TBS/CDC 15 (2787) DTZS:2024/ ISO 12937:2000

ICS: 75.080

DRAFT TANZANIA STANDARD

Petroleum products -Determination of water - Coulometric Karl Fisher titration method

TANZANIA BUREAU OF STANDARDS

First Edition 2024

National foreword

The Tanzania Bureau of Standards is the statutory National standards body for Tanzania, established under the Act.No.3 of 1975, amended by Act.No.2 of 2009.

This Draft Tanzania Standard is being adopted by Petroleum and petroleum products Technical Committee under the supervision of the Chemicals Divisional Standards Committee.

This draft Tanzania Standard is the identical adoption of ISO 12937:2000 Petroleum products - Determination of water - Coulometric Karl Fisher titration method

The text of the International standard is hereby being recommended for approval without deviation for publication as draft Tanzania standard.

Terminology and conventions

Some terminologies and certain conventions are not identical with those used as Tanzania standards; attention is drawn especially to the following: -

The comma has been used as a decimal marker for metric dimensions. In Tanzania Standards, its current practice to use full point on the baseline as the decimal marker.

Where the words “International Standard(s)” appear, referring to this standard they should read “Tanzania Standard”.

Scope

This International Standard specifies a method for the direct determination of water in petroleum products boiling below 390 °C. It covers the mass fraction range 0,003 % (m/m) to 0,100 % (m/m). It is not applicable to products containing ketones or to residual fuel oils.

This International Standard may be applicable to lubricating base oils. However, the precision has not been established for these materials.

The precision given in clause 12 is based upon data obtained using dual-cell, dual-electrolyte systems.

NOTE 1 A number of substances and classes of compounds associated with condensation or oxidation-reduction reactions interfere in the determination of water by Karl Fischer titration. In petroleum products, the most common interferences are hydrogen sulfide and mercaptan sulfur, however, mass fractions of these below 0,003 % (m/m) as sulfur will not cause significant interference over the range 0,003 % (m/m) to 0,100 % (m/m) water. Other organic sulfur compounds commonly present such as sulfides, disulphides and thiophenes, do not interfere.

NOTE 2 An alternative procedure is provided for information in annex B for the direct determination of water over the range 0,003 % (V/V) to 0,100 % (V/V) in petroleum products. The limitations under which this alternative volume measurement may be used are listed in annex B.

NOTE 3 For the purposes of this International Standard, the terms "% (m/m)" and "% (V/V)" are used to represent the mass and volume fraction of a material respectively.

