

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

**HJ/T 371-2007**

Replacing HJ/T 371-2007

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**Technical requirement for environmental labeling products -  
Gravure ink and flexographic ink  
(English Translation)**

**Issued on: July 12, 2018**

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### Foreword

In order to implement the Environmental Protection Law of the People's Republic of China, reduce the printing, use and disposal of gravure inks and flexo inks.

This standard is formulated for the effects of environmental and human health.

This standard puts forward environmental protection requirements for raw materials, production processes and toxic and hazardous substances in gravure inks and flexo inks.

This standard has revised the "Technical Requirements for Environmental Labeling Products Gravure Ink and Flexo Printing Ink" (HJ/T 371-2007).

The following is as follows.

- Adjusted the scope of application, terms and definitions;
- Increased restrictions on heavy metals and harmful elements and adjusted the limit requirements;
- Adjusted the restricted types of phthalates and ketones;
- Increased restrictions on hydroquinone, p-methoxyphenol, alkylphenol ethoxylates (APEOs);
- Increased dye limit requirements;
- Increased restrictions on photoinitiators in energy-curing inks;
- Adjusted the restrictions on halogenated hydrocarbons;

- Adjusted the limit requirements for volatile organic compounds (VOCs), benzene, toluene, xylene, ethylbenzene, methanol and ammonia in the product;
- Increased the limit requirements for styrene and free formaldehyde in the product;
- Adjusted product packaging and instructions.

This standard is revised by the Science and Technology Standards Department of the Ministry of Ecology and Environment.

This standard is mainly drafted by. China-Japan Friendship Environmental Protection Center, China Packaging Federation Plastics Packaging Committee, National Food Flexible Packaging Products and Equipment Quality Supervision and Inspection Center (Guangdong).

This standard is approved by the Ministry of Ecology and Environment on July 12, 2018.

This standard has been implemented since October 1, 2018.

This standard is explained by the Ministry of Ecology and Environment.

The previous versions of the standards replaced by this standard are.

--HJ/T 371-2007.

Environmental labeling products technical requirements gravure ink and flexo ink

## 1 Scope of application

This standard specifies the terms and definitions, basic requirements, technical content and test methods for gravure ink and flexo ink environmental labeling products.

This standard applies to the environmental characteristics of gravure inks and flexo ink products.

## 2 Normative references

This standard refers to the terms of the following documents. For undated references, the latest edition applies to this standard.

GB 18581 Interior decoration materials, solvent-based wood coatings, harmful substances limited  
GB 24613 Limits of harmful substances in toy paints  
GB/T 15962 ink terminology  
GB/T 16483 chemical safety data sheet content and project sequence  
Paints and varnishes -- Determination of volatile organic compounds (VOC ) content by gas chromatography  
GB/T 23993 Determination of formaldehyde content in waterborne paints - acetone spectrophotometric method  
GB/T 26395 water-based cigarette printing gravure ink  
HJ 2546 Environmental Labeling Products Technical Requirements Textile Products

### 3 Terms and definitions

The following terms and definitions as defined in GB/T 15962 apply to this standard.

#### 3.1 Gravure ink gravure ink

A general term for inks used in various gravure printing methods.

#### 3.2 Flexo ink flexographic ink

Suitable for flexographic printing inks.

### 4 Basic requirements

#### 4.1

The product should meet the requirements of the corresponding quality and safety standards.

#### 4.2

The product manufacturer shall obtain a pollutant discharge permit and discharge pollutants in accordance with the requirements of the pollutant discharge permit.

#### 4.3

Product manufacturers should strengthen clean production in the production process.

### 5 Technical content

#### 5.1

Methanol, formaldehyde, halogenated hydrocarbons, acetone, methyl ethyl ketone, cyclohexanone, methyl isobutyl ketone, isophorone, and benzene should not be added to the product.

Diphenol, p-methoxyphenol and benzene solvents.

#### 5.2

Alkylphenol ethoxylates (APEOs) and glycol ethers listed in Appendix A should not be added to the product.

#### 5.3

The phthalate plasticizers listed in Appendix B should not be added to the product.

#### 5.4

The azo dyes, carcinogenic dyes, and allergenic dispersion dyes specified in Appendix A, Appendix B and Appendix C of HJ 2546-2016 should not be added to the product.

material.

## 5.5

benzophenone (BP), isopropyl thioxanthone (ITX),  
2-methyl-1-(4-methylthiophenyl)-2-morpholinyl-1- should not be added to the product.

A photoinitiator such as acetone (907).

## 5.6

The limits of hazardous substances in products shall comply with the requirements of  
Tables 1 and 2.

Table 1 Limit requirements for hazardous substances in products

Project limit

Volatile Organic Compounds (VOCs), %  $\leq$  5 Benzene, toluene, xylene, ethylbenzene, Total  
amount of toluene and styrene, mg/kg  $\leq$  Methanol, %  $\leq$  0.3 Free formaldehyde, mg/kg  $\leq$   
50 Ammonia and its compounds, %  $\leq$  2

Table 2 Soluble element requirements in products

Project limit

?(Sb) , mg/kg  $\leq$  60

Arsenic (As), mg/kg  $\leq$  25 ?(Ba), mg/kg  $\leq$  1000 Cadmium (Cd), mg/kg  $\leq$  75 Chromium  
(Cr), mg/kg  $\leq$  60 Lead (Pb), mg/kg  $\leq$  90 Mercury (Hg), mg/kg  $\leq$  60 Selenium (Se),  
mg/kg  $\leq$  500

## 5.7 Requirements for packaging and instructions

### 5.7.1

Polybrominated biphenyls (PBBs), polybrominated diphenyl ethers (PBDEs) and  
chlorinated paraffins (chains) shall not be added to the plastic packaging containers of the  
products.

The carbon number is 10-13, and the concentration of chlorine is 50% or more.

### 5.7.2

Plastic packaging containers for products shall not contain plastic additives containing  
elements such as lead, cadmium, mercury and hexavalent chromium.

### 5.7.3

The theoretical content of volatile organic compounds (VOCs) in the product should be  
indicated, and the VOCs thinner should not be added during use.

Suggestions.