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IODOPHORS FOR USE IN THE DAIRYING INDUSTRY

STANDARDS ASSOCIATION OF AUSTRALIA
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THE FOLLOWING SCIENTIFIC, INDUSTRIAL AND GOVERNMENTAL ORGANIZATIONS and departments were officially represented on the committee entrusted with the preparation of this standard:

Australian Chemical Specialties Manufacturers Association

Australian Dairy Farmers Federation

Australian Dairy Institute Incorporated

Australian Society of Dairy Technology Incorporated

Commonwealth Advisory Laboratory on Dairy Detergents and Sanitizers

Confederation of Australian Industry

Council of Australian Food Technology Associations Incorporated

Dairy Industry Marketing Authority

Department of Agriculture, N.S.W.

Department of Agriculture, S.A.

Department of Agriculture, Tasmania

Department of Agriculture, Victoria

Department of Agriculture, W.A.

Department of Primary Industries, Queensland

Department of Primary Industry

Food Industry Suppliers Association of Australia

Royal Australian Chemical Institute

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IODOPHORS FOR USE IN THE DAIRYING INDUSTRY

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PREFACE

This edition of this standard was prepared by the Association's Committee on Dairy Detergents and Sanitizers, to supersede AS 1398—1972.

This edition eliminates classification of types and no longer includes teat skin disinfectants which are the subject of development by a separate committee*. Numerous technical modifications have been incorporated, the two principal ones being that a maximum volume of 45 mL for the low foam category is now specified, and the degree of foaming is now assessed at a temperature nominated by the manufacturer.

As a low pH is an essential condition for the sanitizing action of an iodophor (see Clause 5), it is most important that suitable control be exercised over the alkalinity of the make-up water used. It also follows that the 'significant surfaces' of the equipment being treated should be resistant to the action of acid. The committee recognized that corrosion problems could be accentuated by the use of mineral acids in the iodophor formulations. Accordingly, the standard includes a corrosion test designed to limit the amount of strong acid that can be incorporated.

The method given in Appendix E for the assessment of bactericidal properties was developed at the Dairy Research Centre, N.S.W., and is based closely on the International Dairy Federation's Standard 18:1962, Capacity Test for the Evaluation of the Disinfectant Activity of Dairy Disinfectants.

This standard makes reference to the following Australian and British standards:

AS 1162	Code of Practice for Cleaning and Sanitizing Dairy Factory Equipment
AS 1449	Wrought Alloy Steels—Stainless and Heat-resisting Steel Plate, Sheet and Strip
AS 1536	Code of Practice for Cleaning and Sanitizing Milking Equipment
AS 2163	Graduated Measuring Cylinders
AS 2164	One-mark Volumetric Flasks
AS	Post-milking Teat Skin Sanitizers†
BS 2648	Performance Requirements for Electrically-heated Laboratory Drying Ovens
BS 3978	Water for Laboratory Use

*DS/15, Teat Skin Disinfectants.
†In course of preparation.

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard
for
IODOPHORS FOR USE IN THE DAIRYING INDUSTRY

1 SCOPE. This standard specifies requirements for products based on iodine, known as 'iodophors', which can be used when appropriately diluted, for the sanitizing of dairy equipment on the farm and/or in the factory.

2 DEFINITION. For the purpose of this standard, the following definition applies:

Use dilution—the minimum concentration of the iodophor in water that the manufacturer has recommended for a specified application.

3 GENERAL PROPERTIES.

3.1 Description. The product as received shall be homogeneous. If liquid, it shall be mobile, dark brown, free from sediment, and shall have a characteristic non-irritating odour. When used in accordance with the manufacturer's instructions*, it shall not contaminate dairy products with objectionable residues.

3.2 Miscibility with Water. The miscibility of an iodophor with water shall be such that, when prepared in accordance with Appendix A, the use solution is completely homogeneous without any undispersed concentrate left adhering to the mixing vessel.

4 AVAILABLE IODINE CONTENT. The available iodine content of the use dilutions of the iodophor, shall be determined in accordance with Appendix B, if required.

5 pH VALUE. The pH value of the use dilution of an iodophor, determined electrometrically on a solution made up using water of alkalinity 100 mg/L expressed as calcium carbonate, shall be not greater than 4.0.

6 CORROSION TEST. Test panels of stainless steel, when immersed in the use dilution of iodophor in accordance with Appendix C, shall not show any visible evidence of corrosion nor any discoloration.

7 STABILITY.

7.1 Liquid Iodophors. After the liquid iodophor, as received, has been subjected to the oven test for stability in accordance with Appendix D—

(a) there shall be no separation of the liquid into layers;

(b) any difference in available iodine content at use dilution between samples taken from within 5 mm of the top and within 5 mm of the bottom of the cylinder containing the test sample shall be not greater than 10 percent of the mean of the two determinations.

7.2 Solid Iodophors. After the solid iodophor, as received, has been subjected to the oven test for stability in accordance with Appendix D, there shall be no appreciable change in the available iodine content at use dilution.

8 SANITIZING PROPERTIES. When tested in accordance with Appendix E, the sanitizing properties of the iodophor at its use dilution shall be not inferior to those of sodium hypochlorite solution containing 200 mg/L of available chlorine with respect to *Escherichia coli, Pseudomonas aeruginosa* and *Staphylococcus aureus*.

9 DEGREE OF FOAMING. When determined in accordance with Appendix F, the degree of foaming of the use dilution of iodophor shall be categorized in accordance with the mean volume of foam recorded in the test, as follows:

Degree of foaming	*Mean volume of foam* mL
Low foam	less than 45
Medium foam	45 to 150
High foam	above 150

10 INFORMATION TO BE SUPPLIED BY THE MANUFACTURER. 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.

11 PACKAGING. The iodophor shall be supplied in a sealed, airtight container showing no evidence of leakage or other defects. The container shall protect the product from light. Packaging materials in contact with the product shall not interact with nor contaminate the product.

12 MARKING. Each container of the product shall, in addition to bearing the markings required by the relevant statutory regulations, be legibly and indelibly marked with the following information:

(a) A statement with regard to the degree of foaming.

(b) An adequate statement on the methods by which the product should be used, including the concentration and temperature of the use solution.

NOTE: The temperature must not exceed 50°C.

(c) A brief description of the cleaning system for which the product is designed.

*Use above this level may lead to increased concentrations of iodine in milk and milk products.

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