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**Carbon footprint of products - Product category rules -
Electrolytic aluminium**

温室气体 产品碳足迹量化方法与要求 电解铝

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part

1. Structure and drafting rules for standardization documents" Drafting is required. Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents. This document was proposed by the Ministry of Ecology and Environment and the China Nonferrous Metals Industry Association. This document was prepared by the National Technical Committee on Standardization of Nonferrous Metals (SAC/TC 243) and the National Technical Committee on Standardization of Carbon Emission Management. (SAC/TC 548) jointly under the jurisdiction of the Commission. This document was drafted

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This document is based on the principles, requirements and The guidelines aim to set specific requirements for the quantification of the carbon footprint of electrolytic aluminum and related products. This document only addresses a single environmental impact type, namely climate change, and does not assess other potential environmental impacts arising from the product life cycle. The social and economic impacts that may arise during the product life cycle are not evaluated. This document provides quantitative product carbon footprint information so that electrolytic aluminum products with the same functions can be compared. This provides buyers with reliable and comparable carbon footprint information, while also providing data for producers to continuously improve the carbon footprint performance of their products. Organizations making product carbon footprint claims should ensure that the data is independently verified by a third party to increase the accuracy and reliability of the report. Reliability. Greenhouse gas product carbon footprint quantification methods and requirements electrolytic aluminum

1 Scope

China's national product category rules for the carbon footprint of electrolytic aluminium. Aluminium is the most electricity-intensive of the common metals - reducing alumina electrolytically takes something like thirteen megawatt hours a tonne - so the carbon footprint of a tonne of aluminium is very largely the carbon intensity of the electricity that made it, and it varies by a factor of five between a smelter on hydropower and one on coal. That is precisely why the accounting rules matter: whether a producer may claim the grid average, a contracted supply or the physical local mix changes the declared number more

than any process improvement could. The rules cover the chain from bauxite through metallurgical alumina and prebaked anodes to the metal, set the system boundary and the data quality requirements, and specify how the impact assessment and the report are made. China smelts more than half the world's aluminium, and its customers now ask for the number.

This document specifies the purpose, scope, data and data quality, life cycle inventory analysis and carbon footprint quantification of electrolytic aluminum products. analysis, product carbon footprint impact assessment, product carbon footprint result interpretation and product carbon footprint report. This document applies to the carbon footprint of electrolytic aluminium products produced using metallurgical-grade alumina as raw material and pre-baked anode aluminium reduction cell facilities. It is also applicable to the quantification of the carbon footprint of products such as bauxite, metallurgical-grade alumina, and prebaked anodes for aluminum electrolysis.

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document. For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to This document.

GB/T 1196 Aluminium ingots for remelting

GB 17167 General Rules for the Provision and Management of Energy Metering Instruments in Energy-consuming Units

GB/T 20902 Requirements for the provision and management of energy metering instruments in non-ferrous metal smelting enterprises

GB/T 24025 Environmental Labelling and Declarations Type III Environmental Declaration Principles and Procedures

GB/T 24040 Principles and framework for life cycle assessment of environmental management

GB/T 24044 Requirements and Guidelines for Life Cycle Assessment of Environmental Management

GB/T 24067 Requirements and Guidelines for Quantifying the Carbon Footprint of Greenhouse Gas Products GB/T 24483 Bauxite GB/T 24487 Alumina

GB/T 32150 General Rules for Accounting and Reporting of Greenhouse Gas Emissions by Industrial Enterprises

GB/T 32151.4 Greenhouse Gas Emissions Accounting and Reporting Requirements Part

3 Terms and Definitions

GB/T 24025, GB/T 24040, GB/T 24044, GB/T 24067, GB/T 32150, GB/T 32151.4 and The following terms and definitions apply to this document.

3.1 Electrolytic aluminum product Aluminum ingots or primary aluminum liquid for remelting produced by alumina-cryolite molten salt electrolysis in accordance with GB/T 1196.

3.2 Greenhouse gas The atmosphere is naturally occurring and caused by human activities and can absorb and emit radiation from the Earth's surface, atmosphere and clouds. The gaseous component of radiation with wavelengths in the infrared spectrum.

Note. Aluminum electrolysis production process will emit a small amount of high global warming potential (GWP) gases, such as CF₄, C₂F₆ and other perfluorocarbons (PFCs) gases, but the most important The greenhouse gas is carbon dioxide (CO₂).