

KES

Analysis of Boron for Antifreezing Fluid

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1. Scope of application

This standard shall specify the quantitative analysis of boron content in the antifreezing fluid that is used to prevent the vehicle freezing.

2. Equipment

- (1) Atomic optical photometer
- (2) Measuring flask : 100 mL volume

3. Reagents

- (1) Lanthanum chloride
- (2) Acetic acid
- (3) Distilled water
- (4) Glycol
- (5) Boron standard solution

4. Preparation of measuring chart

- (1) Put each of boron standard solution by stages based on the boron content into a 100 mL-sized measuring flask. Normally use 5 ~ 6 flasks.
- (2) Add 5 mL of lanthanum chloride, 50 mL of acetic acid and 25 mL of distilled water into each of the measuring flasks and dilute with ethylene glycol.
- (3) Measure the optical density using an atomic optical photometer and prepare the measuring chart by plotting the relation with the prepared density.

5. Operation

- (1) Put 20 mL of the sample into a 100 mL-sized measuring flask and mix well after adding 5 mL of lanthanum chloride, 50 mL of acetic acid and 25 mL of distilled water.
- (2) Prepare the empty sample by placing 20 mL of ethylene glycol instead of the sample