



GB 18581–2020

Limit of Harmful Substances of Woodenware Coatings

木器涂料中有害物质限量

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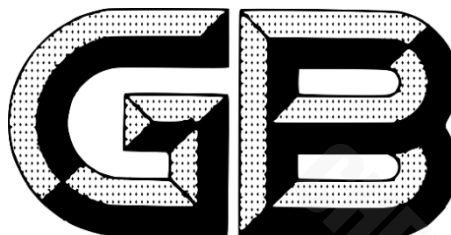
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National Standard of the People's Republic of China

GB 18581-2020
In place of GB 18581-2009 and GB 24410-2009

Limit of harmful substances of woondenware coatings

Date of Issuance: March 4, 2020

Date of Implementation: December 1, 2020

Issued by:

State Administration for Market Regulation of the People's Republic of China
and

Standardization Administration of the People's Republic of China

Foreword

All technical contents in this standard are mandatory.

This standard is drafted in accordance with the rules given in GB/T 1.1-2009.

This standard is developed to substitute GB 18581-2009 *Indoor Decorating and Refurbishing Materials – Limit of Harmful Substances of Solvent-based Coatings for Woodenware* and GB 24410-2009 *Indoor Decorating and Refurbishing Materials – Limit of Harmful Substances of Water-based Coatings for Woodenware*. The standard is formulated mainly based on GB 18581-2009, combined with certain content from GB 24410-2009. Compared with GB 18581-2009, the main technical changes except editing changes are as follows:

- Modified the scope of the standard (Chapter 1, and Chapter 1 of GB 18581-2009);
- Deleted the normative reference "GB/T 1250 and GB 18582—2008"; added the normative references "GB/T 6682—2008, GB/T 8170—2008, GB/T 23985—2009, GB/T 23986—2009, GB/T 23990—2009, GB/T 23991—2009, GB/T 23992—2009, GB/T 23993—2009, GB/T 30646—2014, GB/T 30647—2014, GB/T 31414—2015, GB/T 34675—2017, GB/T 34682—2017 and GB/T 36488—2018" (Chapter 2, and Chapter 2 of GB 18581-2009);
- Modified the definitions of "volatile organic compound" and "volatile organic compound content"; and added the terms "unsaturated polyester coatings" and "application condition" as well as their definitions (Chapter 3, and Chapter 3 of GB 18581-2009);
- Added product classification (Chapter 4);
- Changed the type "nitrocellulose coatings" to "nitrocellulose coatings (only used for industrialized painting)" in classification of solvent-based coatings for woodenware; added the type "unsaturated polyester coatings" in the classification of solvent-based coatings for woodenware as well as relevant items and indicators; added the types

“water-based coatings”, “radiation curable coatings” and “powder coatings” as well as relevant items and indicators; and added items and indicators including “formaldehyde content”, “total lead (Pb) content”, “total content of glycol ether and ether ester”, “total content of benzenes”, “total content of polycyclic aromatic hydrocarbon”, “total content of phthalates” and “total content of alkylphenol polyoxyethylene” (Table 1, and Table 1 of GB 18581-2009);

– Changed “total content of toluene, xylene and ethylbenzene” to “total content of toluene and xylene (including ethylbenzene)”; changed “content of halogenated hydrocarbons” to “total content of halogenated hydrocarbons”, deleted the “lead (Pb)” item and indicator in “soluble heavy metals”; modified the indicators of items including “total content of toluene and xylene (including ethylbenzene)” and “total content of free diisocyanate” for “volatile organic compound content”, “benzene content”, “polyurethane coatings” and “nitrocellulose coatings”; and modified the controlled varieties of halogenated hydrocarbons (Table 1, and Table 1 of GB 18581-2009);

– Modified the test methods for items including “volatile organic compound content”, “content of soluble heavy metals”, “benzene content”, “total content of toluene and xylene (including ethylbenzene)”, “methanol content” and “total content of halogenated hydrocarbons” (6.2, and 5.2 in GB 18581-2009);

– Added the test methods for items including “formaldehyde content”, “total lead (Pb) content”, “total content of glycol ether and ether ester”, “total content of benzenes”, “total content of polycyclic aromatic hydrocarbon”, “total content of phthalates” and “total content of alkylphenol polyoxyethylene” (6.2);

– Modified the content concerning judgment of testing results (7.2, 6.2 in GB 18581-2009);

– Modified the content concerning package marks (Chapter 8, Chapter 7 in GB 18581-2009);

– Deleted the content concerning painting safety and protection (Chapter 8 in GB 18581-2009);

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– Added the content concerning implementation of this standard (Chapter 9).

This Standard was proposed by and is under the jurisdiction of the Ministry of Industry and Information Technology of the People's Republic of China.

The previous versions replaced by this standard are as follows:

- GB 18581–2001 and GB 18581–2009;
- GB 24410–2009.

Limit of harmful substances of woodenware coatings

1. Scope

This standard specifies the product classification, requirements, testing methods, inspection rules, package marks and standard implementation related to the permissible limits of substances that are harmful to humans and the environment in woodenware coatings.

This standard applies to various woodenware coatings, including putty, primer and finishing coat, which are used in on-site and industrialized painting. This standard does not apply to special functional coatings such as lasure, bridging agents, wood stains and open-pore coatings.

2. Normative References

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

GB/T 1725-2007 Paints, varnishes and plastics – Determination of non-volatile-matter content

GB/T 3186 Paints, varnishes and raw materials for paints and varnishes – Sampling

GB/T 6682-2008 Water for analytical laboratory use – Specification and test methods

GB/T 6750-2007 Paints and varnishes – Determination of density – Pyknometer method

GB/T 8170-2008 Rules of rounding off for numerical values & expression and judgement of limiting values

GB/T 9750 Marks for package of coating products

GB/T 9754-2007 Paints and varnishes – Determination of specular gloss of non-metallic paint films at 20°, 60° and 85°

GB/T 18446-2009 Binders for paints and varnishes – Determination of monomeric diisocyanates in isocyanate resins

GB/T 23985-2009 Paints and varnishes – Determination of volatile organic compound (VOC) content – Difference method

GB/T 23986-2009 Paints and varnishes – Determination of volatile organic compound (VOC) content – Gas-chromatographic method

GB/T 23990-2009 Determination of the contents of benzene, toluene, ethylbenzene and xylene in coatings by gas chromatography

GB/T 23991-2009 Determination of soluble harmful elements content of coatings

GB/T 23992-2009 Determination of chlorhydrocarbon content in coatings – Gas chromatographic method

GB/T 23993-2009 Determination of formaldehyde content of waterborne coatings – Spectrophotometric method with acetylacetone

GB/T 30646-2014 Determination of phthalate plasticizers content in coatings—Gas chromatography/mass spectrometry method

GB/T 30647-2014 Determination of harmful elements total content of coatings

GB/T 31414-2015 Water based coatings – Determination of surfactant – Alkylphenol polyethoxylates

GB/T 34675-2017 Determination of volatile organic compound (VOC) content in radiation curable coatings

GB/T 34682-2017 Determination of volatile organic compound (VOC) content in reactive diluent containing coatings

GB/T 36488-2018 Determination of polycyclic aromatic hydrocarbons in coatings

3. Terms and Definitions



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