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

GB 7231-2003

**Basic identification colors and code indications and safety sign
for industrial pipelines
(English Translation)**

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Table of Contents

Foreword...	3
1 Scope...	4
2 Normative references...	4
3 Definition...	4
4 Basic identification color...	5
5 Identification symbol...	6
6 Safety sign...	6

Foreword

The clause 4.1 and clauses 6.1, 6.2 of this standard are mandatory, the rest is recommended.

This standard is the first revision for GB 7231-1987 "Basic identification colors and identification signs for industrial pipelines".

This standard is revised with reference to German DIN 2403-1984 "Identification of pipeline by fluid medium" and Japan JIS 9102-1987 "Identification display of piping system".

In order to facilitate the identification of substances in industrial pipelines, the number of basic identification color of this standard has been increased from the original seven colors to eight colors, the number of identification method of substances in the pipeline has been improved from the original two to five.

Appendix A of this standard is normative.

From the date of implementation, this standard replaced GB 7231-1987.

This standard is proposed by and shall be under the jurisdiction of the Safety and Production Bureau of the State Economic and Trade Commission.

Responsible drafting organizations of this standard. Shanghai Labor Protection Science Research Institute.

Participated drafting organizations of this standard. Shanghai Chlorine

Chemical Co., Ltd.

1 Scope

This standard specifies the basic identification color, code indications and safety signs for industrial pipelines.

This standard applies to gas and liquid pipelines that are not buried underground in industrial production.

2 Normative references

The provisions in following documents become the provisions of this standard through reference in this standard. At the time of publication, the versions indicated are all valid. All standards will be revised, parties using this standard shall explore the possibility of using the latest version of the following standards.

GB 2893-1982 Safety colors

GB 13495-1992 Fire safety signs

GB 13690-1992 Classification and labels of dangerous chemical substances commonly used

3 Definition

This standard uses the following definition.

3.1 Identification colors

The color used to identify the type of substance in an industrial pipeline.

3.2 Code indications

The code used to identify the name and status of a substance in an industrial pipeline.

3.3 Danger label

Indicates that the substance in the industrial pipeline is a hazardous chemical.

4.5 When the pipeline adopts the b), c), d), e) identification methods of the basic

identification color in clause 4.2, the location of the identification shall include the starting point, the end point, the intersection point, the turning point, the valves, the pipelines at both sides of the through-wall openings, and the other positions to be identified of all pipelines.

5 Code indications

The color indications of industrial pipeline consists of the substance's name, the flowing direction, the main process parameters. The identification shall meet the following requirements.

5.1 Identification of substance name

- a) The full name of the substance. For example. nitrogen, sulfuric acid, methanol.
- b) The chemical formula. For example. N_2 , H_2SO_4 , CH_3OH .

5.2 Identification of material flow direction

- a) The flow direction of the substance in the industrial pipeline is indicated by an arrow [see item a) of Figure A1 in Appendix A]. If the flow of the substance in the pipeline is bidirectional, it is indicated by a double-headed arrow [see item b) of Figure A1 in Appendix A].
- b) When the identification method of the basic identification color adopts d) and e) in clause 4.2, the pointing direction of the label is used as the flow direction of the substance in the pipeline [see items c) and d) of Figure A1 in Appendix A]. If the flow of material is bidirectional, the pointing direction of the label shall be made bidirectional [see item e) of Figure A1 in Appendix A].

5.3 For the identification of the main process parameters such as pressure, temperature and flow rate of the substance, the user may select using them as needed.

5.4 The minimum font for the letters and numbers in clauses 5.1 and 5.3 as well
as the minimum outline size of the arrows in 5. 2 shall be determined by clearly
observing the identification symbol.

6.1 Danger label

a) Scope of application. If the substances in the pipeline are hazardous

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