Australian/New Zealand Standard™

Selection of containers and preservation of water samples for microbiological analysis

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STANDARDS NEW ZEALAND

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee FT-020, Water Microbiology. It was approved on behalf of the Council of Standards Australia on 13 April 2001 and on behalf of the Council of Standards New Zealand on 19 October 2001. It was published on 9 November 2001.

The following interests are represented on Committee FT-020:

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Australian/New Zealand Standard™

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee FT-020, Water Microbiology to supersede AS 2031.2—1987, *Selection of containers and preservation of water samples for chemical and microbiological analysis*, Part 2: *Microbiological*.

The choice of sampling vessel, sample containers and method of preservation depends upon the nature of the water to be sampled (e.g. depth), the characteristics to be determined and the distance to and capacity of the laboratory which is to carry out the analyses. It must be stressed that no single method of sampling or of sample preservation is suitable for all cases. In fact, for a number of tests, in situ measurements are mandatory. Similarly, for various reasons different types of sample container are required for different tests. AS/NZS 5667, *Water quality—Sampling* series of Standard caters for the specialized requirements for samples for chemical examination.

The major differences between this Standard and the 1987 edition are editorial, but in this edition the provision for sterile disposable containers has been included as an alternative to glass containers to reflect current sampling procedures.

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Australian/New Zealand Standard

Selection of containers and preservation of water samples for microbiological analysis

1 SCOPE

This Standard provides requirements and recommendations for the selection and preparation of sample containers for the preservation and transport of water and waste water samples for microbiological analyses.

2 APPLICATION

This Standard is applicable to all water and waste water samples collected for microbiological water quality assessment. The collection of samples for viral, and helminths and protozoans analysis requires special attention not detailed in this Standard.

3 SAMPLE CONTAINERS

3.1 General

Sample containers should be made from good quality soda or borosilicate glass, or from a suitable pre-sterilized disposable or autoclavable polymer (plastic), and be free from toxic substances. Sample containers shall be clearly marked with a batch number prior to sterilization to assist in quality control procedures.

The size of the containers depends upon the number and type of tests to be carried out.

Containers shall be of sufficient volume for all the tests required and adequate head space to allow for mixing of sample.

Construction of the containers and stoppers or caps shall be such as to maintain the integrity of the sample by preventing contamination until all microbiological examinations are complete.

NOTE: Sample bottle necks may be covered with aluminium foil to assist this process if necessary. The need for this action will be determined by a quality control process.

3.2 Preparation of sample containers

3.2.1 *Sterile disposable containers*

Sterile disposable containers which conform to the requirements in Clause 3.1 are a satisfactory alternative to glass containers and require no pre-treatment.

For sampling chlorinated or wastewater samples, sterile disposable containers should contain sufficient sodium thiosulphate solution to provide an approximate concentration of 100 mg/L in the sample. This may be achieved in one of two ways. Pre-sterilized sodium thiosulphate solution or sterilized by using steam pressure, not dry heat, can be added to sterile disposable containers under aseptic conditions.

Alternatively, non-sterile sodium thiosulphate solution may be added to the containers prior to the sterilization (generally gamma irradiation) process by the manufacturer.

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