AS ISO 9703.2—2002
ISO 9703-2:1994

Australian Standard™

Anaesthesia and respiratory care alarm signals

Part 2: Auditory alarm signals

Standards Australia

This Australian Standard was prepared by Committee HE-019, Anaesthetic and breathing equipment. It was approved on behalf of the Council of Standards Australia on 26 June 2002 and published on 28 June 2002.

The following are represented on Committee HE-019:

Australasian Society of Anaesthesia Technicians

Australian Chamber of Commerce and Industry

Australian College of Operating Room Nurses

Australian Industry Group

Australian Society of Anaesthetists

Australian and New Zealand College of Anaesthetists

Australian and New Zealand Intensive Care Society

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Commonwealth Department of Health and Ageing

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PREFACE

This Standard has been developed to assist in the process of implementation of the Australian Medical Device legislation.

After consultation with stakeholders in both countries, Standards Australia and Standards New Zealand decided to develop this Standard as an Australian, rather than an Australian/New Zealand Standard, through the Joint Standards Australia/Standards New Zealand Committee HE-019 on Anaesthetic and breathing equipment.

This Standard is identical with and has been reproduced from ISO 9703-2:1994, *Anaesthesia and respiratory care alarm signals — Part 2: Auditory alarm signals.*

The objective of this Standard is to specify the characteristics of auditory alarm signals for use in anaesthesia and respiratory care.

As this Standard is reproduced from an international Standard, the following applies:

(a) Its number does not appear on each page of text and its identity is shown only on the cover and title page.

(b) In the source text 'this International Standard' should read 'this Australian Standard'.

(c) A full point substitutes for a comma when referring to a decimal marker.

INTRODUCTION

Medical practice in hospitals is increasingly dependent on medical devices for observation and treatment of patients. Sounds and lights are frequently used to indicate the patient's physiological status and the functional state of the medical device. The sounds used are frequently too loud and not distinctive, and it is often difficult to identify which medical device is signalling. The purpose of this part of ISO 9703 is to specify the auditory component of alarm signals to be used to draw attention to the fact that the medical device has detected a disturbance and to indicate the degree of urgency.

This part of ISO 9703 was developed from contributions from clinicians, engineers and applied psychologists. The approach taken is intended to rationalize the current situation and to limit the proliferation of different sounds, in order to avoid confusion.

Some of the criteria considered during development of the sounds included optimal signal recognition in a relatively noisy environment, maximum transmission of information at the lowest practicable sound pressure level, ease of learning and retention by operators who have to respond to the various signals, and perceived urgency of the sounds.

Two important alarm signals are specified, i.e. high and medium priority signals. The auditory signals are acoustically related, but are differentiated by their perceived urgency. Guidelines are given for the design of a signal of lower priority than that of medium priority, and also for an information signal. Visual components are specified in ISO 9703-1.

NOTE 1 This International Standard is based on discussions held in ISO/TC 121 over a number of years, and on prEN 475, prepared by CEN/TC 259.

NOTES

AUSTRALIAN STANDARD

Anaesthesia and respiratory care alarm signals

Part 2: Auditory alarm signals

1 Scope

This part of ISO 9703 specifies the characteristics of the auditory component of electrically generated primary alarm systems in anaesthesia and respiratory care, either individually or as part of a centralized system. It applies only if a particular International Standard for a medical device makes reference to it.

This part of ISO 9703 does not specify

a) the medical devices on which these alarms are to be provided;

b) the conditions that actuate the alarms;

c) the means of generating the alarm signals;

d) secondary alarm system characteristics, i.e. alarm systems which are activated in case of a failure in the primary alarm system;

e) the allocation of priorities to alarms.

NOTE 2 It is expected that requirements for the application of the auditory alarm signals specified in this part of ISO 9703 will be included in "Particular Standards" (as formulated in IEC) for the particular medical devices.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 9703. 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 9703 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 3744:1994, *Acoustics — Determination of sound power levels of noise sources using sound pressure — Engineering method in an essentially free field over a reflecting plane.*

ISO 9703-1:1992, *Anaesthesia and respiratory care alarm signals — Part 1: Visual alarm signals.*

ISO 11201:—[1], *Acoustics — Noise emitted by machinery and equipment — Measurement of emission sound pressure levels at the work station and at other specified positions — Engineering method in an essentially free field over a reflecting plane.*

3 Definitions

For the purposes of this part of ISO 9703, the following definitions apply.

3.1 alarm signal: Signal, the purpose of which is to alert the operator to an abnormal condition which, if not immediately or promptly attended to, may develop into a safety hazard.

3.2 information signal: Signal, the purpose of which is to convey physiological or technical information.

1) To be published.

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