

Australian Standard[®]

**Cleaning and sanitizing milking
equipment**

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The following interests are represented on Committee FT/9:

Australian Dairy Farmers Federation
Chemical Confederation of Australia
Confederation of Australian Industry
Council of Australian Food Technology Associations
Dairy Industry Association of Australia
Dairy Industry Authority of Western Australia
Department of Agriculture, S.A.
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PREFACE

This Standard was prepared by the Standards Australia Committee on Dairy Detergents and Sanitizers to supersede AS 1536—1977, *Code of practice for cleaning and sanitizing milking equipment*. The Standard is one of a series of Standards relating to detergents and sanitizers, cleaning and sanitizing dairy farm and dairy factory equipment, and the post-milking hygiene of dairy cows.

The primary objective of this Standard is to improve the quality of dairy products by describing acceptable practices for cleaning and sanitizing of milking machines, bulk milk tanks and ancillary equipment in milking sheds. The Standard recognizes that cleaning systems which differ from those described herein may be satisfactory in specific circumstances. The information provided in this Standard is principally, though not exclusively, for the use of extension workers in the field, so that they may be in a better position to prepare detailed advice, consistent with local regulatory requirements, for individual producers. A Standard dealing with cleaning and sanitizing in dairy factories is available as AS 1162, *Cleaning and sanitizing dairy factory equipment*.

Because of the importance of an understanding of the principles underlying the cleaning and sanitizing of specific items of equipment, two of the earlier sections of the Standard are devoted to the more important requirements for achieving and maintaining a hygienic condition in milking sheds, and to the general principles behind cleaning and sanitizing, whether manual techniques or cleaning-in-place techniques are used.

This Standard describes cleaning systems which have been found to be effective. If other systems are demonstrated to be effective in the future, they will be examined for inclusion in future editions.

It is strongly recommended that the cleaning system which is adopted be used after every milking. Also stressed is the importance of actually measuring temperatures and concentrations of solutions which are used, since close control is essential if cleaning and sanitizing systems are to be effective and economical, and undesirable residues in milk are to be avoided.

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STANDARDS AUSTRALIA

Australian Standard

Cleaning and sanitizing milking equipment

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE This Standard sets out recommended cleaning and sanitizing procedures for use in milking sheds in order to achieve and maintain a satisfactory level of hygiene. Procedures are given for cleaning and sanitizing items of dairy farm equipment, principally milking machines and refrigerated farm milk tanks. Both manual and cleaning-in-place techniques are included.

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

AS

- 1030 Dial-type general purpose thermometers for use in the dairying industry
- 1031 Metal-cased mercury-in-glass thermometers for use in the dairying industry
- 1087 Sodium hypochlorite solutions for use in the dairying industry
- 1187 Refrigerated bulk milk tanks
- 1389 Acidic detergents for use in the dairying industry
- 1398 Iodophors for use in the dairying industry
- 1400 Heavy-duty alkaline detergents for 'in-place' cleaning in dairy factories
- 1803 General purpose detergents for use in the dairying industry
- 2123 Slow-delivery type automatic electric storage water heaters for dairies
- 2243 Safety in laboratories
- 2243.3 Part 3: Microbiology
- 2844 Milking machine installations
- 2844.2 Part 2: Construction and performance

1.3 DEFINITIONS For the purpose of this Standard, the definitions below apply.

1.3.1 Cleaning—an operation which aims at removing all foreign deposits or residues from equipment surfaces using physical, chemical or mechanical means.

1.3.2 Clean surface—a surface, free from residual film or soil, and complying with the following requirements:

- (a) Contamination or oxidation is not visible under good lighting conditions with the surface wet or dry.
- (b) No objectionable odour is apparent.
- (c) The surface does not feel greasy when rubbed with clean fingers.
- (d) A new, white facial tissue wiped several times over the surface, shows no discoloration.
- (e) The surface shows no sign of excessive water-break while water is draining from it.
- (f) The surfaces are free from undesirable residues of cleaning and sanitizing materials.
- (g) No sign of fluorescence is detectable when the surface is inspected with a long wavelength (340 nm to 380 nm) ultraviolet light.
- (h) After being sanitized, the surface microbial count is within acceptable levels (see Appendix A, Paragraph A8).

1.3.3 Circulation cleaning-in-place (CIP)—a method for cleaning equipment, using no direct mechanical aid to remove the soil but depending on solution flows, temperature and the properties of the detergent solution.

1.3.4 Manual cleaning—an operation in which the equipment to be cleaned is dismantled, where necessary, and the detergent solution brought into contact with the equipment by physical effort on the part of the operator.

1.3.5 Sanitizing—a process which reduces the number of microorganisms in dairy plant and on utensils to an acceptable level (see Appendix A, Paragraph A8).

1.3.6 Rinse—the operation whereby a sufficient quantity of water is brought into contact with surfaces to remove most of the contaminating substances, and is then drained away.

1.3.7 Rinse additive—a chemical or blend of chemicals which may be used to improve the rinsing efficiency of water.