

# 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)

---

<b>Contents</b>		<b>Page</b>
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

<b>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 .....</b>	<b>28</b>
<b>Annex G (informative) Example of the determination of the CO<sub>2</sub> absorbed in the absorbent .....</b>	<b>29</b>
<b>Bibliography .....</b>	<b>31</b>