for the quantity of parent material being sampled when it is immaterial if the parent body is a consignment, lot, batch, entity, etc.

Lot

A quantity of material which is assumed to be a single population for sampling purposes.

Batch

A quantity of material which is known or assumed to be produced under uniform conditions.

Note: Some vocabularies assume "lot" and "batch" to be synonymous. The distinction made here with respect to knowledge or production history permits a lot to consist of one or more batches and is useful in interpreting the results of analysis.

Unit/item/portion/individual

Each of the discrete, identifiable portions of material suitable for removal from a population as a sample or as a portion of a sample, and which can be individually considered, examined or tested, or combined.

Note: In the case of sampling bulk materials (or large packages), the units are increments, created by a sampling device. In the case of packaged materials, the unit may vary with the level of commercial distribution.

Example: An individual piece of candy is the sampling unit at the consumer level; a package of individual pieces is the sampling unit at the retail level; a carton of packages is the sampling unit at the wholesale level; a pallet of cartons is the shipping unit at the

distribution center level; and a truckload of pallets is the consignment unit at the manufacturers level. Before packaging, the bin containing the individual pieces, would be the bulk lot (or batch) for sampling.

Segment (applies to bulk materials)

Each of the single, large portions of material pre-existing either in space (e.g., bags, bales, drums) or accumulated during a fixed time (e.g., discharge from a conveyor belt) or formable as increments by a sampling device. Segments may be actual or conceptual.

Specimen

A specifically selected portion of a material taken from a dynamic system and assumed to be representative of the parent material at the time it is taken.

Notes:

- (1) Although the specimen may not be reproducible in time, e.g., it may be taken from a flowing stream or a portion of blood, no separable sampling error exists since this error is unavoidably included with the corresponding error of the estimate of the property, function, or analyte being studied. A specimen may be considered as a special type of sample, taken primarily in time rather than in space.

- (2) The term "specimen" has been used both as a representative unit and as a nonrepresentative (often better than most) unit of a population, usually in clinical, biological, and mineralogical collections. "Collections" in this case is used as either a noun or verb. This usage is almost always self-evident, and thus would be confused with a time-type sample.