

ISBN 978-0-626-21960-4

SANS 532:2009

Edition 1

SOUTH AFRICAN NATIONAL STANDARD

**Standard and specifications for industrial,
medical, propellant, food and beverage gases,
refrigerants and breathing gases**

Published by SABS Standards Division
1 Dr Lategan Road Groenkloof ☒ Private Bag X191 Pretoria 0001
Tel: +27 12 428 7911 Fax: +27 12 344 1568
www.sabs.co.za
© SABS

SABS

SANS 532:2009

Edition 1

Table of changes

Change No.	Date	Scope

Foreword

This South African standard was approved by National Committee SABS TC 1050, *Gases*, in accordance with procedures of the SABS Standards Division, in compliance with annex 3 of the WTO/TBT agreement.

This document was published in June 2009.

Reference is made in clause 3 and in 7.1 to the "national body and the national accredited approving authority". In South Africa this means

- a) the Chief Inspector of Factories, as specified in the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993),
- b) the Government Mining Engineer, as specified in the Mine Health and Safety Act, 1996 (Act No. 29 of 1996), and
- c) the appropriate local authority.

Annex A forms an integral part of this document.

Contents

	Page
Foreword	
1 Scope	3
2 Normative references	3
3 Definitions and abbreviations	5
3.1 Definitions	5
3.2 Abbreviations	5
4 Methods of test	6
5 Gas specifications	6
5.1 General	6
5.2 Industrial gases	6
5.3 Medical gases	9
5.4 Propellant gases	11
5.4.1 Flammable propellant gases	11
5.4.2 Non-flammable propellant gases	12
5.5 Food and beverage gases	13
5.6 Refrigerants	15
5.6.1 Ammonia	15
5.6.2 Single component refrigerants	16
5.6.3 Zeotropic blends (400 and 500 series refrigerants)	17
5.7 Breathing gases	18
6 Storage	18
7 Packaging and labelling	19
8 Marking	19
Annex A (normative) Notes to purchasers	20
Bibliography	20

SANS 532:2009
Edition 1

This page is intentionally left blank

Standard and specifications for industrial, medical, propellant, food and beverage gases, refrigerants and breathing gases

1 Scope

1.1 This standard covers:

- a) industrial gases;
- b) medical gases;
- c) propellant gases;
- d) food and beverage gases;
- e) refrigerants; and
- f) breathing gases.

1.2 This standard does not cover:

- a) diving gases;
- b) industrial liquid petroleum gases (see SANS 1774);
- c) high purity gases; and
- d) mixed gases.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For updated references, the latest edition of the referenced document (including any amendments) applies. Information on currently valid national and international standards can be obtained from the SABS Standards Division.

ARI 700:2006, *Specifications for fluorocarbon refrigerants*.

ARI 700:1999, *Analytical procedures for ARI standard 700-99 Appendix C to ARI 700-99*.

ASTM D 1267, *Standard test method for gauge vapor pressure of liquefied petroleum (LP) gases (LP-Gas Method)*.

ASTM D 1838, *Standard test method for copper strip corrosion by liquefied petroleum (LP) gases*.