

DIN EN 16698:2015-12 (E)

Water quality - Guidance on quantitative and qualitative sampling of phytoplankton from inland waters

Contents		Page
European foreword		4
Introduction		5
1	Scope	6
2	Normative references	6
3	Terms and definitions	6
4	Principles of phytoplankton sampling	8
4.1	General	8
4.2	Selection of sampling sites	9
4.2.1	General	9
4.2.2	Sampling sites in rivers and streams	9
4.2.3	Sampling sites in lakes	9
4.3	Sampling frequency and replicates	10
5	Equipment and preservatives	10
6	Procedure	11
6.1	General requirements for phytoplankton sampling	11
6.2	Sampling in rivers	12
6.3	Sampling in lakes	12
6.3.1	General	12
6.3.2	Sampling in polymictic lakes	13
6.3.3	Sampling in stratified lakes during circulation	13
6.3.4	Sampling in stratified lakes during phase of summer stagnation	13
6.4	Preparation of mixed samples of a water column	14
6.4.1	Preparation of mixed samples using an integral water sampler	14
6.4.2	Preparation of mixed samples using other water samplers	14
6.5	Bottling and fixation of samples	15
6.6	Storage and transport of the samples	15
6.7	Additional samples for analysis of diatoms	16
6.8	Qualitative sampling	16
7	Measurements of accompanying parameters	16
7.1	General	16
7.2	Secchi depth	16
7.3	Water temperature	17
7.4	Dissolved oxygen	17
7.5	pH	17
7.6	Chlorophyll-a	17
8	Quality Assurance	17
Annex A (informative) Description of methodology		18
A.1	Water colour, Secchi-depth and euphotic depth	18
A.2	Secchi depth - practical hints	19
A.3	Sampling frequency - examples	19

Annex B (informative) Examples for suitable water samplers	22
B.1 Examples for sampling devices in rivers	22
B.1.1 General requirements	22
B.1.2 Horizontal sampler	22
B.2 Examples for sampling devices in lakes	22
B.2.1 General requirements	22
B.2.2 Hose sampler	23
B.2.3 Tube integrating sampler	25
B.2.4 Mechanical integrating water sampler	27
B.2.5 Hydrostatic integrating water sampler	27
B.2.6 Electronic integrating water sampler	28
B.3 Sampling equipment cleaning	29
Annex C (informative) Determination of the depth gradient	30
Annex D (informative) Example for a sampling protocol	32
Bibliography	34