

ICS 71.100.99

CCS G 71



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

GB 29518-2013

**Diesel engines NOx reduction agent -- Aqueous urea solution
(AUS 32)**

柴油发动机氮氧化物还原剂 尿素水溶液 (AUS 32)

(English Translation)

Issued on: May 7, 2013

Implemented on: July 1, 2013

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine of the People's Republic of China, Standardization
Administration of the People's Republic of China**

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Foreword

This standard in Chapters 4 and 5 are mandatory, the rest are recommended.

This standard was drafted in accordance with rules GB/T 1.1-2009 given.

This standard uses redrafted modified method using ISO 22241-1.2006 "Diesel engine NOx reduction agent AUS32 1

Part. Quality Requirements ", ISO 22241-2.2006" Diesel engine AUS32 reducing the nitrogen oxides - Part 2. Test Method "and

ISO 22241-3.2008 "Diesel engine AUS32 reducing the nitrogen oxides - Part 3. handling, transport and storage."

This standard and ISO 22241-1.2006, ISO 22241-2.2006 and ISO 22241-3.2008 has more adjustment compared to the previous structure, attached

M record listed in this standard and ISO 22241-1.2006, ISO 22241-2.2006 and ISO 22241-3.2008 Number of control clauses

List.

This standard and ISO 22241-1.2006, ISO 22241-2. there is a technical difference compared to 2008.2006 and ISO 22241-3

Appendix N given in the corresponding technical Differences in the list.

This standard was proposed by the Ministry of Environmental Protection of the People's Republic of China.

This standard petroleum products by the National Standardization Technical Committee Technical Committee petroleum fuels and lubricants and lubricant (SAC / TC280/SC1) centralized.

Drafted by. China Petrochemical Sales Co., Ltd. North China Branch, China Environmental Science Research Institute, China Petroleum & Chemical shares have

Lubricating Oil Company Limited, China Environmental Science Research Institute, China National Petroleum Marketing Company, China Petroleum Lanzhou lubricant research and development centers,

Sichuan Meifeng Chemical Co., Ltd.

1 Scope

This standard specifies a diesel engine NO_x reduction agent --- aqueous urea solution (AUS32) terms and definitions, identification technology to

Sum test methods, inspection rules, marking, packaging, transportation and storage, and make a recommendation to the requirements of filling interface products.

This standard applies to diesel selective catalytic reduction of nitrogen oxides with a reducing agent system --- aqueous urea solution (AUS32).

2 Normative references

The following documents for the application of this document is essential. For dated references, only applies to the version dated paper

Pieces. For undated references, the latest edition (including any amendments) applies to this document.

Preparation GB/T 601 standard titration solution Chemicals

GB/T 614 General Method Chemicals refractive index determination (GB/T 614-2006, ISO 6353-1. 1982, NEQ)

GB/T 1884 Density of crude oil and liquid petroleum products laboratory assay (densitometer method) (GB/T 1884-2000, eqvISO 3675.1998)

GB/T 1885 Petroleum Measurement Tables (GB/T 1885-1998, eqvISO 91-2.1991)

GB/T 6682 for analytical laboratory use specifications and test methods (GB/T 6682-2008, ISO 3696. 1987, MOD)

SH/T 0604 Crude petroleum and petroleum products densitometry (U-shaped vibrating tube method) (SH/T 0604-2000, eqvISO 12185.1996)

Petroleum products ISO 4259 Test Method Determination of precision data (Petroleumproducts-Determinationand

applicationofprecisiondatainrelationtomethodsoftest)

Determination of free formaldehyde content of sodium sulfite titration (Binders ISO 9020 Paints and varnishes amine resin binder

forpaintsandvarnishes-Determinationoffree-formaldehydecontentofaminoresins-Sodiumsulfite

titrimetricmethod)

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1

Selective catalytic reduction system selectivecatalyticreductionsystem; SCR

Installed in a diesel engine exhaust system, by injecting the reducing agent, nitrogen oxides in the exhaust gas catalytically reduced to nitrogen and water in a catalytic

Conversion means.

3.2

AUS32 dedicated urea ureaforAUS32

It contains only industrially produced urea, free of aldehydes and other trace substances biuret, ammonia and water (e.g., anti-caking agent), sulfur and vulcanization

, Chloride, nitrate and other compounds.

Note: For the above-mentioned contaminants, will have influence in the urea production process, and to strictly control the content of the test method, as used in agricultural production

Urea typically contains the compound.

3.3

Water purewater

With a single distillation, deionization, reverse osmosis or ultrafiltration, etc. The method of preparation of the third grade water GB/T 6682 provisions.

3.4

--- NO_x reduction agent aqueous urea solution (AUS32)

NO_xreductionagent-Aqueousureasolution (AUS32)

Not containing any other additives (e.g., 3.2 shown) in pure AUS32 dedicated formulated together with the urea aqueous solution which urine

Su content of 32.5% (mass fraction), and meet the technical requirements specified in Chapter 5, referred to AUS32.

Note: the tracer in accordance with Table 1 may be used as an additive.

4 logo

Shall have the following markings on the charging pump and the container AUS32 compliance with this standard.

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5 technical requirements and test methods

Technical requirements and test methods for reducing nitrogen oxides in diesel engines --- aqueous urea solution (AUS32) shown in Table 1.

Table 1 --- diesel engine NO_x reduction agent aqueous urea solution (AUS32) technical requirements and test methods

Project Quality Index Test Method

Urea content a (mass fraction) /% 31.8 33.2 Appendix Ad ~

Density b (20 °C) / (kg/m³) 1087.0 ~ 1093.0 SH/T 0604e

Refractive index c₂₀n_D 1.3814 ~ 1.3843 GB/T 614

Impurities

Alkalinity (in terms NH₃) (mass fraction)/not more than 0.2%

Biuret (mass fraction)/not more than 0.3%

Aldehydes (in terms HCHO)/(mg/kg) no greater than 5

Insolubles/(mg/kg) not more than 20

Phosphate (in terms PO₄)/(mg/kg) not greater than 0.5

Ca/(mg/kg) not greater than 0.5

Fe/(mg/kg) not greater than 0.5