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## Exchange of information on rare earth elements in industrial wastes and end-of-life cycled products

*Échange de données sur les éléments de terres rares dans les déchets industriels et les produits en fin de vie en vue de leur recyclage*

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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 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](http://www.iso.org/directives)).

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This document was prepared by Technical Committee ISO/TC 298, *Rare earth*.

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](http://www.iso.org/members.html).

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## Introduction

Rare earth elements (REEs) have become essential for a wide range of industrial applications including electric vehicles, batteries, smartphones, displays, transparent lenses, optical fibre and so on. Due to these varied, important applications, REEs are referred to as “vitamins of industry”. In order to ensure the successful use of these vitamins, supply to the industry should be smooth. However, resource scarcity creates an imbalance between supply and demand. Therefore, the importance of REEs is increasingly significant. In order to overcome resource scarcity, the recycling or urban mining of industrial waste and end-of-life (EOL) cycle products is necessary.

For recyclers, it is of utmost importance to know what kind of REEs are present in the waste or scrap material, and how much can be extracted. In order to facilitate recycling, it is important to define what information is required by the recycler, and to establish a standard method of information exchange on REEs in industrial waste and EOL products.

Due to the lack of a standardized system and communication exchange mechanism between waste handlers and recyclers, the ability to recycle currently lags behind what it should be. There are many producers of the same product, but compositions and concentrations are different, which makes it difficult and complicated for recyclers to obtain exact information about the elements being recycled. Furthermore, if the producer and the recycler are located in different countries, information reliability and cross-border transaction of information exchange is problematic. Therefore, a system of information exchange between the waste handler and the recycler is needed.

This document contains a system of information exchange between waste handlers and recyclers about REEs in industrial waste and EOL products. The system of information exchange involves a data exchange mechanism such as quick response (QR) codes and radio frequency identification (RFID).

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