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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 43788-2024

**Determination of silver content in silver paste for solar
cells-Thiocyanate standard solution titration method**

太阳能电池用银浆银含量的测定 硫氰酸盐标准溶液滴定法

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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.

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.

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Determination of silver content in silver paste for solar cells Thiocyanate standard solution titration method Warning---The nitric acid used in this document is volatile and corrosive. Avoid inhalation or contact with skin when using it.

Rinse with plenty of water and seek medical attention immediately if severe.

1 Scope

This document describes the method for the determination of the silver content in silver pastes for solar cells by titration with a thiocyanate standard solution.

This document is applicable to silver paste for solar cells, including front silver paste and back silver paste that conform to YS/T 612. The measurement range is silver content.

(Mass fraction) 30%~95%. Other conductive silver pastes (such as precious metal pastes for microelectronics technology) and raw silver powder for making silver pastes, etc. For reference only.

Note. When the silver content (mass fraction) of silver powder is determined by referring to the method in this document, the upper limit of the determination range is 99%.

2 Normative references

GB/T 601

GB/T 603

GB/T 8170

GB/T 9725

GB/T 14666

GB/T 17472

3 Terms and definitions

The terms and definitions defined in GB/T 14666, GB/T 17472 and YS/T 612 apply to this document.

4 Reagents or materials

4.1 The water used in the test is deionized water without carbon dioxide, prepared according to GB/T 603. Pour deionized water into a flask, boil for 10 minutes, and That is, plug it tightly with a rubber stopper filled with soda lime and cool it.

4.2 Nitric acid (ρ about 1.42 g/mL). high purity.

4.3 Nitric acid solution (1.1). Prepare with nitric acid (4.2) in a volume ratio.

4.4 Sodium thiocyanate (or potassium thiocyanate or ammonium thiocyanate). analytical grade.

4.5 Ammonium ferric sulfate dodecahydrate. analytical grade.

4.6 Nitric acid solution (3.7). Prepare with nitric acid (4.2) in volume ratio.