# DIN EN 14405:2017-05 (E)

## Characterization of waste - Leaching behaviour test - Up-flow percolation test (under specified conditions)

## Contents

Page


European foreword ....4

Introduction ....5

1 Scope ....7

2 Normative references ....7

3 Terms and definitions ....8

4 Principle ....9

5 Reagents ....9

6 Equipment ....10
6.1 General ....10
6.2 Laboratory equipment ....10

7 Sample pretreatment ....11
7.1 General ....11
7.2 Sample preparation ....11
7.3 Test portion ....12
7.4 Determination of dry residue ....13

8 Procedure ....13
8.1 Temperature ....13
8.2 Preparation ....13
8.3 Packing of the column ....13
8.4 Start-up of the test ....15
8.5 Collection of additional eluate fractions ....16
8.6 Further preparation of the eluates for analysis ....18
8.7 Blank test ....18

9 Calculations ....18

10 Performance characteristics ....19

11 Test report ....20
11.1 General ....20
11.2 General data ....20
11.3 Leaching test conditions ....20
11.4 Analytical report ....20
11.5 Results of the leaching test ....21

Annex A (informative) Illustration of the column and accompanying equipment ....22

Annex B (informative) Suggestions for packing the column, water saturation and establishment and checking of equilibrium conditions ....23

B.1 General ....23
B.2 Guidelines on column filling and packing ....23

B.3 Water saturation ..... 23
B.4 Equilibration and checking of equilibrium conditions ..... 24

Annex C (informative) Background for the choices made in developing this percolation test ..... 26

C.1 Introduction ..... 26
C.2 Particle size / particle size distribution ..... 27
C.3 Column dimensions ..... 27
C.4 Flow mode (up-flow/down-flow) ..... 27
C.5 Flow rate of the leachant ..... 27
C.6 L/S ratio and eluate fractions collected/duration of the test ..... 28
C.7 Nature of the leachant ..... 28
C.8 Temperature ..... 29
C.9 Beneficial use of the test results ..... 29

Annex D (informative) Repeatability and reproducibility data ..... 30

D.1 Materials used in the interlaboratory comparison study ..... 30
D.2 Interlaboratory comparison results ..... 30

Bibliography ..... 40