This is a preview of "ISO 10101-2:1993". Click here to purchase the full version from the ANSI store.

STANDARD **10101-2**

First edition
1993-10-01

Natural gas — Determination of water by the Karl Fischer method —

Part 2:
Titration procedure

Gaz naturel — Dosage de l'eau par la méthode de Karl Fischer —
Partie 2: Méthode titrimétrique

Reference numbe
ISO 10101-2:1993(E

This is a preview of "ISO 10101-2:1993". Click here to purchase the full version from the ANSI store.

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 10101-2 was prepared by Technical Committee ISO/TC 193, *Natural gas*, Sub-Committee SC 1, *Analysis of natural gas*.

ISO 10101 consists of the following parts, under the general title *Natural gas — Determination of water by the Karl Fischer method*:

— *Part 1: Introduction*

— *Part 2: Titration procedure*

— *Part 3: Coulometric procedure*

Annex A forms an integral part of this part of ISO 10101.

© ISO 1993
All rights reserved. No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher.

International Organization for Standardization
Case Postale 56 • CH-1211 Genève 20 • Switzerland

Printed in Switzerland

This is a preview of "ISO 10101-2:1993". Click here to purchase the full version from the ANSI store.

Natural gas — Determination of water by the Karl Fischer method —

Part 2:
Titration procedure

WARNING — Local safety regulations must be taken into account, when the equipment is located in hazardous areas. Due to the toxicity and odour of pyridine, the user should ensure that there is adequate ventilation.

1 Scope

This part of ISO 10101 specifies a titrimetric procedure for the determination of water content in natural gas. Volumes are expressed in cubic metres at a temperature of 273,15 K (0 °C) and a pressure of 101,325 kPa (1 atm). It applies to water concentrations between 5 mg/m^3 and 5 000 mg/m^3.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 10101. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 10101 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 383:1976, *Laboratory glassware — Interchangeable conical ground joints.*

ISO 7504:1984, *Gas analysis — Vocabulary.*

ISO 10101-1:1993, *Natural gas — Determination of water by the Karl Fischer method — Part 1: Introduction.*

ISO 10101-3:1993, *Natural gas — Determination of water by the Karl Fischer method — Part 3: Coulometric procedure.*

3 Principle

A measured volume of gas is passed through a cell containing a relatively small volume of absorbent solution. Water in the gas is extracted by the absorbent solution and, subsequently titrated with Karl Fischer reagent. The design of the cell and the absorbent solution are chosen so as to ensure efficient collection of the water at the high flowrates necessary.

The principle and chemical reactions of the Karl Fischer method are given in ISO 10101-1:1993, clauses 3 and 4; interferences are also described in clause 4 of ISO 10101-1.

Clause 4 of ISO 10101-1:1993 describes interfering substances which may be present in natural gas and corrections for the interference of hydrogen sulfide and mercaptans.

4 Reagents

4.1 Kark Fischer reagent, of which the water equivalent is approximately 5 mg/ml.

NOTE 1 For most applications, commercially available Karl Fischer reagent with a water equivalent of approximately 5 mg/ml has been found adequate. The reagent may be provided as two solutions which are mixed before use.