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

GB 6537-2025

Replacing GB 6537-2018

No.3 jet fuel

3号喷气燃料

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1 Scope

GB 6537-2025 is the Chinese national standard on no.3 jet fuel, in the field of petroleum and related technologies. 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 29 August 2025 by the National Energy Administration, and has been in force since 1 September 2026. Classification: ICS 75.160.20, CCS E31. 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 technical requirements, test methods, inspection rules, marking, packaging, transportation, storage, delivery, acceptance and safety of No. 3 jet fuel processed from natural crude oil or its distillates and kerosine fraction of synthetic hydrocarbons. This document applies to No. 3 jet fuel for aviation turbine engines.

2 Normative References

The contents of the following documents constitute indispensable clauses of this document through the normative references in the text. In terms of references with a specified date, only versions with a specified date are applicable to this document. In terms of references without a specified date, the latest version (including all the modifications) is applicable to this document.

GB 190 Packing Symbol of Dangerous Goods

GB/T 261 Determination of Flash Point - Pensky-Martens Closed Cup Method

GB/T 265 Petroleum Products - Determination of Kinematic Viscosity and Calculation of Dynamic Viscosity

GB/T 380 Petroleum Products - Determination of Sulphur - Lamp Method

GB/T 382 Test Method for Smoke Point of Kerosene and Aviation Turbine Fuel

GB/T 384 Petroleum Products - Determination of Heat of Combustion

GB/T 509 Engine Fuels - Determination of Existent Gum

GB/T 1792 Determination of Mercaptan Sulfur in Gasoline, Kerosene, Jet, and Distillate Fuels - Potentiometric Method

GB/T 1793 Standard Test Method for Water Reaction of Aviation Fuels

GB/T 1884 Crude Petroleum and Liquid Petroleum Products - Laboratory Determination of Density - Hydrometer Method SH/T 0093 Jet Fuels - Test for Silver Strip Corrosion SH/T 0181 Standard Test Method for Naphthalene Hydrocarbons in Jet Fuels by Ultraviolet Spectrophotometry SH/T 0182 Determination of Copper Content in Light Petroleum (spectrophotometric method) SH/T 0558 Standard Test Method for Boiling Range Distribution of Petroleum Fractions by Gas Chromatography SH/T 0604 Crude Petroleum and Petroleum Products - Determination of Density - Oscillating U-tube Method SH/T 0616 Determination Method for Water Separation Index of Jet Fuel (portable separometer method) SH/T 0635 Sampling Method for Liquefied Petroleum Products (semi-auto method) SH/T 0657 Standard Test Method for Trace Nitrogen in Liquid Petroleum Hydrocarbons by Syringe / Inlet Oxidative Combustion and Chemiluminescence Detection SH/T 0687 Standard Test Method for Measurement of Lubricity of Aviation Turbine Fuels by the Ball-on-Cylinder Lubricity Evaluator (BOCLE) SH/T 0689 Standard Test Method for Determination of Total Sulfur in Light Hydrocarbons Motor Fuels and Oils by Ultraviolet Fluorescence SH/T 0770 Standard Test Method for Freezing Point of Aviation Fuels (automatic phase transition method)

3 Terms and Definitions

This document does not have terms or definitions that need to be defined.

4 Abbreviations

The following abbreviations apply to this document. FAME. Fatty Acid Methyl Ester. FT-SPK. Fischer Tropsch-Synthesized Paraffinic Kerosene. HEFA-SPK. Hydroprocessed Esters and Fatty Acids-Synthesized Paraffinic Kerosene.

5 Technical Requirements and Test Methods

5.1 The raw materials, production processes, and additives used in the production of No.3

jet fuel shall comply with the prescribed approval procedures. The additives shall meet the requirements of Appendix A. In addition to complying with the prescribed procedures, the production process shall be constructed in accordance with the approval requirements. Production enterprises selecting raw materials and additives shall comply with the requirements of national laws and regulations during the production process and shall use raw materials and additives that meet the requirements of the product standards.

5.2 No.3 jet fuel shall meet the technical requirements of Table 1, and the test methods shall be as specified in Table 1.

5.3 In addition to meeting the requirements of Table 1, the technical requirements for No.3 jet fuel containing FT-SPK synthetic hydrocarbon components shall also meet the following requirements. the FT-SPK synthetic hydrocarbon components shall meet the requirements of Appendix B, and the volume fraction of conventional petroleum-based components in No.3 jet fuel containing FT-SPK components shall not be less than 50%. The volume fraction of aromatics in No.3 jet fuel containing FT-SPK synthetic hydrocarbon components shall not be less than 8.0%, the difference between the 50% and 10% recovery temperatures of the distillation range shall not be less than 15 C, and the difference between the 90% and 10% recovery temperatures of the distillation range shall not be less than 40 C. In addition to meeting the requirements of Table 1, the technical requirements for No.3 jet fuel containing HEFA-SPK synthetic hydrocarbon components shall also meet the following requirements. the HEFA-SPK synthetic hydrocarbon components shall meet the requirements of Appendix C, and the volume fraction of conventional petroleum-based components in No.3 jet fuel containing HEFA-SPK components shall not be less than 50%. The volume fraction of aromatics in No.3 jet fuel containing HEFA-SPK synthetic hydrocarbon components shall not be less than 8.0%, the difference between the 50% and 10% recovery temperatures of the distillation range shall not be less than 15 C, and the difference between the 90% and 10% recovery temperatures of the distillation range shall not be less than 40 C, and its kinematic viscosity (40 C) shall not exceed

12.0 mm²/s. The test methods shall conform to GB/T 265 or GB/T 30515; in case of dispute, the method of GB/T 265 shall prevail. The biocarbon content in No.3 jet fuel containing synthetic hydrocarbons may be determined using NB/SH/T 6044.

5.4 In addition to meeting the requirements in Table 1, the technical requirements for No.3 jet fuel containing direct coal liquefaction components shall be determined through negotiation between the supply-side and the demand-side. Direct coal liquefaction components are not applicable to No.3 jet fuel for civil purposes.

6 Inspection Rules

6.1 Inspection Classification and Inspection Items Exit-factory inspection includes all inspection items specified in Chapter 5 - Technical Requirements. Periodic exit-factory inspection items are olefin volume fraction and kinematic viscosity (20 C), which are

determined at least once a year; the olefin volume fraction shall not be greater than 5.0%, the kinematic viscosity (20 C) shall not be greater than

1.25 mm²/s; the olefin volume fraction is determined in accordance with the method described in GB/T 11132, and the kinematic viscosity (20 C) is determined in accordance with the method described in GB/T 265 or GB/T 30515. In case of dispute, GB/T 265 shall prevail.

6.2 Batching Under the condition of unchanged raw materials, processes and additives, each can or kettle produced constitutes one batch.

6.3 Sampling Sampling is conducted in accordance with GB/T 4756, GB/T 27867 or SH/T 0635. Take 11 L of oil sample from each batch of product for inspection, and

2.5 L of oil sample as retained sample.

6.4 Determination Rules If the exit-factory inspection results meet the technical requirements of Chapter 5, then, it shall be determined that the batch of products is qualified.

6.5 Re-inspection Rules If any item in the exit-factory inspection results does not meet the technical requirements of Chapter 5, then, double the sample size shall be re-sampled in accordance with the provisions of GB/T 4756, GB/T 27867 or SH/T 0635 for a re-inspection of the non-compliant items. If the re-inspection results still do not meet the technical requirements of Chapter 5, then, it shall be determined that the batch of products is disqualified.

7 Marking, Packaging, Transportation, Storage, Delivery and

Acceptance In accordance with GB 6944 and GB 30000.7, No.3 jet fuel is a flammable liquid. The marking, packaging, transportation, storage, delivery and acceptance of the product shall be carried out in accordance with GB 6944, GB 30000.7, NB/SH/T 0164, GB 30000.1 and GB 190.