ICS 75.100
CCS E34

NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 17038-2025

Replacing GB/T 17038-1997

Railroad diesel engine oils

内燃机车柴油机油

Issued on: October 5, 2025 **Implemented on: May 1, 2026**

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

Table of Contents

Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1.Structure and Drafting Rules of Standardization Documents". Drafting. This document replaces GB/T 17038-1997 "Diesel Engine Oil for Internal Combustion Locomotives". Compared with GB/T 17038-1997, except for structural adjustments and... Aside from editorial changes, the main technical changes are as follows:

a) Two new product varieties have been added. the fifth-generation zinc-containing type and the fifth-generation non-zinc type (see Table 1);

b) The kinematic viscosity test method is expanded to include GB/T 30515 (see Table 1);

c) The viscosity index test method is expanded to include GB/T 1995 (see Table 1);

d) The alkalinity test method has been changed from GB/T 7304 to SH/T 0251 (see Table 1,.1997 edition);

e) The "Precipitate" item is changed to "Mechanical Impurities", and the test method adopts GB/T 511 (see Table 1,.1997 edition);

f) The test methods for calcium and zinc content have been expanded to include GB/T 17476 and NB/SH/T 0824 (see Table 1);

g) Technical requirements for increased zinc content in fourth-generation non-zinc products (see Table 1);

h) The "High-Temperature Friction and Wear Test (Method B)" has been removed (see Table 1 in the.1997 edition);

i) The "wear resistance (four-ball test)" item has been added, and the test method is NB/SH/T 0189 (see Table 1);

j) The "Program VIII Engine Test" has been added as an optional alternative to the "L-

38 Engine Test," with the test method being SH/T 0788. (See Table 1);

k) Add the "Ketpiller 1M-PC test" as an optional alternative to the "High-Temperature Detergent and Abrasion Test (Ketpiller 1G

1 Scope

GB/T 17038-2025 is the Chinese national standard on railroad diesel engine oils, in the field of petroleum and related technologies. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 5 October 2025 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 May 2026. Classification: ICS 75.100, CCS E34. 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 third, fourth, and fifth generation internal combustion engines formulated with refined mineral lubricating oil as the base oil and various additives. Product classification and marking, technical requirements and test methods, inspection rules and marking, packaging, storage and transportation and delivery acceptance of automotive diesel engine oil. This document applies to diesel engine oils used in diesel engines of railway locomotives, with zinc-containing oils only applicable to non-silver bearing diesel engines. Lubrication of the vehicle's diesel engine.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included. For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies. This document.

GB/T 260 Determination of water content in petroleum products by distillation method

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

GB/T 308 Rolling bearing steel balls

GB/T 511 Petroleum and Petroleum Products and Additives - Determination of Mechanical Impurities

GB/T 1995 Method for Calculating Viscosity Index of Petroleum Products

GB/T 2433 Additives and Lubricating Oils Containing Additives - Determination of Sulfate Ash Content

GB/T 2541 Table for calculating viscosity index of petroleum products

GB/T 3535 Determination of Pour Point of Petroleum Products

GB/T 3536 Determination of flash point and ignition point of petroleum products - Cleveland open cup method

GB/T 4756 Manual Sampling Method for Petroleum Liquids

GB/T 6538 Determination of apparent viscosity of engine oil - Cold start simulator method

GB/T 9171 Determination of Engine Oil Boundary Pumping Temperature

GB/T 9933 Performance Evaluation Method for Internal Combustion Engine Oils (Ketpiler 1G