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

GB 18583-2008

Replacing GB 18583-2001

**Indoor decorating and refurbishing materials - Limit of harmful
substances of adhesives**

室内装饰装修材料 胶粘剂中有害物质限量

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Quarantine;
Standardization Administration of the PRC**

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Foreword

Chapter 3 of this standard are mandatory, the rest are recommended. This standard replaces GB 18583-2001 "interior decoration materials, adhesives harmful substances." This standard compared with GB 18583-2001 main changes are as follows:

- Increase in this size category Adhesives Adhesives (edition 3.1);
- Additions and amendments to solvent-based adhesives and limited types of hazardous substances requirements (Excerpts 3.2,2001 Version 3.1);
- Amendment water-based adhesives harmful substances requirements (Excerpts 3.3,2001 Version 3.2);
- Increasing the size of the adhesive harmful substances requirements (edition 3.4);
- Amendment harmful substances test methods (Excerpts Appendix A, Appendix B, Appendix C, Appendix D and Appendix F, 2001 edition Appendix A, Appendix B, Appendix C, Appendix D and Appendix E);
- Increase in harmful substances test methods (Excerpts Appendix E). The Standard

Appendix A, Appendix B, Appendix C, Appendix D, Appendix E, Appendix F normative appendix. The standard proposed by China Petroleum and Chemical Industry Association. This standard by the National Standardization Technical Committee adhesive. This standard is drafted by: Shanghai Rubber Products Institute, the Chemical Institute of Standardization, China Adhesives Industry Association, the National Central Product Quality Supervision and Inspection Center. Participated in the drafting of this standard. Fushun brothers good Chemical Co., Ltd. Henkel Adhesives Co., Ltd. Shenzhen-strong adhesive, Shanghai East and adhesives Co., Ltd., Jiangsu black pine adhesives plant, Guizhou Crystal Chemical Corporation. Drafters of this standard. Golden Satellite, Shen Yihua, Zhang happy, right Li Xian Gong generation where strong source of grace, Xu Ning, caring monarch. This standard replaces the standards previously issued as follows:

--- GB 18583-2001. Interior decoration materials Adhesives harmful substances

1 Scope

One of the ten mandatory Chinese standards on the harmful substances in indoor decorating materials, this one covering the adhesives - the solvent based contact glues, the polyurethanes and the water based products used to lay flooring, fix panels and bond skirting, which are applied wet over large areas in a closed room and then go on releasing into it for months. It specifies the limits of the harmful substances in the adhesives used for interior building decoration and the methods for determining them, and it applies to the adhesives used in interior building decoration. The substances limited are the free formaldehyde, the benzene, the sum of toluene and xylene, the free toluene diisocyanate of the polyurethane adhesives, the halogenated hydrocarbons and the total volatile organic compounds, with the limits set separately for the families of adhesive, since a solvent based product and a water based one cannot be held to the same figure. What gives the document its weight is not the short requirements clause but the six normative annexes behind it, each a complete analytical method: the free formaldehyde by acetylacetone spectrophotometry, the benzene by gas chromatography, the toluene and xylene by gas chromatography, the free toluene diisocyanate of polyurethane adhesives by gas chromatography, the halogenated hydrocarbons by gas chromatography, and the total volatile organic content. Together they occupy four fifths of the standard and are what a testing laboratory actually buys it for. The volatile matter is determined in accordance with GB/T 2793-1995 and the density in accordance with GB/T 13354-1992. Issued on 24 September 2008 and in force since 1 September 2009, it replaces GB 18583-2001.

This standard specifies the architectural interior decoration adhesive limit of harmful substances and test methods. This standard applies to interior decoration with construction adhesive.

1.0 Benzene/(g/kg) ≤

0.20 Toluene Xylene/(g/kg) ≤

2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms. For dated references, subsequent Amendments (not including errata content) or revisions do not apply to this standard, however, encourage the parties to the agreement are based on research Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this standard. Preparation of

GB/T 601 chemical reagent standard titration solution

GB/T 606-2003 Chemical Reagent Moisture common method Karl Fischer method (ISO 6353-1. 1982, NEQ)

GB/T 2793-1995 Determination of volatile matter content of adhesives

GB/T 13354-1992 adhesive liquid density measurement method of weight cup

3 Requirements

3.1 interior architectural decoration adhesive classification Interior architectural decoration is divided into solvent-based adhesives, water-based, this body three categories.

3.2 solvent-based adhesives harmful substances Solvent-based adhesives harmful substances limit values shall conform to Table 1. Table 1 solvent-based adhesives harmful substances limited value project index Chloroprene rubber adhesive SBS adhesive polyurethane adhesives Other adhesives Free formaldehyde/(g/kg) ≤0.50 - - Benzene/(g/kg) ≤

5.0 Toluene Xylene/(g/kg) ≤200 ≤150 ≤150 ≤150 Toluene diisocyanate/(g/kg) - ≤10 - Dichloromethane/(g/kg) 1,2-dichloroethane/(g/kg) 1,1,2-trichloroethane/(g/kg) Trichlorethylene/(g/kg) Total ≤5.0 ≤

50 Total ≤5.0 - ≤

50 Total Volatile Organic Compounds/(g/L) ≤700 ≤650 ≤700 ≤700

Note. If the product dilution rate or products are dual or multi-component composition, and the diluent should be measured in an amount of each component separately, then product specifications Calculate the ratio of the total amount given after mixing. Such as when the amount of diluent is a range, shall be calculated in accordance with the recommended maximum amount of dilution.

3.3 water-based adhesives harmful substances limited value Water-based adhesives harmful substances limit values shall conform to Table 2. Table 2 water-based adhesives harmful substances limited value project index Formals polyvinyl acetate adhesive

rubber-based adhesive adhesive polyurethane adhesives other Free
formaldehyde/(g/kg) ≤ 1.0 ≤ 1.0 ≤ 1.0 - $\leq$

4.5 Measurement conditions

Note. You can use other assay conditions to achieve the separation effect. B.

4.5.1 vaporization chamber temperature. 200 °C. B.

4.5.2 detection chamber temperature. 250 °C. B.

4.5.3 Nitrogen. more than 99.99% purity. B.

4.5.4 Hydrogen. purity of greater than 99.99%. B.

4.5.5 Air. silica gel to remove water. B.

4.5.6 temperature program. Initial temperature of 35 °C, holding time of 25min, heating rate 8 °C/min, end temperature 150 °C, holding time 10min. B. Step

5 Analysis Weigh 0.2g ~ 0.3g (accurate to 0.1mg) of the sample, placed in 50mL volumetric flask, dissolved in ethyl acetate and diluted to the mark Degree, shake. Using micro-injection syringe take 1 μ L, measure the peak area. If the peak area of the sample solution is greater than table B. 1 maximum concentration peak Area, with a shift in the sample solution tube accurate pipetting volume V_p in 50mL volumetric flask, diluted with ethyl acetate, shaken after the test. B. Preparation of standard solution of 6 B. Benzene

6.1 Standard solution. 1.0mg/mL. Weigh 0.1g (accurate to 0.1mg) benzene, placed in 100mL volumetric flask, diluted with ethyl acetate to the mark. B. Configuration

6.2 series benzene standard solution Table B. Volume 1 listed benzene standard solution (B.6.1), and are applied to six 25mL volumetric flask, diluted with ethyl acetate to Mark and shake. Table B. 1 concentration standard solutions corresponding to the volume of benzene
Pipette a volume/mL corresponding benzene concentration/(μ g/mL) 15.00 10.00 5.00 2.50 1.00

0.50 B.

6.3 Determination of series of standard solution peak area Turn gas chromatograph, the chromatographic conditions are set, until a stable baseline, using micro-syringe injections take 1 μ L standard solution, determination Peak area of each standard solution was injected five times and averaged. B. Draw

6.4 standard curve A peak area for the vertical axis, the corresponding concentration rho (μ g/mL) as abscissa, that was the standard curve. B.

7 Expression of results The concentration of the sample solution in benzene read directly from the standard curve. Benzene content in the sample, the formula (B.1) as follows: = R_{hot} (B.1) Where.