AS 2148—1978

Australian Standard®

HYDROMETERS FOR USE IN MILK

The following scientific, industrial and governmental organizations and departments were officially represented on the committee entrusted with the preparation of this standard:

Associated Chambers of Manufactures of Australia

Australian Dairy Products Standards Organization

Australian Society of Dairy Technology

Council of Australian Food Technology Associations Inc.

CSIRO, Division of Food Research

Dairy Industry Authority of New South Wales

Department of Primary Industry

Department of Science

Departments of Agriculture

National Health and Medical Research Institute

Royal Australian Chemical Institute

State Government laboratories

This standard prepared by Committee DS/2, Chemical Analysis of Dairy Products, was approved on behalf of the Council of the Standards Association of Australia on 4 January 1978, and was published on 1 April 1978.

Australian Standard®

HYDROMETERS FOR USE IN MILK

First published (as AS N40, Part 1) 1962
Revised and issued as AS 2148 1978

PUBLISHED BY STANDARDS AUSTRALIA
(STANDARDS ASSOCIATION OF AUSTRALIA)
1 THE CRESCENT, HOMEBUSH, NSW 2140
ISBN 0 7262 1414 0

PREFACE

This standard was prepared by the Association's Committee on Chemical Analysis of Dairy Products, under the direction of the Dairying Standards Board, as a revision of AS N40, Density Hydrometers for Use in Milk: Part 1—1962, Apparatus, which was the endorsement of BS 734: Part 1:1960, and which it accordingly supersedes.

The revision represents essentially an alignment with ISO 2449—1974, Milk and Liquid Milk Products—Density Hydrometers for Use in Products with a Surface Tension of Approximately 45 mN/m, with the addition of the No 2 Hydrometer specified in BS 734: Part 1:1973, Measurement of Milk Using a Hydrometer. The instrument referred to in this latter standard is widely used in Australia for the determination of density values from which the solids-not-fat content of milk are calculated.

Australian standards for hydrometers normally express units of measurement in terms of kilograms per cubic metre. However, because hydrometers for use in milk are imported the ISO and BSI practice of expressing units of measurement in terms of grams per millilitre has been retained. In addition, the ISO and BSI term 'graduation line' for the scale markings has been retained in this standard, where the term 'scale mark' is used in AS 2026, Density Hydrometers.

Facilities for the testing of hydrometers for compliance with this standard are afforded by the CSIRO National Measurement Laboratory and by laboratories registered in this field of testing by the National Association of Testing Authorities, Australia.

STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard Specification
for
HYDROMETERS FOR USE IN MILK

1 SCOPE. This specification applies to glass hydrometers, of constant mass, for use in milk and liquid milk products with a surface tension of approximately 45 mN/m. The hydrometers indicate density in grams per millilitre (g/ml) at 20°C.

Three types of hydrometers are specified, viz a precision type, a wide-range type, and a routine test type.

Notes on the verification of the hydrometers are given in Appendix A, a suitable cylinder for use with the hydrometers is described in Appendix B and a suitable thermometer for determining the temperature of the milk in the hydrometer cylinder is described in Appendix C.

2 SCALE RANGES, AND SUBDIVISIONS AND TOLERANCES. The scale ranges, scale subdivisions and tolerances on density indication of the hydrometers shall be as shown in Table 1.

TABLE 1

SCALE RANGES, SUBDIVISIONS AND TOLERANCES

Type of hydrometer	Scale range g/ml	Scale subdivision g/ml	Tolerance on density indication g/ml
Precision	1.025—1.035*	0.0002	0.0002
Wide-range	1.015—1.045	0.0005	0.0005
Routine test	1.025—1.035	0.0005	0.0003

*Additional precision hydrometers of scale range 1.015—1.025, 1.035—1.045, or 1.040—1.050 g/ml may be required for certain purposes.

3 ADJUSTMENT.

3.1 Reading Level. The hydrometer shall be adjusted to be read at the top of the liquid meniscus, i.e. where the meniscus appears to meet the stem (see Clause 8(ii)).