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

GB/T 43548-2023

**Determination of metallic element contents in surface active
agents and detergents**

表面活性剂和洗涤剂中金属元素含量的测定

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Foreword

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Metallic elements in surfactants and detergents Determination of content

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1 Scope

This document describes arsenic (As), cadmium (Cd), cobalt (Co), chromium (Cr), copper (Cu), nickel (Ni), lead in surfactants and detergents Determination method for the content of nine metal elements (Pb), antimony (Sb) and mercury (Hg):

This document is applicable to the determination of the contents of nine metal elements in various surfactants and detergents:

2 Normative reference documents

GB/T 5327-2008

GB/T 6682

GB/T 13173

3 Terms and definitions

The terms and definitions defined in GB/T 5327-2008 and the following apply to this document: 3:1 surfaceactiveagent A surface-active compound that dissolves in liquids, especially water, due to preferential adsorption on the liquid/gas surface or other interfaces:

Surface tension or interfacial tension is significantly reduced:

Note: Surfactant refers to a molecule that contains at least one group with affinity for significantly polar surfaces (to ensure its water solubility in most cases):

) and a non-polar group with little affinity for water: [Source: GB/T 5327-2008,2:1] 3:2 detergent detergent The scrubbing process uses specially formulated products for cleaning:

Note: Detergents usually include main components (surfactants) and auxiliary components (builders, etc.):

[Source: GB/T 5327-2008, 2:2, with modifications]

4 Principles

After the sample is digested with acid, the sample solution is brought into the atomization system by the carrier gas for atomization, and then enters the plasma pass in the form of aerosol:

It is fully evaporated, dissociated, atomized and ionized in high temperature and inert gas, and converted into charged positive ions through the ion collection system: