

ISO 23517:2021-07 (E)

Plastics - Soil biodegradable materials for mulch films for use in agriculture and horticulture - Requirements and test methods regarding biodegradation, ecotoxicity and control of constituents

Contents	Page
Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Basic requirements	3
4.1 General	3
4.2 Control of constituents	3
4.3 Ultimate aerobic biodegradation	4
4.4 Negative effects on terrestrial organism	4
5 Detailed requirements	4
5.1 Control of constituents	4
5.1.1 Regulated metals and other elements	4
5.1.2 Organic and inorganic fluorine	4
5.1.3 Other hazardous substances	4
5.1.4 Volatile solids	4
5.2 Ultimate aerobic biodegradation	5
5.2.1 Test method and evaluation criteria	5
5.2.2 Requirements regarding constituents	5
5.3 Negative effects on terrestrial organism	6
5.3.1 Ecotoxicity testing scheme	6
5.3.2 Preparation of soils for ecotoxicity tests	6
5.3.3 Acute toxicity plant growth test	7
5.3.4 Earthworm test	7
5.3.5 Nitrification inhibition test with soil microorganisms	8
6 Test report	9
Annex A (informative) Examples of maximum concentrations of regulated metals and other elements	10
Annex B (normative) Maximum concentrations of organic and inorganic fluorine and other hazardous substances	11
Annex C (normative) Determination of acute effects of materials on the emergence and growth of higher plants	13
Annex D (normative) Determination of acute effects of materials on earthworms	15
Annex E (normative) Determination of effects on reproduction of earthworms	16
Annex F (normative) Determination of nitrification of soil microorganisms	17
Annex G (normative) Preparation of soils for ecotoxicity testing	18
Annex H (informative) Visual surface evaluation method of the disintegration in a slide frame test ..	20
Bibliography	24