

Australian Standard™

**General purpose detergents for
use in the dairying industry**

This Australian Standard was prepared by Committee FT/9, Dairy Detergents and Sanitizers. It was approved on behalf of the Council of Standards Australia on 17 April 1998 and published on 5 July 1998.

The following interests are represented on Committee FT/9:

Australian Chamber of Commerce and Industry
Australian Chemical Specialties Manufacturers Association
Australian Dairy Farmers Federation
Dairy Industry Association of Australia
Dairy Industry Authority of Western Australia
Department of Primary Industries, Queensland
Detergent & Sanitizers Manufacturers Co-Op Group, New Zealand
Food Technology Association of Victoria
Ministry of Agriculture & Fisheries New Zealand
National Registration Authority
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**General purpose detergents for
use in the dairying industry**

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee FT/9, Dairy Detergents and Sanitizers, to supersede AS 1803—1982.

This Standard is the result of a consensus among Australian and New Zealand representatives on the Joint Committee to produce it as an Australian Standard.

The objective of this revision is—

- (a) to maintain the established Standard, which specifies assessments for cleaning performance, corrosion, solubility and foaming characteristics in general purpose detergents; and
- (b) to introduce some minor changes.

This Standard is one of a number of Standards dealing with dairy detergents and sanitizers. These Standards include AS 2541—1982, *Guide to the cleaning-in-place of dairy factory equipment*, AS 1162—1991, *Cleaning and sanitizing dairy factory equipment* and AS 1536—1991, *Cleaning and sanitizing milking equipment*, which should be consulted in relation to the proper usage of the detergents and sanitizers specified in the product specifications.

The term ‘normative’ has been used in this Standard to define the application of the appendix to which it applies. A ‘normative’ appendix is an integral part of a Standard.

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STANDARDS AUSTRALIA

Australian Standard

General purpose detergents for use in the dairying industry

1 SCOPE This Standard specifies requirements for detergents, which may be applied manually or by cleaning-in-place to dairy farm equipment, or manually to dairy factory equipment.

These detergents have their major applications where—

- (a) the soil is not very difficult to remove, e.g. cold milk soil; or
- (b) most of the cleaning effort is supplied by the operator, e.g. manual cleaning of more tenacious soils.

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

AS

1162 Cleaning and sanitizing dairy factory equipment

1449 Wrought alloy steels—Stainless and heat-resisting steel plate, sheet and strip

1536 Cleaning and sanitizing milking equipment

2163 Laboratory glassware—Measuring cylinders

2164 Laboratory glassware—One-mark volumetric flasks

BS

2648 Performance requirements for electrically-heated laboratory drying ovens

EN ISO 3696 Water for analytical laboratory use—Specification and test methods

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

3.1 Detergents—chemicals or blends of chemicals capable of assisting cleaning when added to water.

3.2 Soil—any residue, scale and other deposits to be removed from the milk-contact surface during the cleaning process.

3.3 Use dilution—the minimum concentration of detergent in water that the manufacturer has recommended for general purpose cleaning.

3.4 Use temperature—the temperature that the supplier/manufacturer has recommended for a specific application. Cold is between 1°C and 35°C, warm between 36°C and 59°C, and hot is 60°C and above.

4 CLASSIFICATION OF DETERGENTS General purpose detergents are classified according to their ability to perform in waters of various hardnesses as follows:

- (a) *Soft water type* A detergent suitable for use when prepared in waters with hardness up to 300 mg/L total hardness.
- (b) *Hard water type* A detergent suitable for use when prepared in hard water greater than 300 mg/L total hardness.

5 GENERAL PROPERTIES The following criteria shall apply to general purpose detergents:

- (a) The substance shall be either liquid or solid.
- (b) Powdered substances shall be homogeneously blended and free flowing. Any caking that occurs during normal storage in sealed containers shall be easily broken up so that the material again becomes free flowing.
- (c) The substance shall not contain any perfume or fragrant deodorizer.
- (d) Any dyes used shall be approved food colouring substances.
- (e) When used in accordance with the manufacturer's/supplier's instructions, the substances shall not impart any flavour or taint to dairy products.
- (f) The substance shall be free from foreign matter.
- (g) When used in accordance with the manufacturer's/suppliers instructions, the substance shall not cause any residues harmful to humans or to the quality of dairy products.
- (h) The stability of the substance shall be sufficient for it to meet all appropriate performance or tests in its specification up to at least 2 years after the date of manufacture.

6 SOLUBILITY IN WATER The solubility of the detergent in water shall be such that 5 g of the material will substantially dissolve in 100 mL of water, initially at a temperature of 50°C to 70°C. Any residue shall be completely rinsable and free from grit.

7 DEGREE OF FOAMING The degree of foaming of the detergent at the use dilution, at the minimum recommended temperature of use, shall be expressed as 'low' or 'medium' or 'high', in accordance with the method of determination set out in Appendix A.

8 CLEANING PERFORMANCE When assessed in accordance with Appendix B, the cleaning performance of the detergent at the use dilution shall not be inferior to that of the prescribed test reference detergent solution. The hardness of the water used to prepare the detergent and rinse solutions shall be altered according to the class of detergent, viz.:

- (a) *Soft water type*—water of 300 mg/L total hardness.
- (b) *Hard water type*—water of 800 mg/L total hardness.

The reference detergent and its rinse solutions shall be prepared in water of 300 mg/L total hardness.

9 CORROSION TEST When tested in accordance with Appendix C, the detergent shall be free from corrosive effect on stainless steel to the extent that test panels show no visible evidence of corrosion nor any discolouration.

10 PACKAGING The method of packaging shall be such that the pack will withstand the normal hazards of transport, storage and handling and shall comply with relevant statutory regulations.

11 INFORMATION TO BE SUPPLIED BY THE MANUFACTURER

11.1 Directions for application, storage and use The manufacturer shall supply adequate and accurate directions for the application, storage and use of the product. Such directions shall be in accordance with the relevant provisions of AS 1162, and AS 1536.