

DIN EN 14735:2022-08 (E)

Characterization of waste - Preparation of waste samples for ecotoxicity tests

Contents		Page
	European foreword	4
	Introduction	5
1	Scope	6
2	Normative references	6
3	Terms and definitions	7
4	Equipment and reagents	9
5	Taking of laboratory sample	9
6	Transport	10
7	Storage	10
7.1	General	10
7.2	Waste sample	10
7.3	Water extracts	10
8	Waste characterization	11
9	Waste pre-treatment: particle size reduction (granular waste, monolithic waste, paste-like waste and sludge)	11
10	Tests performed on terrestrial organisms	12
10.1	General considerations	12
10.2	Dilution medium	13
10.3	Introduction of waste into the dilution medium	13
10.3.1	General	13
10.3.2	Monolithic waste, granular waste, paste-like waste and sludge	13
10.3.3	Liquid sludge	13
10.3.4	Liquid waste miscible with water	14
10.3.5	Liquid waste non-miscible with water	14
10.4	Water extracts of waste	14
10.5	pH	14
10.6	Addition of test organisms	15
11	Tests performed on aquatic organisms	15
11.1	General considerations	15
11.2	Monolithic waste, granular waste, paste-like waste and sludge	15
11.2.1	Leaching procedure	15
11.2.2	Liquid/solid separation procedure	16
11.2.3	pH	16
11.3	Liquid sludge	17
11.3.1	Procedure	17
11.3.2	pH	17
11.4	Liquid waste miscible with water	17
11.4.1	Procedure	17
11.4.2	pH	17
11.5	Liquid waste non-miscible with water	17

11.5.1	Procedure	17
11.5.2	Liquid/liquid separation	18
11.5.3	pH	18
11.6	Preparation of test mixtures	18
12	Test report	18
Annex A (normative) Preparation of test mixtures according to the ecotoxicity tests to be performed		19
Annex B (informative) Ecotoxicity tests considered to establish this document		20
B.1	General	20
B.2	Terrestrial tests methods	21
B.2.1	Earthworms - Acute toxicity	21
B.2.2	Earthworms - Effects on reproduction	22
B.2.3	Earthworms - Avoidance	23
B.2.4	Collembola - Effects on reproduction	24
B.2.5	Coleoptera - Acute test	25
B.2.6	Enchytraeid - Reproduction test	26
B.2.7	Nematoda - Effects on growth, fertility and reproduction	27
B.2.8	Juvenile land snails (<i>Helix aspersa</i>)	28
B.2.9	Soil Flora - Inhibition of root growth	29
B.2.10	Effects on emergence and growth	31
B.2.11	Ammonium oxidation - Rapid test	33
B.2.12	Mineralization and nitrification	34
B.2.13	Dehydrogenase activity of <i>Arthrobacter globiformis</i>	35
B.3	Aquatic tests methods	37
B.3.1	<i>Daphnia magna</i> - Inhibition of mobility	37
B.3.2	<i>Daphnia magna</i> - Inhibition of reproduction	38
B.3.3	<i>Ceriodaphnia dubia</i> reproduction test	39
B.3.4	<i>Brachionus calyciflorus</i> reproduction test	40
B.3.5	<i>Aliivibrio fischeri</i> - Luminescent bacteria test	41
B.3.6	<i>Pseudomonas putida</i> growth inhibition test	42
B.3.7	Freshwater algal growth inhibition test	43
B.3.8	<i>Lemna minor</i> - Growth inhibition test	45
B.3.9	Fish egg test	46
B.3.10	Freshwater fish acute toxicity test	47
B.3.11	Marine copepods - Acute toxicity test	48
B.3.12	Marine algal growth inhibition test	49
B.3.13	Salmonella / Microsome test	51
B.3.14	UMU test	53
Bibliography		54