



BSI Standards Publication

Natural gas — Odorization

Currently in preview, click buy full version

National foreword

This Published Document is the UK implementation of ISO/TR 16922:2013. It supersedes BS ISO/TS 16922:2002 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee PTI/15, Natural Gas and Gas Analysis.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

© The British Standards Institution 2013.
Published by BSI Standards Limited 2013

ISBN 978 0 580 79360 8
ICS 75.060

Compliance with a British Standard cannot confer immunity from legal obligations.

This Published Document was published under the authority of the Standards Policy and Strategy Committee on 30 November 2013.

Amendments/corrigenda issued since publication

Date	Text affected
------	---------------

TECHNICAL
REPORT

ISO/TR
16922

First edition
2013-11-15

Natural gas — Odorization

Gaz naturel — Odorisation



Reference number
ISO/TR 16922:2013(E)

© ISO 2013



COPYRIGHT PROTECTED DOCUMENT

© ISO 2013

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

Contents

Page

Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
3.1 General.....	1
3.2 Specific definitions for the gas odorants.....	2
4 General requirements for natural gas odorants	2
5 General remarks on odorant behaviour	2
5.1 Seals and membranes.....	2
5.2 Pipelines.....	2
5.3 Buried pipeline.....	3
6 Safety precautions	3
6.1 Handling of odorants.....	3
6.2 Masking and remediation.....	3
6.3 Transportation and storage.....	4
7 Odorization technique	4
7.1 Centralized or decentralized odorization.....	4
7.2 Odorizer.....	5
7.3 Constructional measures.....	6
7.4 Pressure resistance.....	6
7.5 Addition of odorant.....	7
8 Necessary odorant addition	7
8.1 General remarks.....	7
9 Control of odorization	8
9.1 General.....	8
9.2 Check of odorization equipment and systems.....	8
9.3 Control of odorization of the gas.....	8
9.4 Odour complaints.....	8
Bibliography	9
National standards or implementations	10

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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2. www.iso.org/directives

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received. www.iso.org/patents

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

The committee responsible for this document is ISO/TC 193, *Natural gas*.

ISO/TR 16922 cancels and replaces ISO/TS 16922:2002.

Introduction

Processed natural gas normally has little or no odour. For safety reasons, distributed natural gas should therefore be odorized, to permit the detection of the gas by smell.

The odorization is predominantly a safety measure for the user of natural gas. Odorized natural gas is recognized by the characteristic smell.

Currently in preview, click buy full version

Natural gas — Odorization

1 Scope

This Technical Report gives the specifications and guidelines for the methods to be used in the odorization of natural gas under a safety point of view.

This Technical Report also specifies the principles for the odorization technique (including handling and storage of odorants) and the control of odorization of natural gas.

This Technical Report does not cover odorization of gas supply with gases other than natural gas.

NOTE The general requirements for odorants, and the physical and chemical properties of commonly used odorants are specified in ISO 13734.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 5492:2008, *Sensory analysis — Vocabulary*

ISO 10715, *Natural gas — Sampling guidelines*

ISO 13734, *Natural gas — Organic components used as odorants — Requirements and test methods*

ISO 14532, *Natural gas — Vocabulary*

ISO 19739, *Natural gas — Determination of sulfur compounds using gas chromatography*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 5492 and ISO 14532 and the following apply.

3.1 General

The following general definitions apply to the human ability for sensation, awareness and intensity of odour perception.

3.1.1

odour perception

awareness of the effect of volatile substances by the olfactory organ

3.1.2

odour character

distinctive and identifiable feature of an odour or flavour

3.1.3

odour intensity

magnitude of the perceived odour