

Australian Standard™

**Sodium hypochlorite solutions for use
in the dairying industry**

This Australian Standard was prepared by Committee FT-009, Dairy Detergents and Sanitizers. It was approved on behalf of the Council of Standards Australia on 24 December 2002 and published on 28 January 2003.

The following are represented on Committee FT-009:

Australian Chamber of Commerce and Industry
Australian Consumer & Specialty Products Association
Australian Dairy Farmers Federation
Australian Dairy Products Federation
Australian Food and Grocery Council
Dairy Industry Association of Australia
Department of Primary Industries, Queensland
Health Department of W.A.
Ministry of Agriculture & Fisheries, New Zealand
National Registration Authority for Agricultural & Veterinary Chemicals
Plastics and Chemicals Industry Association
Safe Food Production, N.S.W.

Keeping Standards up-to-date

Standards are living documents which reflect progress in science, technology and systems. To maintain their currency, all Standards are periodically reviewed, and new editions are published. Between editions, amendments may be issued. Standards may also be withdrawn. It is important that readers assure themselves they are using a current Standard, which should include any amendments which may have been published since the Standard was purchased.

Detailed information about Standards can be found by visiting the Standards Australia web site at www.standards.com.au and looking up the relevant Standard in the on-line catalogue.

Alternatively, the printed Catalogue provides information current at 1 January each year, and the monthly magazine, *The Australian Standard*, has a full listing of revisions and amendments published each month.

We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Contact us via email at mail@standards.com.au, or write to the Chief Executive, Standards Australia International Ltd, GPO Box 5420, Sydney, NSW 2001.

This Standard was issued in draft form for comment as DR 02393.

Australian Standard™

**Sodium hypochlorite solutions for use
in the dairying industry**

Originated as AS 1087—1971.
Previous edition AS 1087—1991.
Third edition 2003.

COPYRIGHT

© Standards Australia International

All rights are reserved. No part of this work may be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of the publisher.

Published by Standards Australia International Ltd
GPO Box 5420, Sydney, NSW 2001, Australia

ISBN 0 7337 5025 7

PREFACE

This Standard was prepared by the Australian members of Joint Standards Australia/Standards New Zealand Committee FT-009, Dairy Detergents and Sanitizers, to supersede AS 1087—1991.

After consultation with stakeholders in both countries, Standards Australia and Standards New Zealand decided to develop this Standard as an Australian Standard rather than an Australian/New Zealand Standard.

The objective of this revision is to—

- (a) maintain the established requirements;
- (b) bring it to the current style and up-date referenced documents;
- (c) change the focus of the document to make it user friendly; and
- (d) highlight the safety aspects of the product.

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.

CONTENTS

	<i>Page</i>
FOREWORD	4
SECTION 1 SCOPE AND GENERAL	
1.1 SCOPE	5
1.2 REFERENCED DOCUMENTS	5
1.3 DEFINITION	5
1.4 APPEARANCE.....	5
SECTION 2 GUIDELINES FOR SANITIZING DAIRYING EQUIPMENT WITH SODIUM HYPOCHLORITE SOLUTION	
2.1 INTRODUCTION.....	6
2.2 USER'S TESTING.....	6
2.3 RECOMMENDATIONS.....	6
2.4 CAUTION.....	7
SECTION 3 REQUIREMENTS FOR SODIUM HYPOCHLORITE	
3.1 SCOPE	8
3.2 CHEMICAL PROPERTIES	8
3.3 STABILITY TO HEAT.....	8
3.4 KEEPING QUALITY	9
3.5 SAMPLING AND TESTING CONDITIONS	9
3.6 PACKAGING	10
3.7 INFORMATION TO ACCOMPANY EACH DELIVERY	10
3.8 MARKING.....	10
APPENDICES	
A METHODS FOR THE DETERMINATION OF AVAILABLE CHLORINE.....	11
B METHOD FOR DETERMINATION OF FREE SODIUM HYDROXIDE	15
C METHOD FOR THE DETERMINATION OF SODIUM CHLORATE.....	17
D METHOD FOR THE DETERMINATION OF THE STABILITY OF SODIUM HYPOCHLORITE SOLUTION.....	21

FOREWORD

The sodium hypochlorite solution is widely used to sanitize equipment and floors in the dairying industry.

When solutions of sodium hypochlorite are allowed to stand, the amount of available chlorine slowly diminishes. The rate of decomposition is accelerated by exposure to heat or light, contact with certain metallic salts (e.g. copper), or with organic matter. The presence of a small amount of free alkali retards the rate of decomposition. Concentrated solutions decompose at a greater rate than dilute solutions.

Two consequences of this decomposition are that first, the chemical properties specified must be determined, and the product delivered to the customer without undue delay; and second, the concentration of the sanitizing solution must be checked before use and, if necessary, allowance made when sanitizing if the solution is under-strength.

Efficient use of sodium hypochlorite solutions for sanitizing operations demands a knowledge of the available chlorine in the solution at its nominal concentration. If facilities for testing are available, it is advisable for a user to determine the available chlorine in the concentrated solutions within 24 h of use, irrespective of the age of the solution. Where no facilities for testing the solutions are available, the recommendations given in Section 2 will ensure that satisfactory levels of available chlorine are present for sanitizing operations.

STANDARDS AUSTRALIA

Australian Standard

Sodium hypochlorite solutions for use in the dairying industry

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard sets out requirements for manufacturers of sodium hypochlorite for the dairying industry. It also provides guidelines for the dairying industry for the use of sodium hypochlorite solutions for sanitizing equipment and surfaces.

1.2 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS

- 2162 Verification and use of volumetric apparatus
- 2162.1 Part 1: General—Volumetric glassware
- 2163 Laboratory glassware—Measuring cylinders
- 2164 Laboratory glassware one-mark volumetric flasks
- 2165 Laboratory glassware burettes
- 2166 One-mark pipettes

1.3 DEFINITION

For the purpose of this Standard, the definition below applies.

1.3.1 Available chlorine

The quantity of chlorine chemically equivalent to the oxygen that would be released during the complete decomposition of the sodium hypochlorite to sodium chloride and oxygen. It is a measure of the oxidizing ability of hypochlorite solutions.

NOTE: The available chlorine is equivalent to the amount of iodine released from potassium iodide by sodium hypochlorite under acidic conditions.

1.4 APPEARANCE

The sodium hypochlorite solution shall be greenish-yellow in colour and free from suspended matter.