

ISO 14820-1:2016-05 (E)

Fertilizers and liming materials - Sampling and sample preparation - Part 1: Sampling

Contents		Page
Foreword		v
Introduction		vi
1	Scope	1
2	Normative references	1
3	Terms and definitions	1
4	Sampling plans and quantitative data	2
4.1	General	2
4.2	Sampling plans	3
4.2.1	Determination of the number of sampling units which form the sampled portion	3
4.2.2	Identification of the sampling units to be sampled	4
4.2.3	Collection of increments	4
4.3	Quantitative data	5
4.3.1	Mass of increments	5
4.3.2	Mass of single aggregate/reduced samples	5
4.3.3	Mass of multiple aggregate samples	5
4.3.4	Mass of final sample	5
5	Incremental sampling methods	5
5.1	General	5
5.2	Solid fertilizer in bulk being moved by conveyor belt -- Stopping the belt method	5
5.2.1	General	5
5.2.2	Principle	6
5.2.3	Apparatus	6
5.2.4	Procedure	6
5.3	Solid fertilizer in bulk -- Mechanical sampling while in motion	6
5.3.1	General	6
5.3.2	Procedure	7
5.4	Solid fertilizer in bulk -- Manual sampling from falling stream	7
5.4.1	Principle	7
5.4.2	Apparatus	7
5.4.3	Procedure	7
5.5	Solid fertilizer in bulk -- Manual sampling method by moving the bulk	8
5.5.1	General	8
5.5.2	Procedure	9
5.6	Solid fertilizers in packages -- Reduction method using a rotary mechanical sample divider	9
5.6.1	General	9
5.6.2	Principle	9
5.6.3	Apparatus	9
5.6.4	Procedure	10
5.6.5	Precautions	11
5.7	Solid fertilizers in packages -- Reduction method using a riffle divider	11
5.7.1	General	11
5.7.2	Apparatus	11
5.7.3	Procedure	12
5.8	Sampling of solid fertilizers in packages -- Manual method	13
5.9	Sampling from intermediate bulk containers (IBC's) by controlled flow	14

5.9.1	General	14
5.9.2	Principle	14
5.9.3	Safety	14
5.9.4	Apparatus	15
5.9.5	Obtaining increments	17
5.9.6	Precautions	18
5.10	Sampling from intermediate bulk containers IBC's - Manual method	18
5.10.1	Principle	18
5.10.2	Procedure	18
5.11	Sampling of fluid fertilizers	18
5.11.1	General	18
5.11.2	Apparatus	19
5.11.3	Procedure	19
6	Reduction of aggregate sample	21
6.1	General	21
6.2	Solid fertilizers	21
6.2.1	General	21
6.2.2	Procedure	21
6.3	Fluid fertilizers	22
6.3.1	Apparatus	22
6.3.2	Procedure	22
7	Division into final samples	22
8	Practical arrangements for final (laboratory) samples	22
8.1	Containers	22
8.2	Sealing of containers	22
8.3	Labelling of final samples	23
8.4	Dispatch of the final sample	23
8.5	Storage of final samples	23
9	Sampling report	23
9.1	General	23
9.2	Essential information	23
9.3	Additional information	24
Annex A	(normative) Test for bias in mechanical samplers	25
Annex B	(informative) Examples of rotary sampled dividers	28
Annex C	(normative) Test for bias in a rotary divider	31
Annex D	(informative) Examples of apparatus for sampling fluid fertilizers	32
Annex E	(normative) Methods of mixing for fluid fertilizers	40
Bibliography	47