

DIN EN ISO 14851:2019-07 (E)

Determination of the ultimate aerobic biodegradability of plastic materials in an aqueous medium - Method by measuring the oxygen demand in a closed respirometer (ISO 14851:2019)

Contents		Page
EN ISO 14851:2019 (E) European foreword		3
Foreword		4
Introduction		6
1	Scope	7
2	Normative references	7
3	Terms and definitions	7
4	Principle	9
5	Test environment	9
6	Reagents	9
6.1	Distilled or deionized water	10
6.2	Test medium	10
6.2.1	Standard test medium	10
6.2.2	Optimized test medium	10
6.3	Pyrophosphate solution	12
6.4	Carbon dioxide absorber	12
7	Apparatus	12
8	Procedure	12
8.1	Test material	12
8.2	Reference material	13
8.3	Preparation of the inoculum	13
8.4	Test	14
9	Calculation and expression of results	15
9.1	Calculation	15
9.2	Expression and interpretation of results	16
10	Validity of results	16
11	Test report	17
Annex A (informative) Theoretical oxygen demand (ThOD)		18
Annex B (informative) Correction of BOD values for interference by nitrification		19
Annex C (informative) Principle of a closed manometric respirometer		21
Annex D (informative) Two-phase closed-bottle version of the respirometric test		23
Annex E (informative) Example of the determination of a carbon balance		26

Annex F (informative) Example of a determination of the amount of water-insoluble polymer remaining at the end of a biodegradation test and the molecular mass of the polymer	28
Annex G (informative) Example of the determination of the CO₂ absorbed in the absorbent	29
Bibliography	31