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Plastics — Recycling and recovery — Necessity of standards

Plastiques — Recyclage et valorisation — Nécessité des normes



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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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 documents 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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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 14, *Environmental aspects*.

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

Facing resource consumption beyond the capacity of the global ecosystem, the complex challenges connected to the plastics recycling must be overcome globally. It is more efficient that processes and a better management of waste indicate the most obvious potential to increase resource efficiency. This management can be achieved by reducing waste or by reusing, or recycling of the waste. Plastics waste entering a formal waste management system, are usually recycled, incinerated or disposed of in landfill. However, in communities where a formal waste management system does not exist, a substantial proportion of plastics waste is disposed of in uncontrolled dumps, watercourses, or burned openly (UNEP, 2016). Different kinds of plastics included in plastic waste, must be reused, collected and recycled to a much higher degree than today. Therefore, an agreement for this work and identification of the necessity of standards in the plastics recycling system and giving direction for the adoption of regional standards and/or the developing of new and existing standards took place at ISO/TC 61 Plastics-meeting in Japan 2018 and gave the reason for the work on this document.

This document has been developed to assist all plastics industry stakeholders in the development of new and improved standards for plastic recycling.

It gives a short general introduction to plastic recycling and describes the process from feedstock to plastics, the different types of recycling technologies and highlights common problems in relation to recycling of plastic materials and products. Both fossil and non-fossil feedstock are discussed.

In [Clause 6](#), existing standards are mapped. In [Clause 8](#), challenges in the transition to a sustainable plastic system are discussed. The necessity of standards is identified in [Clause 9](#).

The overall structure of this document is as follows:

- brief overview of the current situation;
- general description of recycling techniques;
- inventory of existing standards (national, regional and global);
- mapping of relevant challenges;
- necessity of standards.