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**Road vehicles — Calibration fluids for  
diesel injection equipment**

*Véhicules routiers — Fluides d'essai pour équipements d'injection à  
gazole*

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## Foreword

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Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 4113 was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 7, *Injection equipment and filters for use on road vehicles*.

This third edition cancels and replaces the second edition (ISO 4113:1988), which has been technically revised.

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# Road vehicles — Calibration fluids for diesel injection equipment

## 1 Scope

This International Standard specifies the requirements for calibration fluids, i.e. a basic fluid and a closer value (CV) fluid, intended for testing and calibrating diesel fuel injection equipment in production, in service, and in laboratories. The CV calibration fluid requires a closer tolerance range for kinematic viscosity and density, and can be specified to enhance the accuracy of the calibration setting.

This International Standard also allows the specification of an anti-wear (AW) requirement in order to aid the running-in of diesel fuel injection equipment.

## 2 Normative references

The following referenced documents are indispensable for the application 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.

ISO 2049, *Petroleum products — Determination of colour (ASTM scale)*

ISO 2160, *Petroleum products — Corrosiveness to copper — Copper strip test*

ISO 2719, *Determination of flash point — Pensky-Martens closed cup method*

ISO 3015, *Petroleum products — Determination of cloud point*

ISO 3104, *Petroleum products — Transparent and opaque liquids — Determination of kinematic viscosity and calculation of dynamic viscosity*

ISO 3405, *Petroleum products — Determination of distillation characteristics at atmospheric pressure*

ISO 3675, *Crude petroleum and liquid petroleum products — Laboratory determination of density — Hydrometer method*

ISO 12937, *Petroleum products — Determination of water — Coulometric Karl Fischer titration method*

ASTM D665-06, *Standard test method for rust-preventing characteristics of inhibited mineral oil in the presence of water*

ASTM D892-06, *Standard test method for foaming characteristics of lubricating oils*

ASTM D1748-02(2008), *Standard test method for rust protection by metal preservatives in the humidity cabinet*

ASTM D2140-08, *Standard practice for calculating carbon-type composition of insulating oils of petroleum origin*