

"Information is the Spirit of Democracy"

Scope - This standard provides the information regarding the requirements, methods, sampling & marking of milk powder.

Forward - Indian Standard published its first report in 1957 and then in 1967, 1986 & 1992.

(1) to harmonize the presentation.

(2) to update the referred methods.

References -

2491 - food hygienic practices.

Requirements -

Milk powder is a widely used dairy product which has high nutritional value, long shelf life as well as it is used in daily life in huge amount. Which directs the citizens to have complete information of it starting from the sourcing of raw materials to its finished product. Right its Information Act provides the citizens to acquire information of any product including milk powder.

1. Description - The milk powder should be white tinge colour or light cream colour. It must be free from lumps & any foreign material. The citizens can inquire information regarding its description through RTI, & can develop a deep knowledge about the reports made on it by government bodies such as FSSAI (Food Safety & Standard Authority in India) & BIS (Bureau of Indian Standard).

2. Flavour or taste - The milk powder should be free from burnt taste & it should be free of flavours.

Right to Information helps the citizens to grab information of sensory quality of the milk powder.

(3) Hygienic Conditions - It includes that the production of milk powder should adhere to the Sanitary conditions. Through RTI, A body established on 2005, the citizens can inquire information regarding the manufacturing units in which the milk powder had been prepared as well as the health of the cow or buffalo whose milk had been used for it.

(4) Milk powder - It is made by using the spray drying method in which only the standardized milk of cow or buffalo i.e. a fresh milk should be used & the process further should be carried on in such a way that it doesn't reduce the nutritional value of the milk powder mainly its protein quality.

(5) Packaging - Packaging of milk powder should adhere to the standards to protect it from deterioration & Contamination.

1. Retail packaging - In retail packaging, it must be packed in food grade packing paper like Dlu-minium foil, polyester, polyethylene etc. The milk powder should be packed hermetically to avoid its Contamination.

2. Bulk packaging - Storage of milk powder in bulk packaging must be done in polyethylene food grade paper as well as the storage bags of reconstituted material - These must be stored under the temperature of 20°C and the

manufacturer date must be written on it with A tag line of "No direct Consumption" as well as it must be mentioned on such bags that it must be used within the five months of packaging.

(6.) Marking & labelling - it includes the essential details such as -

(1.) Name of the product & brand Name. Eg. ~~Milk~~ Milk Powder.

(2.) Batch Number - eg. ~~MPO1~~ MPO1.

(3.) Expiry date must be written on it with the date of manufacturing or packaging.

(4.) Net mass eg. 20 grams.

(5.) Storage instructions - like should be stored under 20°C temperature.

(6.) materials used.

(7.) BIS Certification mark - It is issued by the BIS, a government body ensuring the Quality, Safety & Reliability of the product.

Conclusion - Adhering to the hygienic, Quality & Safety Conditions is not just only a responsibility but a necessity and in India various organizations are providing the way to make the necessity of the citizens in a transparent & accountable way.

"Truth is the way of progress".

Aranya Gupta
 roll no - 544
 Sem - 5th

Indian Standard Milk Powder Specification (Fifth Revision)

"Standards are what to the industry what culture is to the society" - this quote was given by R. Shri Gopalachari, the first general governor of India after independence, who marked the importance of standardization in the country.

FOREWORD.

This standard (fifth schedule) was adopted by the Bureau of Indian Standards after the draft finalized by the Dairy and Milk product and equipment sectional committee and after the approval of food and Agriculture Council, This ^{Bureau of Indian} standard was adopted and set up in the year 1957 and amended in the years 1967, 1975, 1986 and 1992.

Scope

This standard prescribes the testing, requirements and methods of sampling.

References:

There are many references given in the 5th edition of this standard.

- 323: 1959 specification of rectified spirit.
- 2491: 1998 Food Hygiene.

4905:1964 Methods of random sampling.

Requirements.

Description: The milk powder should be white in colour or white with greenish tinge or lightly cream in colour. It should be free from lumps except the those which can be crushed by slight touch.

Flavour and taste: The flavour of the milk powder should be pleasant. It shall be free from odd smell like burning smell. It should be clean.

Hygienic conditions: The milk powder should be prepared in the safe and clean environment. There should be no dirt in the place of preparation. The workers should wear proper clothes with proper head covers and shoe covers.

Packaging: The milk powder should be packed in clean containers. They should be sealed properly. It should be free from any damage. It should be flushed with nitrogen.

Milk Powder: The material shall be prepared by spray drying, the water content from the material should be removed by boiling it at high temperature & under reduced pressure.

Microbiology: The bacterial count should be less than 40,000 in 1 gm of the material. Some of them are listed below:
S. aureus It should be ~~less than~~ ^{absent in} 0.1g ~~in~~ of the powder

Salmonella It should be absent in 25g of the powder

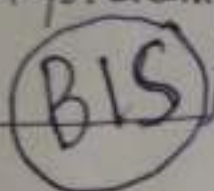
Sampling Marking

The material should be packed in clean containers and they can be sampled from different retailing markets. The sample should ~~also~~ contain BIS standard on it. It ^{must} contain brand name and material name on it. It should ~~be~~ have test before consumption date on it.

For example: Lactogen (milk powder) Batch No: L903

Sampling

The sample should be taken from different retail markets. If it fails then it should stop its marketing.



Indian Standard
MILK POWDER specification (Fifth Revision)

IS 1165:2002

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Bureau of
The Indian Standards act was established in 1957 and subsequently revised in 1967, 1986 and 1992 for to

- a) Harmonise the presentation
- b) updating the referred methods.
- c) updating the methods of testing.

The formulation of every standard is revised and checked by the provisions under the Bureau of Indian Standards. (prevention of Food adulteration act)

Scope:- It prescribes the requirements for sampling methods and testing of standards.

Description:- The colour of product should be white or white greenish tinge or light cream in colour. The product shall not contain lumps except those that break up readily under slight pressure, the product shall not contain clotted particles and any extraneous matter.

Flavour and taste :- The flavour of product should be pleasant and clean. The product shall not be off flavoured (should be cooked but not burnt). The flavour and taste should be based on sensory characteristics as per (IS 10030)

IS 10030 :- Methods for sensory evaluation of products.

Hygiene:- The hygiene of product must be maintained under the provisions of (IS 2491). The place should be clean favourable for the production process.

Milk powder:- It is processed by spray drying of standardized milk obtained from fresh cow milk or buffalo milk or their mixtures. It is processed under high temperature by the process of evaporation.

Milk powder contains 21 amino acids which are building blocks of proteins, vit B₆, Calcium, potassium, Calcium chloride, sodium salts of orthophosphoric and polyphosphoric acids all these ensure good bone health and possess good nutritional value.

The product should be processed in a manner which minimize the loss of nutrition value particularly protein content.

Microbiological Requirements.

- The bacterial count should present 40,000 per gram of the product.
- The coliform bacteria should be absent in 0.1g of the product.
- The coagulase positive *Staphylococcus Aureus* should be absent in 0.1g of product.
- *Salmonella* should be absent in 25g of the product.
- *Shigella* should be absent in 25g of the product.

Tests for *Salmonella* and *Shigella* should be done away from the site of production of the product.

Packaging.

Packaging of the product should be done in clean and sound containers which does not cause deterioration of the product. The containers should be filled with Nitrogen and Carbondioxide which prevents rancidity or oxidation of products. Containers should be packed hermetically to ensure the efficacy and efficiency of the product.

Marking :- The package so legibly and indelibly contain the following information:-

- 1) Name of product and Brand For e.g Milk Powder.
- 2) Address of manufacturer
- 3) Batch No. For e.g. Dairy Milk Brand - DM01
- 4) Directions to use
- 5) Date of Manufacturing and year.
- 6) Directions to store
- 7) Use by one
- 8) Material contained
- 9) BIS Certification Mark.

BIS Certification mark is ensures that the product is certified and ~~can~~ contain appropriate material which does not cause any harm.

Sampling

Several samples of different products are sent to BIS for conformity assessments and if only they pass the criteria as per provisions set by the BIS then they can be marketed if not then their production is halted. Various tests are organised several opinions are taken then the product is certified by BIS.

* More than 20,000 standards are set up by BIS out of which more than 400 are mandatory.

INDIAN STANDARD

Cons

MILK POWDER (Fifth Revision)

FOREWORD

This Indian Standard (Fifth Revision) was adopted by Bureau of Indian Standard after the draft finalized by the Dairy Product and equipment committee and has been approved by the Food and Agricultural committee. This Indian standard was published in 1957 and was revised thereafter. This standard aims at important requirements of the product for safety of the consumers involving its standard of production, shelf life, bacterial count and packaging. The IS Number of Milk Powder is 1165:2002. The amendments are made in the standard with time to ensure product safety.

And it is very important that each product is certified before supplying to market.

(1) Scope: This standard prescribes requirements, method of sampling, testing and storage.

(2) References: 5887: Detection of bacterial count
2491 Food hygiene practices

(3) Requirements :-

(i) Description :- The product must be white in colour or white with a greenish tinge or cream in colour with no lumps or any impurities.

(ii) Flavour and taste :- The product must have pleasant taste and not have any kind of odd flavours.

(iii) Hygiene :- The production area of the manufacturing unit must follow hygiene routines like avoid entering the area without proper uniform, slippers or shoe covers. Head must be covered. Workers must not have dirty nails no jewellery or eating item must be allowed inside.

(iv) Milk product :- Product is prepared by spray drying method. Only cow or buffalo milk is used for the process. Milk is boiled at low temperature and when it becomes concentrate it must be spray dried.

(v) Nutritional value :- It must have all necessary amino acids, calcium, potassium, vitamin B6 and other nutrients.

(vi) Microbial count :- The bacterial count must not exceed 40000 per gram of the product.

~~Shigella~~ must not be present in 25g of the product.

S. aureus must not be present 0.1g of product

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 (iii) Packaging :- The final product must be stored in food grade containers with proper seal. Low grade plastics must be avoided for it.

4) Markings :- The product has following details.

- (i) Name of the product and type of product (free flow) and manufacture
- (ii) Batch number :
- (iii) Nutritional value
- (iv) Date of manufacture and process (freeze drying)
- (v) Date of expiry
- (vi) Bacterial count
- (vii) Process of making
- (viii) Storage condition (Must be stored below 20°C)
- (ix) BIS certification
- (x) Standard Mark.

5) Sampling : The product must be taken from market and its sampling should be done by following methods prescribed under Annexure C for conformity assessment and if any of the sample is degraded, it must be stopped supplying to the market unless it is again certified by the BIS department.

Name : Shania Sharma
 Sem : 5th
 Rollno : 603