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Plastics – Carbon and environmental footprint of biobased plastics – Part 4: Environmental (total) footprint (Life cycle assessment)

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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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A list of all parts in the ISO 22526 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

Increased use of biomass resources for manufacturing plastic products can be effective in reducing global warming and the depletion of fossil resources.

Current plastic products are composed of biobased synthetic polymers, fossil-based synthetic polymers, natural polymers and additives that can include biobased materials.

Biobased plastics refer to plastics that contain materials wholly or partly of biogenic origin.

Plastics — Carbon and environmental footprint of biobased plastics —

Part 4: Environmental (total) footprint (Life cycle assessment)

1 Scope

This document provides life cycle assessment (LCA) requirements and guidance to assess impacts over the life cycle of biobased plastic products, materials and polymer resins, which are partly or wholly based on biobased constituents.

The applications of LCA as such are outside the scope of this document. Clarifications, considerations, practices, simplifications and options for the different applications, are also beyond the scope of this document.

In addition, this document can be applied in studies that do not cover the whole life cycle, with justification, for example in the case of business-to-business information, such as cradle-to-gate studies, gate-to-gate studies, and specific parts of the life cycle (e.g. waste management, components of a product). For these studies, most requirements of this document are applicable (e.g. data quality, collection and calculation as well as allocation and critical review), but not all the requirements for the system boundary.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 472, *Plastics — Vocabulary*

ISO 14025, *Environmental labels and declarations — Type III environmental declarations — Principles and procedures*

ISO 14040:2006, *Environmental management — Life cycle assessment — Principles and framework*

ISO 14044:2006, *Environmental management — Life cycle assessment — Requirements and guidelines*

ISO/TR 21960, *Plastics — Environmental aspects — State of knowledge and methodologies*

EN 16575, *Bio-based products — Vocabulary*

EN 16760, *Bio-based products — Life cycle assessment*