

ICS 87.040
CCS G51



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

GB 30981.2-2025

Replacing GB 18581-2020

**Limit of harmful substances of coatings - Part 2: Industrial
coatings**

涂料中有害物质限量 第2部分：工业涂料

Issued on: May 30, 2025

Implemented on: June 1, 2026

**Issued by: State Administration for Market Regulation;
Standardization Administration of China**

Table of Contents

3 Introduction...	7
1 Scope...	9
2 Normative references...	9
3 Terms and definitions...	11
4 Product classification and coating hazard marks...	23
4.1 Product classification...	23
4.2 Coating hazard marks...	23
5 Requirements...	24
6 Test methods...	36
6.1 Sampling...	36
6.2 Test methods...	36
7 Inspection rules...	42
7.1 Type inspection...	42
7.2 Determination of inspection results...	42
8 Marks...	43

1 Scope

GB 30981.2-2025 is the Chinese national standard on limit of harmful substances of coatings - part 2: industrial coatings, in the field of paint and colour industries. It carries no /T suffix, which in the Chinese system means compliance is mandatory: a product or a practice within its scope has to meet it to be lawfully made, sold or carried out in China. It was issued on 30 May 2025 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 June 2026.

Classification: ICS 87.040, CCS G51. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This document specifies the product classification, coating hazard marks, requirements, inspection rules, marks, and implementation of permissible limits for substances harmful to human health and the environment in industrial coatings and accessory materials. It also describes the corresponding test methods. This document applies to both on-site and in-factory applications. It describes various industrial coatings and accessory materials used for decorating, protecting, and providing other functions on the surfaces of substrates

such as wood, metal, plastic, concrete, composite materials, glass, and ceramics. This document does not apply to aerospace coatings, nuclear-grade protective coatings, or coatings for military equipment and facilities.

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, Paints, varnishes and plastics -- Determination of non-volatile-matter content

GB/T 1727, General methods for preparation of coating films

GB/T 1766, Paints and varnishes -- Rating schemes of degradation of coats

GB/T 1865, Paints and varnishes -- Artificial weathering and exposure to artificial radiation
-- Exposure to filtered xenon-arc radiation

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

GB/T 5206, Paints and varnishes -- Terms and definitions

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

GB/T 6750, Paints and varnishes -- Determination of density -- Pycnometer method

GB/T 6822, Anti-fouling and anti-corrosive paint systems on ship hulls

GB/T 8170, Rules of rounding off for numerical values and expression and judgement of limiting values

GB/T 9754, Paints and varnishes -- Determination of gloss value at 20-degree, 60- degree and 85-degree

GB/T 9758.5, Paints and varnishes. Determination of soluble metal content. Part 5. Determination of hexavalent chromium content of the pigment portion of the liquid paint or the paint in powder form. Diphenylcarbazide spectrophotometry

GB/T 9760-1988, Paints and varnishes. Preparation of acid extracts from paints in liquid or powder form

3 Terms and definitions

For the purposes of this document, the terms and definitions defined in GB/T 5206 as well as the followings apply.

3.1 water-borne coatings A type of coating in which the main component of volatile substances is water. In the application condition, the water content in the volatiles of this coating product exceeds 50% (mass fraction). NOTE

1. Powdered coatings that are mixed with water during use are water-borne coatings. NOTE

2. Water-borne radiation curable coatings belong to the category of radiation curable coatings. [Source: GB/T 5206-2015, 2.274, modified]

3.2 solvent-borne coatings A type of coating whose main volatile components are organic solvents. NOTE

1. Water is added as a co-solvent to solvent-borne coatings. This is generally referred to as "water-mixable solvent-borne coatings" or "solvent-borne coatings with intentionally added water". NOTE

2. Powdered coatings that use organic solvents are classified as solvent-borne coatings. NOTE

3. Non-aqueous radiation curable coatings belong to the category of radiation curable coatings.

3.3 radiation curable coatings A type of coating that is cured by radiation. NOTE

1. For example, ultraviolet (UV) curable coatings, electron beam (EB) curable coatings, etc. NOTE

2. Radiation-cured powder coatings are a type of powder coating. [Source: GB/T 35602-2017, 3.8, modified]

3.4 solvent-free coatings A type of solvent-borne coating that, when measured according to the prescribed method, has a non-volatile matter content of not less than 95% (mass fraction) under the construction condition. NOTE

1. Solvent-free coatings generally contain no or very small amounts of volatile, non-reactive organic solvents. NOTE

2. Reactive organic solvents, also known as reactive diluents, are compounds that can dissolve or disperse film-forming substances and participate in the film-forming reaction during the coating film-forming process, forming non-volatile components that remain in the coating film. [Source: GB/T 35602-2017, 3.10, modified]

4 Product classification and coating hazard marks

4.1 Product classification The model numbers and classifications based on product type are as follows: - Type W, water-borne coating; - Type S, solvent-borne coating; - Type F, solvent-free coating; - Type R, radiation curable coating; - Type P, powder coating; - Type A, accessory materials.

4.2 Coating hazard marks The coating hazard marks include, in order.

a) Description segment. coating hazard;

b) Standard code and sequence number segment. GB 30981.2;

c) Feature segment, including the following 3 data segments. 1) Product model; 2) Self-declared total lead (Pb) content (mg/kg), expressed as "Pb ≤ self-declared value or the limit specified in this document"; 3) If a product meets the requirements of 5.3, it is a coating suitable for use in close contact with the human body and is marked with "C", indicating that the coating is suitable for close contact. If a product does not meet the requirements of

5.3 or has not been tested according to 5.3 (where specified items apply), it is a coating unsuitable for use in close contact with the human body and is marked with "NC", indicating that the coating is not suitable for close contact. In this context,

b) are separated by a space;

c) are connected by a hyphen "-" and the data segments in

c) are connected by a hyphen "-". Example 1. Product. Solvent-borne polyurethane sealing primers used for interior furniture decoration and finishing meet the requirements of 5.3, with a total lead (Pb) content of 8 mg/kg. Mark. Coating hazard GB 30981.2-S-Pb≤90-C.

Example 2. Product. The original electrophoretic paint used for corrosion protection of passenger car substrates meets the requirements of 5.2, but does not meet the requirements of 5.3, with a total lead (Pb) content of 120 mg/kg. Mark. Coating hazard GB 30981.2-W-Pb≤1000-NC.

5 Requirements

5.1 Except for special functional coatings, powder coatings, and zinc-aluminum coatings, the VOC content limits in industrial coatings and putties shall meet the requirements of Tables 1, 2, 3, 4 and 5, respectively. The VOC content limits for water-borne coatings shall comply with the requirements of Table

1. The VOC content limits for solvent-borne coatings shall comply with the requirements of Table

2. The VOC content limits for solvent-free coatings shall comply with the requirements of Table