

DIN EN 16179:2012-11 (E)

Sludge, treated biowaste and soil - Guidance for sample pretreatment

Contents		Page
Foreword		4
Introduction		5
1 Scope		6
2 Normative references		6
3 Terms and definitions		7
4 Safety remarks		9
5 Principle		9
5.1 General		9
5.2 Preservation and storage of samples		13
5.3 Pretreatment in the field		13
5.4 Pretreatment in the laboratory for determination of inorganic and physico-chemical parameters		19
5.5 Pretreatment in the laboratory for determination of organic volatile compounds		19
5.6 Pretreatment in the laboratory for determination of moderately volatile organic compounds		19
6 Reagents		20
7 Apparatus		20
7.1 General		20
8 Sampling and pretreatment procedures in the field (from field sample to laboratory sample)		22
8.1 General		22
8.2 Selection of workplace		23
8.3 Estimation of minimum subsample mass		23
8.4 Pretreatment methods		25
8.4.1 Procedure for macro aggregate reduction by hand		25
8.4.2 Subsampling methods		25
8.4.3 Liquid sludge handling		26
9 Storing and preservation		26
9.1 General		26
9.2 Appropriate sample container		26
9.3 Preservation		27
10 Pretreatment procedures in the laboratory (from laboratory sample to test sample)		27
10.1 General		27
10.2 Pretreatment for determination of chemical and physico-chemical parameters		27
10.2.1 General		27
10.2.2 Laboratory sample description		28
10.2.3 Drying of solid samples		28
10.2.4 Removal of extraneous materials and crushing		29
10.2.5 Subsampling		29
10.2.6 Milling		30
10.2.7 Liquid sludge samples		31

10.3	Pretreatment for determination of organic compounds	32
10.3.1	General	32
10.3.2	Volatile compounds	32
10.3.3	Moderately volatile organic compounds - Grinding necessary	33
10.3.4	Moderately volatile organic compounds - Grinding not possible or not necessary	35
11	Test report	36
Annex A (informative) Subsampling methods		37
A.1	Long pile and alternate shovel method	37
A.2	Coning and quartering	38
A.3	Riffling	39
A.4	Application of Tyler divider	40
A.5	Application of mechanised turntable (rotating divider)	40
Annex B (informative) Information concerning vapour pressure, boiling and melting points of volatile organic compounds		42
Bibliography		45