



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

GB/T 7716-2024

Replacing GB/T 7716-2014

Propylene for polymerization

聚合级丙烯

Issued on: May 28, 2024

Implemented on: December 1, 2024

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

Table of Contents

Foreword...	3
1 Scope...	5
2 Normative references...	5
3 Terms and definitions...	6
4 Product classification...	6
5 Technical requirements and test methods...	6
6 Sampling...	8
7 Inspection rules...	8
8 Marking, labeling and accompanying documents...	8
10 Bibliography...	11

Foreword

This document was drafted in accordance with the rules given in GB/T 1.1-2020, Directives for standardization - Part

1.Rules for the structure and drafting of standardizing documents. This document replaces GB/T 7716-2014 Propylene for polymerization - Specification. Compared with GB/T 7716-2014, in addition to structural adjustments and editorial changes, the main technical changes are as follows:

- a) Change the scope (see Chapter 1; Chapter 1 of the 2014 edition);
- b) Add product classification (see Chapter 4);
- c) Change the product classification method (see Table 1; Table 1 of the 2014 edition);
- d) Add test methods for acetylene, water, carbon monoxide and carbon dioxide content (see Table 1);
- e) Add technical requirements and test methods for propylene for polymerization (to be agreed upon by both the supplier and the buyer) (see Table 2);
- f) Change the sampling and inspection rules (see Chapters 6 and 7; Chapter 4 of the 2014 edition);
- g) Add marking, labeling and accompanying documents (see Chapter 8);
- h) Change the packaging, transportation and storage (see Chapter 9; Chapter 5 of the 2014 edition);

i) Change the safety requirements (see Appendix A; Chapter 6 of the 2014 edition). Please note that some of the contents of this document may involve patents. The issuing organization of this document is not responsible for identifying patents. This document was proposed by China Petroleum and Chemical Industry Federation. This document shall be under the jurisdiction of National Standardization Technical Committee of Chemical (SAC/TC 63). Drafting organizations of this document. China Petroleum & Chemical Corporation Beijing Yanshan Branch, Sinopec (Shanghai) Petrochemical Research Institute Co., Ltd. Main drafters of this document. Cui Guanghong, Yu Hongguang, Wang Jing, Li Chenwei, Wang Chuan, Zhang Yan, Wang Yue, Su Zhengjie. Propylene for polymerization

Warning - If appropriate precautions are not followed, the products covered by this document may be dangerous during production, transportation, handling, storage and use. This document does not purport to advise on all safety issues associated with this product. It is the user's responsibility to establish appropriate safety and precautions and determine the applicability of regulatory limitations before using this document.

1 Scope

GB/T 7716-2024 is the Chinese specification for polymerisation grade propylene, the feedstock of the polypropylene industry. China is the largest producer and consumer of polypropylene in the world, and this specification is what the monomer is traded on. The reason it is exacting is catalysis: a Ziegler-Natta or metallocene catalyst is poisoned by a few parts per million of the wrong species, so the standard is written mostly as a list of things that must be nearly absent. It sets the requirements on the propylene content and on the limits for propane and the other hydrocarbons, for water, oxygen, carbon monoxide and carbon dioxide, for sulfur, for the carbonyl compounds, for methanol and the other oxygenates, for arsine and phosphine, for ammonia and the amines, and for the total of the poisons, together with the test methods for each determination, the sampling, the inspection rules and the requirements on marking, packaging, transport, storage and safety. The 2024 edition replaces GB/T 7716-2014. For a producer, a polypropylene plant or a trader in China, this is the acceptance text.

This document specifies the product classification, technical requirements and test methods, sampling, inspection rules, marking, labeling, accompanying documents, packaging, transportation and storage of propylene for polymerization. This document applies to propylene for polymerization.

Note. The molecular formula of propylene for polymerization is C_3H_6 , and its relative molecular mass is 42.081 (according to the 2022 international relative atomic mass).

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 150 (all parts), Pressure vessels

GB/T 3392, Determination of hydrocarbon impurities of propylene for industrial use - Gas chromatographic method

GB/T 3393, Ethylene and propylene for industrial use - Determination of trace hydrogen - Gas chromatographic method

GB/T 3394, Determination of trace carbon monoxide, carbon dioxide and acetylene of ethylene and propylene for industrial use - Gas chromatographic method

GB/T 3396, Determination of trace oxygen in ethylene and propylene for industrial use - Electrochemical method

GB/T 3723, Sampling of chemical products for industrial use - Safety in sampling

GB/T 3727, Ethylene or propylene for industrial use - Determination of trace water

GB/T 10478, Railway tank car for liquefied gases

GB/T 11141, Light olefins for industrial use - Determination of trace sulfur

GB/T 12701, Ethylene and propylene for industrial use - Determination of trace oxygenates - Gas chromatographic method

GB/T 13290, Propylene and butadiene for industrial use - Sampling in the liquid phase

GB/T 19905, Road tanker for liquefied gas SH/T 1549, Light olefins for industrial use -

Determination of water - Guidelines for application of online analysers SH/T 1769,

Propylene for industrial use - Determination of Trace Carbonyl Sulfide - Gas

chromatographic method SH/T 1844, Ethylene and propylene for industrial use -

Determination of hydrogen, carbon monoxide and carbon dioxide - Gas chromatography and helium ionization method

3 Terms and definitions

No terms and definitions need to be defined in this document.

4 Product classification

Propylene for polymerization are divided into Type I and Type II according to propylene purity and impurity content.

5 Technical requirements and test methods

5.1 The technical requirements and test methods for propylene for polymerization are

shown in Table 1.

6 Sampling

Take samples according to the safety and technical requirements specified in GB/T 3723 and GB/T 13290. The sampling quantity shall meet the required quantity of the inspection items.

7.1 Inspection classification

7.1.1 All items specified in Table 1 are factory inspection items.

7.1.2 The items specified in Table 2 shall be agreed upon by both the supplier and the buyer.

7.2 Batch rules Under the condition that raw materials and processes remain unchanged, each can of product produced is considered a batch. Products of equal quality and uniformity that are shipped to a certain location within a certain period of time (8 hours or 24 hours) or at the same time can also be defined as a batch.

7.3 Determination rules When all the test results meet the requirements of Table 1 (if there are items agreed upon by the supplier and the buyer in Table 2, the requirements of Table 2 shall also be included), judge the batch of products to be qualified.

7.4 Re-test rules If any of the test results do not meet the requirements of Table 1 (if there are items agreed upon by the supplier and the buyer in Table 2, the requirements of Table 2 shall also be included), re-sample and re-test. If the re-test results still do not meet the requirements, judge the batch of products as unqualified.

8 Marking, labeling and accompanying documents

8.1 Marking and labeling According to GB 12268, propylene for polymerization belongs to Class 2, Item 2.1, flammable gas of hazardous chemicals. For relevant safety information, see Appendix A. For its warning labels and warning instructions, see GB 30000.3. For the provisions on hazard marking and labeling, refer to GB 190.