

HJ

Standard for Environmental Protection of the People's Republic of China

HJ 2537-2014
Replacing HJ/T 201-2005

Technical requirement for environmental labelling products Water based coatings

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Content

Foreword.....	3
1. Application Scope.....	4
2. Standard Quotation Documents	4
3. Terminology and Definition	4
4. Basic Requirements	4
5. Technical Contents.....	5
6. Testing Method	7
Annex A	9

Foreword

This standard is to mitigate influence on environment and human health during production and use of water based coating, implementing Law on Environmental Protection of People's Republic of China.

This standard put forward volume restrict requirement on the harmful substance of water based coating.

This standard revises Technical requirement for environmental labelling products--Water based coatings (HJ/T 201-2005). The major changes are as follows.

--adjust applicable scope;

--adjust requirement on substance that cannot be added;

--add volume restriction requirement on glycol and its ester substance;

--raise volume restriction requirement on volatile organic compounds;

--raise volume restriction requirement on total of benzene, toluene, dimethylbenzene, and ethylbenzene.

This standard is applicable to China Environmental Labelling products certification.

The development of this standard is organized by Department of Science, Technology and Standards, MEP.

Major drafter is Environmental Development Center of MEP.

This standard was approved by MEP on March 31, 2014.

This standard takes effect on July, 1, 2014.

This standard will be explained by Ministry of Environmental Protection.

Standard versions substituted by this one include HJ/T 201-2005, HBC 12-2002, HJBZ 4-1999, HJBZ 4-1994.

Technical Requirement for Environmental Labelling Products

Water Based Coatings

1. Application Scope

This standard specifies the terminology, definition, basic requirements, technical contents and testing method for environmental labelling products — water based coatings.

This standard is applicable to water based coatings and putties used together.

This standard is not applicable to water based waterproof coatings and water based marine coatings.

2. Standard Quotation Documents

This standard has quoted articles in the following standards. The effective version of all quotation documents without specific date is applicable to this standard.

GB 18582-2008 Indoor decoration materials—Volume restriction on harmful substances in interior wall coatings

GB 18583-2008 Indoor decoration materials—Volume restriction on harmful substances in adhesives

GB 24409-2009 Volume restriction on harmful substances in automobile coatings

GB/T 6750-2007 Paints and varnishes— Determination of Density— pycnometer method

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

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

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

Assessment index system for clean production of coating sector (trial) National Development and Reform Commission No. 24 pronunciamiento in 2007

3. Terminology and Definition

The following terminologies and definition are applicable to the current standard.

Water based coatings are coatings with water as solvent or dispersing medium.

4. Basic Requirements

4.1 The product quality shall meet requirements in relevant product quality standards.

4.2 The discharge of pollutants from the enterprises shall comply with the requirements of national or local standards for the discharge of pollutants.

4.3 Clean production of the producer should meet requirement of advanced level in China in “Assessment index system for clean production of coating sector (trial)”.

5. Technical Contents

5.1 Substances in Annex A shall not be added into the product.

5.2 Volume restriction requirement of harmful substance in the product

5.2.1 The restriction amount of harmful substances in construction coatings shall meet the requirements of Table 1.

Table 1 Limits of Harmful Substances in Construction Coatings

Product type Item	interior architectural coatings			exposed wall coatings		putty (powder or paste)
	luster (60°C)≤10 finish coating ¹	luster (60°C) >10 finish coating	bottom coating	finish coating	bottom coating	
VOC	≤50 g/L	≤80 g/L	≤50 g/L	≤100 g/L	≤80 g/L	≤10 g/kg
glycol and its ester substance / (mg/kg)	---			≤100		---
free formaldehyde, mg/kg	≤50					
benzene, toluene, dimethylbenzene, and ethylbenzene mg/kg	≤100					
Soluble lead mg/kg	≤90					
Soluble cadmium mg/kg	≤75					
Soluble chrome mg/kg	≤60					

Soluble hydrargyrum mg/kg	≤60
Note 1: The testing condition for the luster of Interior architectural coatings is : 2-hour bakery at 105°C±2°C	

5.2.2 The restriction amount of harmful substances in industrial coatings shall meet the requirements of Table 2.

Table 2 Limits of Harmful Substances in Industrial Coatings

product type Item	container coating		road marking coating	anticorr osive coating	automobile coating			woodenware coating		
	bottom coating	middle coating/finish coating			bottom coating	middle coating	finish coating	varnish	Paint	putty (powder or paste)
VOC	≤200 g/L	≤150 g/L	≤150 g/L	≤80 g/L	≤75 g/L	≤100 g/L	≤150 g/L	≤80 g/L	≤70 g/L	≤10 g/kg
free formaldehyde, mg/kg	≤100				---			≤100		
glycol and its ester substance / (mg/kg)	≤100									
benzene , toluene, dimethylbenzene, and ethylbenzene mg/kg	≤100									

Halohydrocarbon (calculate methylene chloride) mg/kg	≤500
Soluble lead mg/kg	≤90
Soluble cadmium mg/kg	≤75
Soluble chrome mg/kg	≤60
Soluble hydrargyrum mg/kg	≤60

6. Testing Method

6.1 VOC contents in 5.2 shall be tested according to GB/T 23986-2009. Density shall be tested according to GB/T 6750. Moisture shall be tested according to Annex B of GB 18582-2008. VOC in construction coatings shall be calculated according to item 10.4 of GB/T 23986-2009. VOC in industrial coatings shall be calculated according to item 10.3 of GB/T 23986-2009. VOC in putty shall be calculated according to item 10.2 of GB/T 23986-2009. Luster of interior architectural coatings shall be tested according to GB/T 9754.

6.2 Glycol and its ester substance in technical content 5.2 shall be tested according to GB 24409-2009.

6.3 Formaldehyde in technical content 5.2 shall be tested according to GB/T 23993-2009.

6.4 Benzene, toluene, dimethylbenzene, and ethylbenzene in technical content 5.2 shall be tested according to GB 18582-2008.

6.5 Halohydrocarbon in technical content 5.2 shall be tested according to GB 18583-2008.

6.6 Lead, cadmium, chrome and hydrargyrum in technical content 5.2 shall be tested

according to GB 18582-2008.

6.7 Other indexes in Technical Contents should be examined by document review and on-site inspection.

Annex A

(Standard Annex)

Substances which are forbidden to add in the product

中文名称	英文名称	缩写
烷基酚聚氧乙烯醚	Alkylphenol ethoxylates	APEO
邻苯二甲酸二异壬酯	Di-iso-nonylphthalate	DINP
邻苯二甲酸二正辛酯	Di-n-octylphthalate	DNOP
邻苯二甲酸二(2-乙基己基)酯	Di-(2-ethylhexy)-phthalate	DEHP
邻苯二甲酸二异癸酯	Di-isodecylphthalate	DIDP
邻苯二甲酸丁基苄基酯	Butylbenzylphthalate	BBP
邻苯二甲酸二丁酯	Dibutylphthalate	DBP