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

GB 45841-2025

**Limits and measurement methods for exhaust pollutants from
diesel locomotives and their engines (China I)**

铁路内燃机车及其发动机排气污染物排放限值及测量方法（中国第一阶段）

Issued on: May 12, 2025

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the State Administration for Market Regulation**

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Foreword

This document was issued on 12 May 2025 by the Ministry of Ecology and Environment of the PRC, jointly with the State Administration for Market Regulation and takes effect on 1 September 2025.

It is a GB standard without the /T suffix: compliance is mandatory in China.

The document runs to 74 pages. The identification, the dates, the classification and the table of contents on this page are taken from the cover and the printed contents of the standard itself.

This standard was issued on 12 May 2025 by the Ministry of Ecology and Environment jointly with the State Administration for Market Regulation and takes effect on 1 September 2025.

It is the first stage of emission control for this class of vehicle in China, which is what the designation China I in the title means: railway diesel traction had until now been outside the emission regime that road vehicles and non-road machinery have been inside for years.

The four normative annexes carry the substance and occupy most of the document: the information required for type approval, the test procedure for the engine on the bench, the

test procedure for the complete locomotive, and the gas and particulate analysis and sampling systems.

1 Scope

GB 45841-2025 is China I for railway diesel traction: the first Chinese emission standard for diesel locomotives and the engines fitted to them. Railway diesels have been the last significant category of engine outside the Chinese emission regime, and they are not a small one, since China operates several thousand of them for freight, shunting and non-electrified routes, each with an engine of a few thousand kilowatts running for decades. The standard sets the general requirements, the test procedures and the emission limits, and then the whole compliance framework, type approval testing, conformity of production and in-service conformity, together with the rules for implementation. Its four normative annexes give the information required for type approval, the engine bench test procedure, the complete locomotive test procedure and the specification of the gas and particulate analysis and sampling systems. For a locomotive builder, an engine maker, a railway operator or an importer, this is the text that now governs market access in China.