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**Classification of volatile organic compounds emission from  
wood-based panels and their products**

人造板及其制品挥发性有机化合物释放量分级

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## Foreword

This document was drafted in accordance with the provisions of GB/T 1.1-2020 *Directives for standardization - Part 1: Rules for the structure and drafting of standardizing documents*.

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 National Forestry and Grassland Administration.

This document is under the jurisdiction of the National Technical Committee on Wood-based Panels of Standardization Administration of China (SAC/TC198).

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# Classification of volatile organic compounds emission from wood-based panels and their products

## 1 Scope

This document defines the terms and definitions for the classification of volatile organic compound emissions from wood-based panels and their finishing products, stipulates the classification requirements and judgment rules, and describes the corresponding test methods.

This document applies to the classification of volatile organic compound emissions during the production, inspection and trade of wood-based panels and finishing products for interior decoration and finishing.

## 2 Normative references

The provisions of the following documents constitute the essential clauses of this document through normative references in this text. Among them, for referenced documents with dates, only the versions corresponding to the dates are applicable to this document; for referenced documents without dates, the latest versions (including all amendments) are applicable to this document.

GB/T 18259-2018 Terminology for wood-based panels and their surface decoration

GB/T 29899-2024 Determination of the emission of volatile organic compounds from wood-based panels and furnishing products - Small chamber method

## 3 Terms and definitions

The terms and definitions defined in GB/T 18259-2018, GB/T 29899-2024 and the following apply to this document.

### 3.1 wood-based panels

Boards or shaped products that are made of various material units processed from wood or non-wood plant fiber materials as the main raw materials, and with adhesives and other additives are applied (or not applied).

**NOTE:** It mainly includes plywood, particle board, fiberboard, etc.

[Source: GB/T 18259-2018, 2.1]

### **3.2 wood-based panel finishing products**

Products or components made by further processing of artificial boards as the main material.

**NOTE:** It mainly includes veneer artificial boards, wooden wall panels, wooden floors, wooden doors, wooden lines, wooden stairs and wooden home furnishing parts, etc.

### **3.3 volatile organic compounds; VOCs**

All organic compounds that are released from the test specimen and detected in the air at the outlet of the release chamber.

**NOTE:** The VOCs selected and analyzed in the product are called "target volatile organic compounds" (referred to as target VOCs). In this document, the target volatile organic compounds are 12 types, including benzene, toluene, xylene (o-, m-, p-), biphenyl, terphenyl (o-, m-, p-), 4-phenylcyclohexene, naphthalene and phenol.

[Source: GB/T 29899-2024, 3.5, modified]

### **3.4 total volatile organic compounds; TVOC**

The sum of organic compounds separated by a non-polar or weakly polar capillary column (polarity index less than 10) with a retention time between n-hexane and n-hexadecane.

**NOTE 1:** Based on the peak area quantification, compounds other than the target VOCs are calculated using the response factor of toluene.

**NOTE 2:** The calculation process of TVOC is similar to the summation process of VOCs concentration in the outlet air.

[Source: GB/T 29899-2024, 3.6]

### **3.5 total volatile carbonyl compounds**

The sum of 15 compounds, including formaldehyde, acetaldehyde, acrolein, acetone, benzaldehyde, butyraldehyde, valeraldehyde, 2,5-dimethylbenzaldehyde, crotonaldehyde, isovaleraldehyde, propionaldehyde, hexanal, o-tolualdehyde, p-tolualdehyde and m-tolualdehyde.

[Source: GB/T 29899-2024, 3.8]

### **3.6 exempted compounds**

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