

YS

**NONFERROUS METALS INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

YS/T 1658.6-2023

**Methods for chemical analysis of crude nickel cobalt hydroxide
- Part 6: Determination of insoluble substance in hydrochloric
acid - Gravimetric method**

粗氢氧化镍钴化学分析方法 第6部分：盐酸不溶物含量的测定 重量法
(English Translation)

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Foreword

This document was issued on 29 December 2023 by the Ministry of Industry and Information Technology of the People's Republic of China, and has applied since 1 July 2024.

It is a YS/T standard: a recommended industry standard of China's non-ferrous metals industry.

Introduction

YS/T 1658, Methods for chemical analysis of crude nickel cobalt hydroxide, consists of seven parts: Part 1, nickel content by the dimethylglyoxime gravimetric method; Part 2, chromium, phosphorus and manganese contents by inductively coupled plasma atomic emission spectrometry; Part 3, fluorine content by the ion selective electrode method; Part 4, copper, aluminium, lithium, zinc, cadmium, lead and arsenic contents by inductively coupled plasma atomic emission spectrometry; Part 5, moisture content by the gravimetric method; Part 6, insoluble substance in hydrochloric acid by the gravimetric method; Part 7, manganese content by potentiometric titration.

1 Scope

This document describes the method for the determination of insoluble substance in hydrochloric acid in crude nickel cobalt hydroxide.

This document is applicable to the determination of insoluble substance in hydrochloric acid in crude nickel cobalt hydroxide. The determination range is 0.10%-2.00%.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this document. For dated references, only the edition cited applies. For undated references, the latest edition (including any amendments) applies.

GB/T 6682 Water for analytical laboratory use - Specification and test methods

YS/T 1460-2021 Crude nickel cobalt hydroxide

3 Terms and definitions

No terms and definitions are defined in this document.

4 Principle

The test portion is dissolved in hydrochloric acid, heated to boiling, filtered under suction using a sintered glass crucible of porosity G4, washed with hot water, and dried in an electric thermostatic drying oven at $105^{\circ}\text{C} \pm 2^{\circ}\text{C}$ to constant mass. Then the content of insoluble substance in hydrochloric acid is calculated.

5 Reagents and materials

Unless otherwise specified, the reagents used in this document shall be of analytical pure grade or superior.

5.1

Water, Grade 3 or superior as defined in GB/T 6682.

5.2

Hydrochloric acid (1+1).

5.3

Silver nitrate solution (10 g/L)

Weigh 1 g of silver nitrate, place it in a 250-mL beaker, add 1 mL of nitric acid (1+1), heat at low temperature until it is completely dissolved, and leave the solution to cool to room temperature. Transfer the solution to a 100-mL volumetric flask, dilute to the scale with

water, mix well, and store it in a brown bottle.

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