

Australian/New Zealand Standard<sup>®</sup>

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**Water quality—Sampling**

**Part 1: Guidance on the design  
of sampling programs, sampling  
techniques and the preservation  
and handling of samples**

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## AS/NZS 5667.1:1998

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This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee EV/8, Methods for Examination of Waters. It was approved on behalf of the Council of Standards Australia on 31 December 1997 and on behalf of the Council of Standards New Zealand on 9 February 1998. It was published on 5 April 1998.

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The following interests are represented on Committee EV/8:

Australian Chamber of Commerce and Industry  
Australian Institute of Marine Science  
Australian Water and Waste Water Association  
Australian and New Zealand Environment and Conservation Council  
Griffith University, Australia  
Minerals Council of Australia  
National Association of Testing Authorities, Australia  
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## PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EV/8, Methods for Examination of Waters, to supersede AS 2031.1—1986, *Selection of containers and preservation of water samples for chemical and microbiological analysis*, Part 1: *Chemical*.

This is Part 1 in a series of Standards on the sampling of waters and waste waters. The objective of this series of Standards, is to provide guidance for the sampling and monitoring of waters and waste waters, including guidance on the design of sampling programs, sampling techniques, preservation, handling and transport of samples for the purposes of process control, quality characterization, identification of sources of pollution, compliance with water quality guidelines or standards, and other specific reasons.

The objective of this part of the series is to provide general principles to be applied in the design of sampling programs, general guidance on sampling techniques and guidance on the procedures to be taken to preserve and transport samples. Major changes from the 1986 edition include the addition of guidance on design of sampling programs, sampling techniques and the handling and transport of samples and its publication as a Joint Standards Australia/Standards New Zealand Standard.

However, the Tables providing guidance on preservation in Part 1 are for physico-chemical, chemical and radiological determinands only. It is envisaged that further parts of the series will provide guidance on suitable container types, preservation techniques and recommended holding times for samples for microbiological and biological analysis. At present AS 2031.2—1986, *Selection of containers and preservation of water samples for chemical and microbiological analysis*, Part 2: *Microbiological* provides guidance on the preservation techniques for samples for microbiological analysis.

During the preparation of this Standard, cognizance was taken of ISO 5667-1, *Water quality—Sampling, Part 1: Guidance on the design of sampling programs*, ISO 5667-2, *Water quality—Sampling, Part 2: Guidance on sampling techniques*, ISO 5667-3 *Water quality—Sampling, Part 3: Guidance on the preservation and handling of samples* and *Standard Methods for the Examination of Water and Waste Water*, APHA, 19th edition, 1996.

The term ‘informative’ has been used in this Standard to define the application of the appendix to which it applies. An ‘informative’ appendix is only for information and guidance.

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## CONTENTS

	<i>Page</i>
<b>SECTION 1 SCOPE AND GENERAL</b>	
1.1 SCOPE .....	5
1.2 REFERENCED DOCUMENTS .....	5
1.3 DEFINITIONS .....	6
<b>SECTION 2 OBJECTIVES</b>	
2.1 GENERAL .....	7
2.2 SETTING OF OBJECTIVES .....	7
2.3 DOCUMENTATION OF PROCEDURES .....	8
2.4 REVIEW OF OBJECTIVES .....	8
<b>SECTION 3 SAFETY PRECAUTIONS</b>	
3.1 GENERAL .....	9
3.2 SAFETY AND PERSONAL EQUIPMENT .....	9
3.3 HAZARDOUS SAMPLES .....	9
3.4 HAZARDOUS ATMOSPHERES OR CONFINED SPACES .....	9
3.5 NATURAL HAZARDS .....	9
3.6 SAMPLING SITES .....	9
3.7 WEATHER CONDITIONS .....	9
3.8 SAMPLING FROM BOATS .....	9
3.9 ELECTRICAL HAZARDS .....	9
<b>SECTION 4 FACTORS AFFECTING SAMPLING</b>	
4.1 GENERAL CONSIDERATIONS .....	10
4.2 SPECIFIC SAMPLING SITUATIONS .....	11
4.3 SAMPLING FOR MICROBIOLOGICAL ANALYSIS .....	14
<b>SECTION 5 QUALITY CONTROL SAMPLES</b>	
5.1 INTRODUCTION .....	15
5.2 BLANKS .....	15
5.3 CONTROLS .....	16
5.4 REPLICATE SAMPLES .....	16
<b>SECTION 6 NUMBER AND FREQUENCY OF SAMPLING</b>	
6.1 GENERAL .....	17
6.2 SYSTEM VARIABILITY .....	17
<b>SECTION 7 SAMPLE CONTAINERS</b>	
7.1 CONTAINER SELECTION .....	18
7.2 TYPES OF SAMPLE CONTAINER .....	18
7.3 CONTAINER PREPARATION .....	19

	<i>Page</i>
<b>SECTION 8 TYPES OF SAMPLE</b>	
8.1 GENERAL .....	20
8.2 GRAB SAMPLES .....	20
8.3 PERIODIC SAMPLES (DISCONTINUOUS) .....	20
8.4 CONTINUOUS SAMPLES .....	20
8.5 SERIES SAMPLING .....	21
8.6 COMPOSITE SAMPLES .....	21
8.7 LARGE VOLUME SAMPLES .....	21
<b>SECTION 9 SAMPLING EQUIPMENT</b>	
9.1 SAMPLING LINES .....	23
9.2 SAMPLING EQUIPMENT FOR PHYSICAL OR CHEMICAL CHARACTERISTICS .....	23
9.3 SAMPLING EQUIPMENT FOR RADIOACTIVITY CHARACTERISTICS .....	24
9.4 SAMPLING EQUIPMENT FOR DISSOLVED GASES (AND VOLATILE MATERIALS) .....	24
9.5 SAMPLING EQUIPMENT FOR MICROBIOLOGICAL CHARACTERISTICS .....	25
<b>SECTION 10 SAMPLE IDENTIFICATION AND TRANSPORT</b>	
10.1 SAMPLE IDENTIFICATION .....	26
10.2 REPORTS .....	26
10.3 TRANSPORT OF SAMPLES .....	26
10.4 RECEPTION OF SAMPLES IN THE LABORATORY .....	26
<b>SECTION 11 SAMPLE PRESERVATION</b>	
11.1 GENERAL .....	27
11.2 REFRIGERATION OR FREEZING .....	28
11.3 USE OF PRESERVATIVES .....	28
11.4 REAGENTS .....	29
11.5 EXTRACTION .....	30
11.6 SAMPLING DETAILS FOR INDIVIDUAL DETERMINATIONS .....	30
11.7 FILTRATION OR CENTRIFUGING OF SAMPLES .....	30
<b>APPENDICES</b>	
A TYPES OF SAMPLING PROGRAM .....	49
B FLOW MEASUREMENTS .....	50
C FURTHER READING .....	53
D DESIRABLE FEATURES OF AUTOMATIC SAMPLING EQUIPMENT .....	55

## STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

**Australian/New Zealand Standard****Water quality—Sampling****Part 1: Guidance on the design of sampling programs,  
sampling techniques and the preservation and handling of samples**

## SECTION 1 SCOPE AND GENERAL

**1.1 SCOPE** This Standard provides general principles to be applied in sampling for the physical, chemical, microbiological or radiological analysis of waters and waste waters, including bottom sediment and sludges, for the purposes of process control, quality characterization, identification of sources of pollution and the monitoring of background levels.

The guidance on sampling procedures provided in this Standard is generally applicable. Where alternative procedures are used they are to be demonstrated to be at least as reliable as those provided in this Standard or that they will achieve the objectives of the sampling and analysis program.

The general principles and guidance contained in this Standard are as follows:

- (a) General principles to be applied in the design of sampling programs.
- (b) General guidance on sampling techniques.
- (c) General guidelines on the procedures to be followed to preserve and transport samples. These include guidelines for the selection of containers, quality control measures and tables that provide details of preservation techniques.

NOTE: Special care is needed when collecting samples for microbiological examination. Recommendations for the selection and preparation of sample containers and transport and storage of microbiological samples is provided in AS 2031.2.

**1.2 REFERENCED DOCUMENTS** The following documents are referred to in this Standard:

## AS

- |        |   |
|--------|---|
| 2031   | Selection of containers and preservation of water samples for chemical and microbiological analysis |
| 2031.2 | Part 2: Microbiological   |
| 2865   | Safe working in a confined space  |
| 3550   | Methods for the analysis of waters  |
| 3550.1 | Part 1: Determination of dissolved sulphide—Spectrophotometric method                               |

## AS/NZS

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|--------|--|
| 5667   | Water quality—Sampling   |
| 5667.4 | Part 4: Guidance on sampling from lakes, natural and man-made                                  |
| 5667.5 | Part 5: Guidance on sampling of drinking water and water used for food and beverage processing |
| 5667.6 | Part 6: Guidance on sampling of rivers and streams   |
| 5667.7 | Part 7: Guidance on sampling of water and steam in boiler plants                               |
| 5667.8 | Part 8: Guidance on the sampling of wet deposition   |
| 5667.9 | Part 9: Guidance on sampling from marine waters  |



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