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

GB 29743.3-2025

Motor vehicle coolant - Part 3: Fuel cell vehicle coolant

机动车冷却液 第3部分：燃料电池汽车冷却液

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1 Scope

GB 29743.3-2025 is the Chinese national standard on motor vehicle coolant - part 3: fuel cell vehicle coolant, in the field of services and company organization. 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 Ministry of Transport, and has been in force since 1 March 2026. Classification: ICS 03.220.20, CCS R16. 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 product classification, technical requirements and test methods, inspection rules, marking, packaging, transportation and storage of coolants for fuel cell vehicles. This document applies to the production, inspection and use of coolants for fuel cell vehicles formulated with ethylene glycol as the primary raw material of antifreeze in the thermal management system of fuel cell vehicle stacks.

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/T 3190 Chemical Composition of Wrought Aluminum and Aluminum Alloys

GB/T 3620.1 Designation and Composition of Titanium and Titanium Alloys

GB/T 5231 Designation and Chemical Composition of Wrought Copper and Copper Alloys

GB/T 6682-2008 Water for Analytical Laboratory Use - Specification and Test Methods

GB/T 15115 Die Casting Aluminum Alloys

GB/T 20878 Stainless Steels - Designation and Chemical Composition

GB 29743.2-2025 Motor Vehicle Coolant - Part

3 Terms and Definitions

The following terms and definitions are applicable to this document.

3.1 fuel cell vehicle coolant A functional liquid formulated with antifreeze, corrosion inhibitor and other raw materials, used in the thermal management system of fuel cell vehicle stacks. It provides cooling, insulation, anti-corrosion and anti-freeze functions. NOTE. coolant taken directly from the original packaging is usually called the stock solution. The stock solution can be either a coolant concentrate or a coolant predilute.

3.2 fuel cell vehicle coolant concentrate A coolant with a water content of no more than 5% and used in the thermal management system of fuel cell vehicle stacks after dilution.

3.3 fuel cell vehicle coolant predilute A coolant with a specific freezing point and directly used in the thermal management system of fuel cell vehicle stacks.

4 Product Classification

The classification, designation and model of fuel cell vehicle coolant (hereinafter referred to as the "fuel cell coolant") shall conform to the provisions of Table 1.

5 Technical Requirements and Test Methods

5.1 General Requirements and Test Methods The general requirements and test methods for fuel cell coolant shall comply with the provisions of Table 2.

5.2 Requirements for Physical and Chemical Properties and Test Methods The requirements for physical and chemical properties and test methods for fuel cell coolant shall comply with the provisions of Table 3.

6.1 Inspection Classification

6.1.1 Inspection is divided into type inspection and exit-factory inspection.

6.1.2 In the following situations, type inspection shall be conducted.

- a) When a new product is put into production or when a product is finalized;
- b) When there are relatively significant changes in raw materials, additives or processes that may affect product quality;
- c) When the exit-factory inspection results differ significantly from the previous type inspection results;
- d) When a product is transferred to another factory for production;
- e) Type inspection is usually conducted every two years, but this can be extended by two years if there are no changes in the production process.

6.1.3 Exit-factory inspection is divided into batch inspection and periodic inspection. Each batch of products produced shall undergo batch inspection, and at least two periodic inspections shall be conducted annually.

6.2 Inspection Items

6.2.1 Type inspection items include all technical requirements specified in Chapter 5.

6.2.2 Batch inspection items include appearance, color, odor, density, freezing point, boiling point, pH, electrical conductivity and foaming tendency.

6.2.3 Periodic inspection items include those in 6.2.2, as well as ash content, chlorine content, sulfate content, moisture content, static corrosion and stability.

6.3 Batching Under the condition of unchanged raw materials and processes, each batch of uniformly mixed products produced, whether from one batch or multiple batches consecutively produced, constitutes an inspection batch.

6.4 Sampling Sampling shall be carried out in accordance with the provisions of SH/T 0065. The sampling quantity for each batch of products shall meet the requirements for inspection and sample retention, or samples shall be randomly selected from the packaged products for inspection and sample retention.

6.5 Judgment Rules If the exit-factory inspection results meet the provisions of Chapter 5, the batch of products is deemed qualified. If the type inspection results meet the provisions of Chapter 5, the product is deemed qualified for type inspection.

6.6 Re-inspection Rules If the results of exit-factory inspection and type inspection do not meet the requirements of Chapter 5, double the sample size shall be drawn from the same batch of products for re-inspection of the disqualified items. If the re-inspection results meet the requirements, the judgment shall be performed in accordance with 6.5; if the re-inspection results still do not meet the requirements, the product is deemed disqualified.

7 Marking, Packaging, Transportation and Storage

7.1 Fuel cell coolant shall be marked and packaged in accordance with the provisions of NB/SH/T 0164. The marking content shall include.

- a) Product name;
- b) Antifreeze type;
- c) Product model;
- d) Instructions for use of the concentrate product;
- e) Production date or batch number;