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

**中华人民共和国国家标准**

GB 20101-2006

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**Safety code for painting—Safety rules for  
purification equipment of exhaust organic gas**

**涂装作业安全规程**

**有机废气净化装置安全技术规定**

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## Foreword

All text of this Standard is mandatory.

Safety code for painting series national standard consists of 12 items are as follows:

- *GB 6514-1995 Safety code for painting - Safety, ventilation and air clean-up for painting process*
- *GB 7691-2003 Safety code for painting—safety management general rule*
- *GB 7692-1999 Safety code for painting—Safety, ventilation and air clean-up for pretreatment process of painting*
- *GB 12367-2006 Safety code for painting--Safety for electrostatic spray painting process*
- *GB 12942-2006 Safety code for painting--Technical requirements of safety for working in confined spaces*
- *GB/T 14441-1993 Safety code for painting – Terminology*
- *GB 14443-1993 Safety code for painting—Safety rules for paint drying oven*
- *GB 14444-2006 Safety code for painting--Safety rules for spraying booth*
- *GB 14773-1993 Safety code for painting—Safety specification for electrostatic spray guns and associated apparatus*
- *GB 15607-1995 Safety code for painting - Safety for electrostatic powder spraying process*
- *GB 17750-1999 Safety code for painting—Safety for dipping process*
- *GB 20101-2006 Safety code for painting--safety rules for purification equipment of exhaust organic gas*

This Standard is Part 12 of *Safety code for painting*.

This Standard corresponding to JIS B8415-1982 *General Safety Code for Industrial Combustion Furnaces* and not equivalent to JIS B8415-1982.

This Standard is proposed by State Administration of Quality and Technical Supervision

This Standard is under the jurisdiction of National Technical Committee on Safety of Painting Operation of Standardization Administration of China.

The responsible drafting organizations are Jiangsu Labor Protection Science Research

Institute and Beijing Labor Protection Science Research Institute.

The participate drafting organizations are Jiangsu Chemical Industry Research Institute, Yangzhou Qionghua Environment Protection Engineering Equipment Co., Ltd, Suzhou Jieneng Exhaust Organic Gas Treating Plant.

The chief drafting staff of this standard includes Jin Xuefang, Zhang Yizheng, Han Hang, Sun Xinyan, Lu Zheming, Gu Weidong and Wu Zhongzhi.

## **Safety code for painting**

### **Safety rules for purification equipment of exhaust organic gas**

#### **1 Scope**

This Standard specifies the general safety rules for purification equipment of painting exhaust organic gas. It mainly includes five categories of purification equipments, namely, activated carbon adsorption, catalytic combustion, activated carbon adsorption-catalytic combustion, flame combustion and liquid absorption.

This Standard applies to the design, manufacture, installation, acceptance, operation and maintenance of the above five categories of purification equipment of painting exhaust organic gas.

#### **2 Normative References**

The articles contained in the following documents have become this standard when they are quoted herein. For the dated documents so quoted, all the modifications (excluding corrections) or revisions made thereafter shall not be applicable to this Standard. For the undated documents so quoted, the latest editions shall be applicable to this Standard.

GB 150 Steel pressure vessels

GB 3836.15 Electrical apparatus for explosive gas atmospheres--Part 15: Electrical installations in hazardous areas (other than mines) (GB 3836.15-2000, eqv IEC 60079-14:1996)

GB 6514-1995 Safety code for painting - Safety、ventilation and air clean-up for painting process

GB 7691-2003 Safety code for painting—safety management general rule

GB 8978 Integrated wastewater discharge standard

GB 12158 General guideline for preventing electrostatic accidents

GB 13347 The quenching ability of flame arrester and its test method for petroleum gas piping systems

GB/T 14441-1993 Safety code for painting – Terminology

GB 16297 Comprehensive emission standard of air pollutants

GB 18484 Pollution control standard for hazardous wastes incineration

- GB 18597 Standard for pollution control on hazardous waste storage
- GB 18598 Standard for pollution control on the security landfill site for hazardous wastes
- GB 18599 Standard for pollution on the storage and disposal site for general industrial solid wastes
- GB 50058 Electrical installations design code for explosive atmospheres and fire hazard
- GBJ 87 Specifications for the design of noise control system in industrial enterprises
- GBJ 140 Specifications for the design of fire extinguisher disposition in buildings

### **3 Terms and definitions**

For the purpose of this standard, the following terms and definitions and those established in GB/T 14441-1993 apply.

#### **3.1**

##### **Exhaust organic gas**

Gas containing organic compounds generated by painting.

#### **3.2**

##### **Purification equipment**

The equipment can remove the exhaust organic gas. It mainly includes purification equipment, auxiliary equipment, filters, and the detecting instruments of temperature, concentration, pressure and alarms, etc., flame retardant and anti-explosion, safety interlocking and other devices.

#### **3.3**

##### **Activated carbon adsorption**

Use the activated carbon as adsorbent, such as the granular, cellular or fibrous activated carbon, to absorb exhaust organic gas.

#### **3.4**

##### **Catalytic combustion**

Under a certain temperature, the exhaust organic gas could perform fully oxidation (combustion) reaction by the catalytic action of organic catalyst.



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Beijing Lancarver Translation Inc.

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**更多内容请致电**

**400-678-1309**

**Email : [info@lancarver.com](mailto:info@lancarver.com)**

**QQ: 19315219**

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