

MERCAPTAN SULFUR CONTENT (POTENTIOMETRIC TITRATION METHOD)



Mercaptan Sulfur Content (Potentiometric Titration Method) TT-3227

Mercaptan Sulfur Content (Potentiometric Titration Method) TT-3227 utilizes the potentiometric titration method. In this process, the hydrogen sulfide-free sample is dissolved in an alcoholic sodium acetate titration solvent and titrated potentiometrically with silver nitrate solution.

The potential between a glass reference electrode and a silver/silver-sulfide indicating electrode serves as an indicator. Under these conditions, the mercaptan sulfur precipitates as silver mercaptide, and the titration endpoint is indicated by a significant change in cell potential.

Suitable scope

The instrument is utilized for determining mercaptan sulfur levels in gasoline, kerosene, aviation turbine fuels, and distillate fuels with mercaptan sulfur concentrations ranging from 0.0003 to 0.01 mass %. It is important to note that organic sulfur compounds like sulfides, disulfides, and thiophene do not pose interference. Additionally, elemental sulfur in quantities below 0.0005 mass % does not interfere. However, the presence of hydrogen sulfide can cause interference if not removed prior to analysis.

APPLICATIONS

The primary application of this instrument is to determine the mercaptan sulfur content in various fuels using the potentiometric titration method.

It is specifically suitable for:

- Gasoline
- Kerosene

- Aviation turbine fuels
- Distillate fuels

The instrument is designed for fuels with mercaptan sulfur concentrations ranging from **0.0003 to 0.01 mass %**. It is important to note that hydrogen sulfide must be removed from the sample before analysis to prevent interference.

FEATURES

- The instrument operates on a Windows operating platform, providing convenient operation and straightforward dialogue between the operator and the machine.
- It offers real-time display of the titration curve and can print and store the titration curve, testing results, and data directly.
- We utilize titration units, ensuring higher measuring accuracy and better stability of the instrument.
- The instrument can perform the following functions automatically:
 - Cleaning
 - Setting value addition of fluid
 - Detecting endpoint
 - Filtering false endpoint
- Additionally, it features a Continuous Titration function.

TECHNICAL SPECIFICATIONS

1. Measuring range: 0.0001% to 0.05% (m/m)
2. Precision: Relative error $\leq 5\%$

3. Potentiometric measuring range: 0 to ± 1999.5 mV

4. Basic error: $0.1\% F \cdot S \pm 0.5$ mV

5. Burette volume: 10 ml

6. Minimum burette volume: 0.01 ml



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