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Plastics — Polyethylene (PE) and polypropylene (PP) thermoplastics — Determination of metal content by ICP-OES

Plastiques — Polyéthylène (PE) et polypropylène (PP) — Détermination de la teneur en métal par ICP-OES

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Foreword

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This document was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 9, *Thermoplastic materials*.

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

Metal elements in polyethylene (PE) and polypropylene (PP) can lead to increased ash content and can impact material mechanical properties. In addition, some elements are also environmentally hazardous. This document provides a method to determine the metal content in PE and PP and it can serve as a measure for additive monitoring, quality control and post-reactor studies.

In this document, inductively coupled plasma optical emission spectrometry (ICP-OES) is used to determine the concentrations of certain elements in PE and PP. The main advantages of ICP-OES over atomic absorption spectroscopy (AAS) include multi-element measurement capability, longer linear dynamic range and less condensed phase interferences.