

*Indian Standard*  
**METHOD FOR DETERMINATION OF  
PHOSPHATASE ACTIVITY IN MILK AND  
MILK PRODUCTS**

**PART II REFERENCE METHOD**

**0. FOREWORD**

**0.1** This Indian Standard ( Part II ) was adopted by the Indian Standards Institution on 30 May 1977, after the draft finalized by the Dairy Products Sectional Committee had been approved by the Agricultural and Food Products Division Council.

**0.2** Phosphatase activity is determined to judge the efficiency of pasteurization of milk and milk products. To test whether the prescribed heat treatment was properly carried out, the treated milk or milk product is subjected to phosphatase test which helps to indicate the presence or absence of phosphatase enzyme. Phosphatase present in milk or milk products is destroyed by just about the same heat treatment necessary for the destruction of *Mycobacterium tuberculosis*, the most heat-resistant pathogen likely to be present in products. The method is, therefore, applied for the control of proper pasteurization.

**0.3** This standard is being issued in two parts. This part ( Part II ) covers the reference method for the determination of phosphatase activity which requires the use of a spectrophotometer and is usually applied in cases of dispute. Part I covers the routine method which is carried out with special discs and a comparator is used for day-to-day checks for the control of proper pasteurization of milk and milk products in a dairy.

**0.4** In the preparation of this standard, considerable assistance has been derived from ISO/R 3356 ' Milk and dried milk, buttermilk and buttermilk powder, whey and whey powder - Determination of phosphatase activity ( reference method ) ' issued by the International Organization for Standardization.

**0.5** In reporting the result of a test or analysis made in accordance with this standard, if the final value, observed or calculated, is to be rounded off, it shall be done in accordance with IS : 2-1960\*.

**1. SCOPE**

**1.1** This standard ( Part II ) specifies a reference method for the determination of the phosphatase activity in milk and milk powder; buttermilk and buttermilk powder; and whey and whey powder.