



उत्पाद मानुयल
प्रसंस्कृत अनाज आधारित अनुपूरक खाद्य पदार्थ
11536 :2022 के अनुसार

Product Manual For
Processed Cereal Based Complementary Foods- Specification
According to IS 11536 :2022

भारतीय मानक ब्यूरो (अनुरूपता मूल्यांकन) विनियम 2018 की स्कीम-I के तहत यह उत्पाद मैनुअल प्रमाणीकरण की संचालन रीति में सुसंगतता और पारदर्शिता सुनिश्चित करने के लिए सभी क्षेत्रीय/शाखा कार्यालयों एवं लाइसेन्स धारियों द्वारा संदर्भ सामग्री के रूप में उपयोग किया जाएगा। बीआईएस लाइसेन्स/प्रमाण पत्र प्राप्त करने के इच्छुक भावी आवेदकों द्वारा भी इस दस्तावेज़ का उपयोग किया जा सकता है।

This Product Manual shall be used as reference material by all Regional/Branch Offices & licensees to ensure coherence of practice and transparency in operation of certification under Scheme-I of Bureau of Indian Standards (Conformity Assessment) Regulations, 2018 for various products. The document may also be used by prospective applicants desirous of obtaining BIS certification licence/certificate.

1.	उत्पाद Product	:	IS 11536:2022
	शीर्षक Title	:	Processed Cereal Based Complementary Foods- Specification
	संशोधनों की संख्या No. of Amendments	:	01
2.	नमूना दिशानिर्देश Sampling Guidelines:		
a)	कच्चा माल Raw material	:	a) Manufacturer to submit declaration/ undertaking in compliance to Clause 4.2, 4.3 and 4.5 of IS 11536:2022. b) Manufacturer to submit declaration/undertaking in compliance to Cl. 4.4 of IS 11536:2022. In case sucrose and/or fructose is added as a carbohydrate source, records of their addition shall be maintained by the manufacturer (may also refer Note under Cl.

		4.4 of IS 11536:2022) c) In case the manufacturer opts for addition of any Optional Ingredients as per provisions of Cl. 4.7 of IS 11536:2022, undertakings/declaration in compliance to clause 4.7.1 and/or 4.7.2 of IS 11536:2022 to be submitted. However, for addition of DHA/ARA, declaration/ undertaking in compliance to Cl. 4.7.3 of IS 11536:2022 to be submitted. d) In case the manufacturer opts for addition of any Food Additives, it is required to submit declaration/ undertaking in compliance to Clause 4.8.1 and/or Clause 4.8.2 of IS 11536:2022
b)	समूहीकरण दिशानिर्देश Grouping guidelines	: लागू नहीं Not applicable
c)	नमूने का आकार Sample Size	: 2 x 500gm
3.	परीक्षण उपकरणों की सूची List of Test Equipment	: कृपया Annex-ए देखें Please see ANNEX- A
4.	निरीक्षण और परीक्षण की स्कीम Scheme of Inspection and Testing	: कृपया Annex-B देखें Please see ANNEX- B
5.	एक दिन में संभावित परीक्षण Possible tests in a day:	
	i) Description ii) Moisture iii) Total Protein iv) Total Fat v) Total Carbohydrates vi) Total Ash vii) Acid Insoluble Ash in dilute hydrochloric acid viii) Crude Fibre (on dry basis) ix) Lead (if the manufacturer has in-house test facilities) x) Copper if the manufacturer has in-house test facilities) xi) Arsenic (if the manufacturer has in-house test facilities) xii) Tin (if the manufacturer has in-house test facilities) xiii) Cadmium (if the manufacturer has in-house test facilities) xiv) Melamine (if the manufacturer has in-house test facilities)	
6.	लाइसेंस का दायरा /Scope of the Licence:	
	"Licence is granted to use Standard Mark as per IS 11536:2022 with the following scope:	
	Name of the product	Processed Cereal Based Complementary Foods

ANNEX-A
TO PRODUCT MANUAL
FOR PROCESSED-CEREAL BASED COMPLEMENTARY FOODS
ACCORDING TO IS 11536 :2022

LIST OF TEST EQUIPMENTS

Major test equipment required to test as per the Indian Standard

Sr. No.	Test Equipment and chemicals	Tests used in with Clause Reference
1	Flavour & odour (see IS 10641)	Description Clause4.1
2	<u>Reagents:-</u> Nitric acid (HNO₃), concentrated, with a mass fraction of 65 %,Nitric acid (HNO₃),Lanthanum trichloride solution, Calcium ion stock solution, Sodium ion stock solution, Potassium ion stock solution, Magnesium ion stock solution, Standard working solution, containing 100 mg/l calcium, 20 mg/l sodium, 20 mg/l potassium and 10 mg/l magnesium ions, Light petroleum (petroleum ether), Hydrogen peroxide (H₂O₂) <u>Equipment:-</u> Analytical balance, capable of weighing to the nearest 1 mg, with a readability of 0.1 mg One-mark volumetric flasks, of nominal capacities 20 ml, 50 ml, 100 ml, 250 ml and 1000 ml, complying with the requirements of ISO 1042 One-mark pipettes, of nominal capacities 1 ml, 2 ml, 5 ml and 10 ml, complying with the requirements of ISO 648 Micropipette, capable of adjusting to between 1 ml and 5 ml, with plastic pipette tips, Graduated measuring cylinder, of capacity 10 ml High-density polyethylene (PE-HD) bottles, Silica crucibles, of capacity between 25 ml and 50 ml, Programmable furnace oven, capable of attaining a minimum temperature of 550 °C ± 25 °C and of programming with a heating rate of 50 °C/h, Open focused microwave-assisted wet digestion system, Pressurized microwave-assisted wet digestion	Sodium Content, cl.4.6

	system, provided with temperature and pressure controllers and an air cooling device, equipped with appropriate vessels of capacity 50 ml, commercially available or equivalent, Decomposition vessels, made of stainless steel, with adapted PTFE inner vessels of capacity 23 l with screw caps (pressurized wet decomposition PTFE vessel), commercially available or equivalent, Oven, capable of attaining a temperature of 150 °C (for digestion bombs), Flame atomic absorption spectrometer, with an air-acetylene burner; equipped with hollow cathode lamps of single element type or combined type, Water baths, Centrifuge, capable of producing a radial acceleration of 2500g, with tubes of capacity at least 150 ml, Appropriate grinding device, Sieve, free of contaminated material, with nominal size of aperture 0.5 mm.	
3	<u>Gravimetric Method (as per IS 11721)</u> <u>Reagents</u> Ammonia solution, Ethanol (C₂H₅OH) or ethanol denatured by methanol, Congo red solution, Diethyl ether (C₂H₅O C₂H₅), Light petroleum <u>Apparatus</u> Analytical balance, Centrifuge, Distillation or evaporation apparatus, Drying oven, Water bath, Mojonnier-type fat-extraction flasks, Boiling aids, Measuring cylinders, Pipettes, Tongs, Volumetric flask <u>Randall Extraction Method as per ISO 11085</u> Water, Light petroleum (petroleum ether), Glass beads, Hydrochloric acid, Filtration aid, Acetone, Cotton wool, Fat-free filter paper, Solvent extraction system, Hydrolysis apparatus I, Hydrolysis apparatus II, Drying oven, Microwave oven, Desiccator, Filter cartridge, Extraction thimbles, Extraction cups, Glass thimbles, Analytical balance, Mill or grinder, Büchner funnel	Total Fat, cl.4.10, Table 1
4	<u>Inductively coupled plasma atomic emission spectrometry (ICP-AES) method as per ISO 15151:2018</u> Water, Nitric acid (HNO₃), Nitric acid solution (HNO₃), Element stock solutions of Ca, P, K, Standard working solution of Fe, Internal standard solution H₂O₂, Analytical balance, One-mark volumetric flasks, One-mark pipettes, Micropipettes, Dispenser, High-density polyethylene bottles, Pressurized microwave assisted wet digestion system, ICP-AES instrument, Water baths,	Iron Clause 4.10, Table 1

	Appropriate grinding device, Sampler tubes, Cyclonic spray chamber, Concentric nebulizer <u>Inductively coupled plasma mass spectrometry (ICP-MS) method as per ISO 21424</u> Methanol, Nitric acid (HNO₃) concentrated ultrapure reagent grade, Nitric acid (HNO₃), concentrated, trace metal grade H₂O₂, Laboratory water, Surfactant, Argon gas, Helium gas, Hydrogen gas, Iron Standard Stock Solution, Standard Reference Material (SRM) of cereal with certified values of Fe, Inductively coupled plasma mass spectrometer, Microwave oven, Hydrogen generator, Magnetic stir plate and PTFE-coated magnetic stir bars, Analytical balance, Fume hood, Common laboratory glassware/plasticware. Repipetter, Bottle top dispenser, Volumetric pipets, Digital pipets <u>Method as per AOAC 985.35</u> Glassware, Evaporating dish, Atomic absorption spectrophotometer, Furnace, Water, Standard stock solution of Fe, Nitric acid, Lanthanum oxide, Lanthanum chloride solution, Cesium chloride solution, Filter pulp, Microwave Oven, Analytical Balance, Hot Plate, Steam Bath	
5	<u>Routine Method (as per IS 16072)</u> Flat-Bottom Moisture Dishes with Cover, Drying Oven, Desiccator, Bottles, Analytical Balance <u>Reference Method (as per IS 11623)</u> Analytical balance, Drying oven, Metal black, Copper tubes, Constant pressure regulator, Tube (made up of polycarbonate), Desiccator, Columns (polypropylene), Synthetic stoppers (made of soft polyethylene), container (to hold the column and Synthetic stopper), rod (polyethylene filter-length-120mm, dia-18mm), Tweezer, Soap film meter, Dry compressed air, Glass container with lid	Moisture Clause 5.9 & Table 1

6	<u>Kjeldahl Method (as per IS 7219)</u> Kjeldahl flasks, Boiling chips or glass beads, Erlenmeyer flask(500ml), Heating device, Measuring cylinder, Distillation Assembly, Rubber stopper, Pipette, Beaker, Burette, Distillation bulb, Conc. Sulphuric Acid, Mercuric Oxide or Metallic Mercury-nitrogen-free, Potassium Sulphate or Anhydrous Sodium Sulphate-nitrogen-free Zinc Granules, Sulphite or Thiosulphate Solution, Sodium Hydroxide–pellets, Hydrochloric or Sulphuric Acid, Standard solution, Sodium Hydroxide Standard Solution, Methyl Red Indicator <u>Determination of the total Nitrogen Content by Combustion according to the Dumas Principle and calculation of the Crude Protein Content (as per IS/ISO 16634-2:2016)</u> <u>Reagents:-</u> Carrier gas(es) -Carbon dioxide or Helium or Oxygen, Sulfur dioxide and halogen absorbent, Copper oxide/platinum catalyst, Silver or copper wool, Silica (quartz) or glass wool or cotton wool Copper or tungsten (wire, cuttings, turnings or powder), Diphosphorus pentoxide (P_2O_5) or granulated magnesium perchlorate [$Mg(ClO_4)_2$] Hollow corundum spheres or aluminium oxide pellets, Copper oxide (CuO), Sodium hydroxide (NaOH), Aspartic acid ($C_4H_7NO_4$) or ethylenediaminetetraacetic acid ($C_{10}H_{16}N_2O_8$) or glutamic acid($C_5H_9NO_4$) or hippuric acid($C_9H_9NO_3$) standard, Light petroleum <u>Apparatus</u> Analytical balance, Grinding device, Sieve, Crucibles, Dumas apparatus	Total Protein Clause 5.9 &Table1
7	Flat Bottom Dish, Muffle Furnace, Desiccator, Analytical Balance, Air-Oven, Burner	Total Ash Clause 4.10, Table1
8	Flat-Bottom Dish of stainless-steel or porcelain or Silica or platinum, Muffle Furnace, Desiccator, Measuring Cylinder, Heating Mantle, Watch-glass, Water bath, Hot Air oven, Weighing Balance. Dil. HCl, Whatman Filter Paper No.42	Ash Insoluble in dilute Hydrochloric Acid Clause 4.10, Table1

9	Methyl-t-butyl ether, n-Hexane, Ethanol, Methanol, Iso-octane (2,2,4-trimethylpentane), Papain (from Carica papaya), Hydroquinone, Glacial acetic acid, Anhydrous sodium acetate, Dilute Hydrochloric acid solution, HPLC mobile phase A, HPLC mobile phase B, Retinyl palmitate reference standard, Retinyl acetate reference standard, α-tocopheryl acetate reference standard, α-tocopherol reference standard, Retinyl palmitate stock standard solution, Retinyl acetate stock standard solution, α-tocopheryl acetate stock standard solution, α-tocopherol stock standard solution, HPLC system, HPLC column, Water bath, Centrifuge, UV-VIS spectrometer, Analytical balance, Amber HPLC vials, Disposable centrifuge tubes, Laboratory mechanical test tube shaker, Sonicator bath, One-mark volumetric flasks, Vacuum filtration apparatus, Laboratory glass bottles	Vitamin A Clause 4.10 & Table 1
10	<u>2,6 -Dichlorophenol Indophenol Method as per IS 5838</u> Trichloroacetic Acid, Metaphosphoric Acid, Standard Ascorbic Acid Solution, Standard Indophenol Solution, Analytical Balance, Glass Stoppered Graduated Flask, Desiccator, Sodium Bicarbonate Fluted Filter Paper, Amber Glass Stoppered Bottle, Refrigerator, Erlenmeyer Flasks, Titration Assembly, Mortar, Acid Washed Sand <u>2,4-Dinitrophenylhydrazine Method as per IS 5838</u> Photoelectric Colorimeter, Standard Ascorbic Acid Solution, Sulphuric Acid Solution, 2,4-Dinitrophenylhydrazine, Thiourea, Trichloroacetic Acid, Acid Washed Animal Charcoal, Sulphuric Acid, Mortar, Acid Washed Sand, Homogenizing Tube and Rod, Whatman No.42 Filter Paper, General Glasswares, Incubator, Titration Assembly <u>Determination of Vitamin C by (Ultra) High Performance Liquid Chromatography with Ultraviolet Detection ((U)HPLC-UV) as per IS 17176</u> Acetonitrile, Ascorbic acid, Decylamine, Phosphoric acid, Ultra-pure water, Sodium acetate trihydrate,	Vitamin C Clause 4.10 & Table 1

	Trichloroacetic acid (TCA), Tris [2-carboxyethyl] phosphine (TCEP), Isoascorbic acid, Orotic acid Balances, Volumetric flasks, Beaker, pH meter, Paper filter, Membrane filters, UHPLC column, HPLC column, LC system, HPLC or UHPLC system	
11	Vitamin D ₂ (ergocalciferol), Vitamin D ₃ (cholecalciferol), d ₆ -Vitamin D ₂ , d ₆ -Vitamin D ₃ , PTAD (4-phenyl-1,2,4-triazoline-3,5-dione), Formic acid, Potassium hydroxide, Pyrogallol, Ethanol, Methanol, Isooctane, Acetone, Acetonitrile, Ultra high performance liquid chromatography (UHPLC) system, consisting of dual pump system, a sample injector unit, a degasser unit, and a column oven, Triple quadrupole mass spectrometer, Solid core silica column, Spectrophotometer, Centrifuge tubes(polypropylene), Boiling tubes(glass), Water bath (range= 20 °C to 70 °C), Disposable syringes, Syringe filters, Centrifuges, Pasteur pipette(glass), Horizontal shaker, Micro centrifuge tubes, Filter membranes(0.45 µm), Cryogenic vials	Vitamin D, Clause 4.10 Table 1
12	Weighing Balance, Wide mouthed vessel, measuring cylinder, grinding device, Sieve(size-1mm), Drying oven (130±2°C), Heating device (Electrical heater), Incineration dish (25-50ml capacity)/Filter crucible, Muffle furnace, Desiccator, Separating device (Asbestos, Sea sand, filter cloth, filter paper), Sulphuric Acid, Sodium Hydroxide, Acetone	Crude Fibre Clause 4.10&Table1
13	Niacinamide (nicotinamide), Niacin (nicotinic acid), Pyridoxine hydrochloride, Riboflavin, Thiamine hydrochloride, Pyridoxamine dihydrochloride, Pyridoxal hydrochloride, 2H ₄ -Niacinamide 2H ₄ -Nicotinic acid, 13C ₄ -Pyridoxine: pyridoxine: HCl (4,5-bis(hydroxymethyl)- 13C ₄), 2H ₃ -Pyridoxal, 2H ₃ -Pyridoxamine, 13C ₄ -Thiamine chloride, 13C ₄ ,15N ₂ -Riboflavin, Acid phosphatase, Papain from Carica papaya, α-amylase from aspergillus oryzae, Hydrochloric acid concentrated Ammonium formate, Glacial acetic acid, Formic acid, Laboratory water, Methanol, Ethylenediaminetetra acetic acid, disodium salt dihydrate (EDTA), Potassium phosphate dibasic meta-Phosphoric acid, Buffer solutions for pH meter calibration, Phosphoric acid, Potassium hydroxide, UHPLC system, Tandem quadrupole mass spectrometer with ESI probe, Analytical balances, Water purifier, Water bath shaker, Bottle-top dispenser, pH meter, Vortex mixer, Multi-position magnetic stir plate, Room light shields, Graduated cylinders, Beakers, Volumetric flasks, Mobile phase bottles, Disposable plastic Pasteur pipettes, Amber	Thiamine, Riboflavin, Niacin, Pyridoxine Clause 4.10, Table 1

	bottles, Weighing vessels, Positive displacement pipettes, Positive displacement pipette tips, Plastic syringe, Syringe filters, Plastic centrifuge tubes, Autosampler vials, PTFE coated magnetic stir bars.	
14	Calcium d-pantothenate, Calcium pantothenate, α -Amylase, Acetonitrile, Ammonium acetate, Acetic acid, Formic acid, Balances, pH-meter, Homogenizer, Stir plate with magnetic stirrers, Filters., UHPLC-MS/MS system	Pantothenic Acid, Clause 4.10, Table 1
15	Laboratory reagent grade water, Sodium dihydrogen phosphate dihydrate, Disodium hydrogen phosphate dihydrate, Sodium hydroxide, Methanol, HPLC grade, Acetonitrile, HPLC grade, Ortho-phosphoric acid, PBS, Biotin, Biocytin, Sodium hydroxide, Sodium phosphate buffer, Phosphoric acid, HPLC system, Glass microfibre filters, Immunoaffinity column pack, SPE manifold, Autoclave, Centrifuge, Analytical balance, Amber glass screw-cap bottle, Horizontal shaker, Volumetric flasks, Pipettors, Measuring cylinder, Reaction vial, Heating block, Ultrasonic bath, Centrifuge tubes, Vortex mixer, Syringe filter, Disposable syringes, HPLC vials, HPLC System	Biotin, Clause 4.10, Table 1
16	<u>Method as per AOAC 2013.13</u> UHPLC Column or equivalent, Liquid chromatograph, Detector, Amber glassware, Micropipette, Analytical balance, Homogenizer, pH meter, Water bath, Folded filters, Solid-phase extraction (SPE) cartridges SAX, Disposable plastic syringe, Syringe-driven filter unit, HPLC amber vials, L-Ascorbic acid, Ammonium acetate, Disodium hydrogen phosphate powder, α -Amylase from porcine pancreas, α -Amylase from <i>Bacillus subtilis</i> , Protease from <i>Streptomyces griseus</i> , Ethanol (HPLC grade), Isopropanol (LC-MS grade), Acetonitrile (LC-MS grade), Acetonitrile (HPLC grade), Formic acid, Acetic acid glacial, Sodium hydroxide solution, Hydrochloric acid, Ortho-phosphoric acid, Folic acid, (6R,S)-5-Me THF acid calcium salt, 13C ₅ Folic Acid, 13C ₅ -6S-5-Me-THF Calcium Salt, Analytical Balance, Incubator, Filter Papers	Dietary folate equivalent (DFE), Clause 4.10, Table 1
17	<u>Determination of Vitamin B12 by Reversed Phase High Performance Liquid Chromatography (RP-HPLC) as per IS 16640:2018</u> Glacial acetic acid, Acetonitrile, Drierite Ethanol, Formic acid, Potassium cyanide, Riboflavin, Sodium acetate anhydrous or sodium acetate trihydrate, Taka-Diastase Triethylamine,	Vitamin B12, Clause 4.10, Table 1

	Vitamin B₁₂ (cyanocobalamin) primary reference standard, HPLC system, HPLC column, Oven, pH-meter, Analytical balance, Beakers, Bottle top dispenser, Cylinders, Desiccator, Conical flasks, Filter paper, Funnels, Pipettor, Laboratory light shields, Solid phase extraction (SPE) cartridges, Syringes, Syringe filters, Vacuum manifold, Volumetric pipets, Volumetric flasks <u>Ultra-High-Performance Liquid Chromatography Method as per AOAC 2014.02</u> Cyanide, Trifluoroacetic acid (TFA), Balances, Sonicator, Laboratory oven, In-line water bath (with magnetic stirrers) or autoclave, pH meter, Rotary shaker for bio chemistry, Heating block, Vortex, Homogenizer, Volumetric flasks, Graduated cylinders, Beaker, Flat-bottom round flasks or Erlenmeyer flask, Folded paper filters, Amber vials, Micro LC vials, Pipets, Electronic digital pipet, Syringes, Immunoaffinity columns Immunoaffinity column rack, Chromatographic system, Chromatographic column, Methanol.— HPLC (b) Acetonitrile(HPLC grade), Acetic acid, glacial, Milli-Q water, Sodium cyanide puriss , TFA for spectroscopy, Vitamin B₁₂, Sodium acetate tri hydrate, Sodium hypochlorite, alpha-Amylase from <i>Bacillus subtilis</i>, Analytical Balance, Fume Hood, Water Bath, Ice Bath	
18	<u>Method as per IS 1599</u> Kjaldahl flask, Atomic absorption spectrophotometer, Hydride generation vessel accessory, potentiometric recorder Nitric acid, Perchloric acid, Sulphuric acid, Hydrochloric acid, Metal free water, Sodium sulphate, Sodium borohydride pellets, Potassium chloride, Standard zinc solution, Weighing Balance, General Glasswares, Burner/Heating, Element/Hot Plate <u>Inductively coupled plasma atomic emission spectrometry (ICP-AES) method as per ISO 15151:2018</u> Water, Nitric acid (HNO₃), Nitric acid solution (HNO₃) Element stock solutions of Ca, P, K, Standard working solution of Zn, Cu, Internal standard solution H₂O₂, Analytical balance, One-mark volumetric flasks, One-mark pipettes, Micropipettes, Dispenser, High-density polyethylene bottles, Pressurized microwave assisted wet digestion system, ICP-AES instrument, Water baths, Appropriate grinding device, Sampler tubes, Cyclonic spray chamber, Concentric nebulizer	Zinc Clause 4.10&Table1 / Copper Clause 4.13, Table 2

	Inductively coupled plasma mass spectrometry (ICP-MS) method as per ISO 21424 Methanol, Nitric acid (HNO ₃) concentrated ultrapure reagent grade, Nitric acid (HNO ₃), concentrated, trace metal grade, H ₂ O ₂ , Laboratory water, Surfactant, Argon gas, Helium gas, Hydrogen gas, Iron Standard Stock Solution, Standard Reference Material (SRM) of cereal with certified values of Zn, Cu, Inductively coupled plasma mass spectrometer, Microwave oven, Hydrogen generator, Magnetic stir plate and PTFE-coated magnetic stir bars, Analytical balance, Fume hood, Common laboratory glassware/plasticware, Repipetter, Bottle top dispenser, Volumetric pipets, Digital pipets	Zinc Clause 4.10 & Table 1 / Copper Clause 4.13, Table 2
19	Water, purified, MS grade or equivalent purity, Acetonitrile, Ammonium formate, Formic acid, Nitric acid, Isopropanol, Desiccant, L-carnitine, inner salt, Choline bitartrate, L-carnitine-d3 HCL, Choline-1,1,2,2-d 4 chloride, HPLC system, MS/MS system, Mass spectrometry software, Analytical column, Microwave, Microwave turntable Vortex mixer, Analytical balance, Horizontal shaker, Magnetic stir plate, Positive displacement pipets, Repeater positive displacement pipet, Polypropylene tubes, Digestion vessels for microwave digestion, graduated polypropylene tube, Glass containers, Syringe filters, Disposable syringes, Graduated cylinders, Magnetic stir bars, Autosampler vials and caps, Microcentrifuge tubes, Bottle top dispenser, Desiccator	Choline Clause 4.10, Table 1
20	Acetic acid, glacial, Chloroform, Diethyl ether, Drierite, Helium, Hexane, Hydrochloric acid, Metaphosphoric acid, Methanol, Myo-inositol, Sodium chloride, Sodium hydroxide, Analytical balance, Centrifuge, Desiccator, Nitrogen evaporator, Oven, pH-meter, Stir plate, Vacuum manifold, Vortex mixer, System HPLC, Columns Beakers, Centrifuge tubes, Syringe filters, Filter paper, Conical flasks, Volumetric flasks, Funnels, Pipets, Solid-phase extraction (SPE) cartridge, Syringes	Inositol, Clause 4.10, Table 1

21	Atomic Absorption Spectrometer, Source Lamps, Graphite Furnace, Readout, Sample Dispensers Vent, Cooling Water Supply, Membrane Filter , apparatus, Metal-Free-Water, Hydrochloric Acid, Nitric Acid, Magneisum Nitrate, Nickel Nitrate Phosphoric Acid, Palladium Nitrate, Citric Acid, Stock Selenium Solution, Chelating Resin, General Glasswares, Hot Plate <u>Inductively coupled plasma atomic emission spectrometry (ICP-AES) method as per ISO 15151:2018</u> Water, Nitric acid (HNO₃), Nitric acid solution (HNO₃) Element stock solutions of Ca, P, K, Standard working solution of Se, Internal standard solution (H₂O₂), Analytical balance, One-mark volumetric flasks, One-mark pipettes, Micropipettes, Dispenser High-density polyethylene bottles, Pressurized microwave assisted wet digestion system, ICP-AES instrument, Water baths, Appropriate grinding device Sampler tubes, Cyclonic spray chamber, Concentric nebulizer <u>Determination of selenium by Inductively coupled plasma mass spectrometry (ICP-MS) method as per ISO 20649</u> Purified water, Concentrated nitric acid (HNO₃), Hydrogen peroxide (H₂O₂), Methanol, Potassium solution, Standard Solutions and Reference materials, Microwave oven, ICP-MS, Various plasticware and pipets, Analytical balance	Selenium, Clause 4.10, Table 1
22	Diluents, Agar Medium, Oven, Incubator, Water bath, pH-meter, Petri dishes, Total delivery graduated pipettes, Colony-counting equipment Tubes, flasks or bottles	Aerobic Plate Count, Clause 4.10, Table 1
23	Diluents, Solid selective medium: Crystal violet neutral red bile lactose (VRBL) agar, Apparatus for dry sterilization (oven) or wet sterilization autoclave), Incubator, Petri dishes, Total-delivery pipettes, Water bath, Colony-counting equipment Test tubes, Durham tubes, Bottles or flasks, pH-meter, Loop	Coliform Count, Clause 4.10., Table 1

24	Diluent, Baird-parker Agar Medium, Potassium Tellurite solution, Egg Yolk Emulsion, pH-meter Sulfamethazine, Brain-heart infusion broth, Rabbit Plasma, Apparatus for dry sterilization (oven) or wet sterilization (autoclave), Incubator, Drying cabinet or incubator, Water bath, Test tubes, flasks or bottles with screw caps, Petri dishes, Straight wire, Pasteur pipette, Total-delivery graduated pipettes, Spreaders	<i>Staphylococcus aureus</i> , Clause 4.10, Table 1
25	<u>Method as per IS 5403</u> pH meter, Diluents and Culture Medium, Yeast Extract-Destmase-Chloramphenicol-Agar Medium, Apparatus for Dry Sterilization (Oven) or Wet Sterilization (Autoclave), Incubator, Water-Bath, Temperature Compensated pH Meter Culture Bottles or Flasks, Graduated Pipettes, Petri Dishes <u>Horizontal Method for the Enumeration of YEASTS AND MOULDS as per IS 16069(Part 1) and IS 16069(Part 2)</u> Diluent, Dichloran-rose bengal chloramphenicol agar (DRBC), Incubator, Total delivery pipettes, Water bath, pH meter, Bottles, flasks and tubes, Petri dishes, Microscope, Spreaders, Binocular magnifier	Yeast and Mould Count, Clause 4.10, Table 1
26	Buffered peptone water, Rappaport-Vassiliadis medium with soya (RVS broth) or Modified Semi-solid Rappaport-Vassiliadis (MSRV) agar and Muller-Kauffmann tetrathionate-novobiocin broth (MKTn broth), Xylose Lysine Deoxycholate agar (XLD agar), Apparatus for dry sterilization (oven) or wet sterilization (autoclave), Drying cabinet or oven, Incubator, Water bath, Refrigerator, Freezer, Sterile loops, pH-meter, Sterile tubes, bottles or flasks, Sterile Petri dishes	<i>Salmonella sp</i> , Clause 4.10, Table 1
27	Acriflavine and nalidixic acid, Fraser broth, Agar, Listeria, Apparatus for dry sterilization (oven) or wet sterilization (autoclave), Drying cabinet or incubator, Incubators, Water bath, Sterile loops, pH meter, Graduated pipettes or automatic pipettes, Petri dishes, Microscope, Refrigerator	<i>Listeria monocytogenes</i> , Clause 4.10, Table 1
28	Dilution fluid, Agar medium, Polymyxin B solution, Egg yolk emulsion, Complete medium (MYP agar), Sheep blood agar, Defibrinated sheep blood, Apparatus for dry sterilization (oven) or wet sterilization (autoclave), Drying cabinet, Incubator Water baths, pH-meter, Petri dishes, Graduated pipettes, Spreaders	<i>Bacillus Cereus</i> , Clause 4.10, Table 1

29	<u>Horizontal method for the enumeration of sulfite-reducing bacteria growing under anaerobic conditions as per ISO 15213</u> Iron sulfite agar, Saline peptone diluents, Homogenization equipment, Water bath, Anaerobic jars, Incubator, Test tubes	Sulphite reducing <i>clostridia</i> , Clause 4.10, Table 1
30	<u>Method as per IS 5887 (Part 1)</u> Nutrient Broth, Nutrient Agar, MacConkey Broth Medium, MacConkey Agar Medium, Eosin Methylene Blue Lactose Agar Medium, Tergitol-7 Agar Medium, Nutrient Agar Medium for Motility Test, TSI Medium for H₂S Test, Medium for Urease Test, Medium for Indole Production Medium for Methyl Red and Voges-Proskauer Tests, Simmion's Citrate Agar, Peptone Water Medium for Carbohydrate Fermentation tests, Sterile Blender, Sterile Sand and Mortar, pH meter, Incubator, Glass Slides, Straight Wire, Burner, Ethanol, Glass Tubes, Analytical Balance, Kovac's reagent, p-dimethyl-aminobeneldehyde, Amyl alcohol or iso-amyl alcohol, Conc.HCL, Refrigerator, Methyl Red Solution, Ethanol, Alpha-naphthol solution, Potassium hydroxide, Lactose Durham's Tube <u>Horizontal Method for the Detection and enumeration of presumptive <i>Escherichia coli</i> — Most Probable Number Technique as per IS 16424</u> Diluent, Lauryl sulfate broth, EC broth, Peptone water, indole free, Indole reagent (Kovacs' reagent Apparatus for dry sterilization (oven) or wet sterilization (autoclave). Incubator, Water bath, Test tubes, Sampling loops, Durham tubes, Total-delivery pipettes, pH-meter	<i>Escherichia Coli</i> , Clause 4.10, Table 1
31	<u>Method as per IS 12074</u> Atomic Absorption Spectrophotometer, Pure Lead Metal, Concentrated Nitric Acid, Concentrated Hydrochloric Acid, Standard Lead Solution, Drying Oven, Filter Papers, General Glasswares <u>Inductively Coupled Plasma-Mass SpectrometryMethod as per AOAC 2015.01</u> ICP-MS instrument, High-purity grade liquid argon 99.996%, Analytical Balance, Microwave, Digestion System, Autosampler Vials and Cups Spatulas, DIW, Nitric acid (HNO₃), Hydrogen peroxide (H₂O₂), Stock standard solution, Single-element standards, Second source standard Multi Element Stock, Standard Solution, Internal Standard Solution, Calibration Standards, Initial Calibration Verification Solution, Calibration	Lead, Clause 4.13, Table 2

	Solutions, Certified Reference Materials, Spiking Solution, Analytical Balance	
32	<u>Method as per IS 11124</u> Atomic Absorption Spectrophotometer, Vapour Generation Kit, Concentrated Hydrochloric Acid, Concentrated Nitric Acid, Concentrated Sulphuric Acid, Potassium Iodide, Sodium Borohydride, Standard Arsenic Solution, Quartz Tube, Burner, Inert Gas Supply, Reaction Vessel, Stopper, Stirrer, Laboratory Glasswares <u>Inductively Coupled Plasma-Mass Spectrometry Method as per AOAC 2015.01</u> ICP-MS instrument, High-purity grade liquid argon 99.996%, Analytical Balance, Clean Room Gloves, Microwave Digestion System, Autosampler Vials and Cups, Spatulas, DIW Nitric acid (HNO₃), Hydrogen peroxide (H₂O₂), Stock standard solution, Single-element standards, Second source standard, Multi Element Stock Standard Solution, Internal Standard Solution, Calibration Standards, Initial Calibration Verification Solution, Calibration Solutions, Certified Reference Materials, Spiking Solution, Analytical Balance	Arsenic, Clause 4.13, Table 2
33	Water, Hydrochloric acid, Tin stock solution, Tin standard working solution, Tin standard working solution in diluted (evaporated) milk, Matrix modifier solutions, Balance, Water bath, One-mark volumetric flasks, Dosing pipettes, Atomic absorption spectrometer	Tin, Clause 4.13, Table 2
34	<u>Method as per IS 1599</u> Kjedahl flask, Atomic absorption spectrophotometer, hydride generation vessel accessory, potentiometric recorder, Nitric acid, Perchloric acid, Sulphuric acid, Hydrochloric acid, Metal free water, Sodium sulphate, Sodium borohydride pellets, Potassium chloride, Standard zinc solution, Weighing Balance, General Glasswares, Burner/Heating Element/Hot Plate <u>Inductively Coupled Plasma-Mass Spectrometry Method as per AOAC 2015.01</u> ICP-MS instrument, High-purity grade liquid argon 99.996%, Analytical Balance, Microwave Digestion System, Autosampler Vials and Cups, Spatulas, DIW, Nitric acid (HNO₃), Hydrogen peroxide (H₂O₂), Stock standard solution, Single-element standards, Second source standard Multi Element Stock Standard Solution, Internal Standard Solution, Calibration Standards, Initial	Cadmium, Clause 4.13, Table 2

	Calibration Verification Solution, Calibration Solutions, Certified Reference Materials, Spiking Solution, Analytical Balance	
35	<u>Simultaneous quantitative determination of melamine by liquid chromatography electrospray ionization tandem mass spectrometry</u> Water, Acetonitrile, Ammonium acetate, Melamine and its standard solutions, Conical tubes, Centrifuge, Volumetric pipettes, Automatic micropipette, Nylon syringe filter, Degassing system, Analytical balance, Sonification device, Vials, LC-MS/MS equipment, HPLC Column, One-mark volumetric flasks <u>Quantitative analysis melamine in milk-based infant formula and cow milk by liquid chromatography using linear ion-trap mass spectrometry</u> Water, Acetonitrile, Ammonium acetate, Formic acid, Melamine and its standard solutions, Centrifuge tubes, Centrifuge, HPLC Column, Plastic syringes, Syringe filters, HPLC Surveyor MS pump, Analytical balance, One-mark volumetric flasks	Melamine, Clause 4.13, Table 2
36	Water, Sodium chloride, Iodine, Aflatoxin, Acetonitrile, Methanol, analytical grade, Methanol, HPLC grade, Toluene, analytical grade, Toluene/acetonitrile mixture, Extraction solvent Mobile phase, Post-column derivatization reagent, Aflatoxin B1 stock solutions, Stock solution of mixed aflatoxins, Standard solution of mixed aflatoxins, Sulfuric acid, Immunoaffinity (IA)column Blender, Fluted filter paper, Glass microfibre filter paper, Volumetric flasks, Spectrometer, Quartz glass cells, Membrane filter for aqueous solutions, HPLC apparatus, HPLC pump, Injection system, Analytical reverse-phase separating column, Post-column derivatization system, Fluorescence detector	Total Aflatoxin, and Aflatoxin B1, Clause 4.13, Table 2

37	<u>As per EN 13130-1:2004</u> Cruciform Specimen Supports, Tubes, Glass Rods, Glass Beads, Food Cells, Thermostatically controlled ovens or incubators <u>As per ISO 18857-2:2009</u> Water, Acetone, Internal Standard Solutions Solutions of reference standards of the analytes 2,2,2-Trifluoro-N-methyl-N-(trimethylsilyl) acetamide (MSTFA), Solid-phase material, on styrene-divinylbenzene polymer basis, Sand, Nitrogen, Sodium thiosulfate pentahydrate Narrow-neck flat bottomed glass bottles, Solid-phase extraction cartridges, Vacuum or pressure assembly, One-mark volumetric flasks, Quartz wool, Pear-shaped flask, Evaporation assembly Vials, Stainless steel cocks, Gas chromatograph	Bisphenol A (BPA), Clause 5.1.1
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The above list is indicative only and may not be taken as exhaustive

ANNEX- B
SCHEME OF INSPECTION AND TESTING
FOR PROCESSED-CEREAL BASED COMPLEMENTARY FOODS
ACCORDING TO IS 11536:2022

1. LABORATORY - A laboratory shall be maintained which shall be suitably equipped (as per the requirement given in column 2 of Table 1) and staffed, where different tests given in the specification shall be carried out in accordance with the methods given in the specification.

1.1 The manufacturer shall prepare and implement a calibration plan for the test equipment.

2. TEST RECORDS—The manufacturer shall maintain test records for the tests carried out to establish conformity.

3. PACKING AND MARKING – The Standard Mark as given in Schedule of the licence, shall be marked on the container of Processed-Cereal based Complementary Foods or printed on the label applied to it, provided always that the material to which this mark is thus applied conforms to every requirements of the specification.

3.1 Packing – The material shall be packed in suitable form of packing as per provisions of Clause 5.1.1 of IS 11536:2022. However, the packaging material shall be free from Bisphenol A(BPA), when tested as per ISO 18857-2 :2009 or EN 13130-13

3.2 The product shall be packed in quantities as stipulated under Legal Metrology (Packaged Commodities) Rules, 2011 and in accordance with requirements under the Food Safety and Standards (Packaging) Regulations, 2018 as per provisions of Clause 5.1.2 of IS 11536: 2022.

3.3 Marking – The containers of the product shall bear legibly and indelibly the information as mentioned under clause 5.2.1 of IS 11536:2022. In addition, the following details shall be mentioned on each container:

a) BIS Licence No. CM/L _____

b) BIS website details i.e – “For details of BIS Certification please visit www.bis.gov.in”.

3.3.1 In case of flexible packs, the following information as per provisions of Clause 5.2.1.1 of IS 11536:2022 shall be printed on the container: “On opening, transfer the contents of the pack to a clear air tight container. After each use, replace the lid tightly and store in a cool dry place.”

3.4 In case it is intended to cover ECO-Mark, the product package/leaflet accompanying it, may also display the information as per provisions of Clause 4.15.1.3 and 4.15.1.6 of IS 11536:2022

4. CONTROL UNIT – For the purpose of this scheme, the quantity of Processed – Cereal Based Complementary Foods manufactured and filled in a day shall constitute a control unit.

5. LEVELS OF CONTROL- The tests as indicated in column1 of Table1 and the levels of control in column 3 of Table 1, shall be carried out on the whole production of the factory which is covered by this plan and appropriate records maintained in accordance with paragraph 2 above.

5.1 All the production which conforms to the Indian Standards and covered by the licence should be marked with Standard Mark.

5.2 In case it is also intended to cover ECO-Mark, the sample(s) shall also be tested for the additional requirements for ECO-Mark, as per clause 4.15 of IS 11536:2022

6. HYGIENIC CONDITIONS – The product shall be manufactured and packed under strict hygienic conditions as per provisions of IS 2491, cross-referred in clause 4.14 of IS 11536: 2022.

7. REJECTION- Disposal of non-conforming product shall be done in such a way so as to ensure that there is no violation of the provisions of BIS Act, 2016

TABLE 1 (LEVELS OF CONTROL)
(Para 5 of Scheme of Inspection and Testing)

(1)				(2)	(3)		
Test Details				Test equipment requirement R: required(or) S: Sub-contracting permitted	Levels of Control		
Cl.	Requirement	Test Method			No. of Sample	Frequency	Remarks
		Clause	Reference				
4.1 to 4.5	Description	----	----				
4.1	a) Shall be in the form of powder, small granules or flakes, free from lumps and shall be uniform in appearance. It shall be free from dirt, extraneous matter, free from preservatives, added colour and flavour and from any material which are harmful to infant's health	----	IS 11536	---	One	Every half an hour	See Note 3 below
	b) Free from rancid taste and musty odour	----	IS 10641	R	One	Every half an hour	See Note 3 below
4.6	Sodium Content	4.6	IS 12760	S	One	Once in a month	See Note 6 below
4.7.2 and 4.10, Table	Moisture	-	IS 16072 (Routine	R	Two	Every Control unit	See Note 4

1, Sl. No. (i)			purpose) or IS 11623 (Reference purpose)				below
4.7.2 and 4.10, Table 1, Sl.No. (ii)	Total Protein (N X 6.25)	-	IS 7219 / IS 16634(Part 2)	R	Two	Every Control unit	See Note 4 below
4.7.2 and 4.10, Table 1, Sl.No. (iii)	Total Fat	-	IS 11721 or ISO 11085	R	Two	Every Control unit	See Note 4 below
4.7.2 and 4.10, Table 1, Sl.No. (iv)	Total Carbohydrates	Annex C	IS1656	R	Two	Every Control unit	See Note 4 below
4.7.2 and 4.10, Table 1, Sl.No. (v)	Total Ash	Annex C	IS14433	R	Two	Every Control unit	See Note 4 below
4.7.2 and 4.10, Table 1, Sl.No. (vi)	Ash in soluble in dilute HCl	Annex D	IS 14433	R	Two	Every Control unit	See Note 4 below
4.7.2 and 4.10, Table 1, Sl.No. (vii)	Iron	-	ISO 15151 or ISO 21424 or AOAC 985.35	S	One	Once in a month	See Note 6 below
4.7.2 and 4.10, Table 1, Sl.No. (viii)	Vitamin A (as retinol equivalent RE)	-	IS16639	S	One	Once in a month	See Note 6 below
4.7.2 and 4.10, Table 1, Sl.No. (ix)	Vitamin C	-	IS 5838 or IS 17176	S	One	Once in a month	See Note 6 below
4.7.2 and 4.10, Table 1, Sl.No. (x)	Vitamin D	-	IS 17177	S	One	Once in a month	See Note 6 below
4.7.2 and 4.10, Table 1, Sl.No. (xi)	Crude Fibre (on dry basis)	-	IS 10226 (Part 1)	R	One	Every Control Unit	See Note 5 below
4.7.2 and 4.10, Table	Thiamine	-	IS 17669	S	One	Once in a month	See Note 6 below

1,Sl.No. (xii)							
4.7.2 and 4.10, Table 1, Sl.No.(xiii)	Riboflavin	-	IS 17669	S	One	Once in a month	See Note 6 below
4.7.2 and 4.10, Table 1, Sl.No(xiv)	Niacin equivalent	-	IS 17669	S	One	Once in a month	See Note 6 below
4.7.2 and 4.10, Table 1, Sl.No.(xv)	Pantothenic Acid	-	IS 16642	S	One	Once in a month	See Note 6 below
4.7.2 and 4.10, Table 1, Sl.No(xvi)	Pyridoxine	-	IS 17669	S	One	Once in a month	See Note 6 below
4.7.2 and 4.10, Table 1, Sl.No(xvii)	Biotin	-	IS 17670	S	One	Once in a month	See Note 6 below
4.7.2 and 4.10, Table 1, Sl.No(xviii)	Dietary folate equivalent (DFE)	-	AOAC 2013.13	S	One	Once in a month	See Note 6 below
4.7.2 and 4.10, Table 1, Sl.No(xix)	Vitamin B ₁₂	-	IS 16640 or AOAC 2014.02	S	One	Once in a month	See Note 6 below
4.7.2 and 4.10, Table 1, Sl.No(xx)	Zinc	-	IS1699 or ISO 15151 or ISO 21424	S	One	Once in a month	See Note 6 below
4.7.2 and 4.10, Table 1, Sl.No(xxi)	Choline	-	IS 17668	S	One	Once in a month	See Note 6 below
4.7.2 and 4.10, Table 1, Sl.No(xxii)	Inositol	-	IS 16649 or any other validated international method	S	One	Once in a month	See Note 6 below
4.7.2 and 4.10, Table 1, Sl.No(xxiii)	Selenium	-	IS 15303 or ISO 15151 or ISO 20649	S	One	Once in a month	See Note 6 below

4.10, Table 2, Sl.No. (i)	Aerobic plate count	-	IS 5402 (Part 1)	R	One	Every Control Unit	See Note 5 below
4.10, Table 2, Sl.No. (ii)	Coliform count	-	IS 5401 (Part 1)	R	One	Every Control Unit	See Note 5 below
4.10, Table 2, Sl.No.(iii)	<i>Staphylococcus aureus</i> (coagulase positive)	-	IS 5887 (Part 8/Sec 1 or 2)	S	One	Once in a month	See Note 6 below
4.10, Table 2, Sl.No.(iv)	Yeast and mould count	-	IS 5403 or IS 16609-1 for liquid product IS 16609-2 for powdered product	R	One	Every Control Unit	See Note 5 below
4.10, Table 2, Sl.No.(v)	<i>Salmonella sp.</i>	-	IS 5887 (Part 3/Sec 1)	S	One	Once in a month	See Note 6 below
4.10, Table 2, Sl.No.(vi)	<i>Listeria monocytogenes</i>	-	IS 14988 (Part 1)	S	One	Once in a month	See Note 6 below
4.10, Table 2, Sl.No.(vii)	<i>Bacillus cereus</i>	-	IS 5887(Part 6)	S	One	Once in a month	See Note 6 below
4.10, Table 2, Sl.No.(viii)	<i>Sulphite reducing clostridia</i>	-	ISO 15213	S	One	Once in a month	See Note 6 below
4.10, Table 2, Sl.No.(ix)	<i>Escherichia coli</i>	-	IS 5887 (Part 1) or IS 16424	S	One	Once in a month	See Note 6 below
4.11	Protein Efficiency Ratio (PER)	-	IS 7481	----	---	----	To be kept under abeyance
4.13, Table 3, Sl. No.(i)	Lead	-	IS 12074 AOAC 2015.01	S	One	Once in a month	See Note 6 below
4.13, Table 3, Sl. No.(ii)	Copper	-	15 of IS 1699 IS 15151 ISO 21424	S	One	Once in a month	See Note 6 below
4.13, Table 3, Sl. No.(iii)	Arsenic	-	IS 11124 AOAC 2015.01	S	One	Once in a month	See Note 6 below
4.13, Table 3, Sl. No.(iv)	Tin	-	ISO 14377	S	One	Once in a month	See Note 6 below

4.13, Table 3, Sl. No.(v)	Cadmium	-	15 of IS 1699 AOAC 2015.01	S	One	Once in a month	See Note 6 below
4.13, Table 3, Sl. No.(vi)	Melamine	-	IS 16195	S	One	Once in a month	See Note 6 below
4.13, Table 3, Sl.No.(vii)	Total aflatoxin	-	IS 16287	S	One	Once in a month	See Note 6 below
4.13, Table 3, Sl.No(viii)	Aflatoxin B ₁	-	IS 16287	S	One	Once in a month	See Note 6 below

Note-1: Whether test equipment is required or sub-contracting is permitted in column 2 shall be decided by the Bureau and shall be mandatory. Sub-contracting is permitted to a laboratory recognized by the Bureau or Government laboratories empaneled by the Bureau.

Note 2: Levels of control given in column 3 are only recommendatory in nature. The manufacturer may define the control unit/batch/lot and submit his own levels of control in column 3 with proper justification for approval by BO Head.

Note-3: A sample shall be taken at the packing/repacking stage after every half an hour which shall be examined visually to be in the form of powder, small granules or flakes, Free from lumps, uniform in appearance, free from dirt and extraneous matter; examined by organoleptic methods for freedom from rancid taste and musty odour; Freedom from preservatives, added colour and flavour and from any material which are harmful to infant's health. If the sample does not conform to the specification in any one or more of these requirements, the material manufactured during the half an hour prior to drawal of sample shall be rejected for its conformity to these requirements of the specification.

Note 4: Two sample shall be drawn from every control unit-one during the first half of the packing period and other during the second half of the packing period. These samples shall be individually tested for Moisture, Total Protein, Total Fat, Total carbohydrates, Total ash, Acid Insoluble Ash in dilute hydrochloric acid. If any one or both the samples fail to conform to any one or more of these requirements(s) as given in the specification, the entire control unit shall either be rejected or reprocessed for its conformity to these requirements.

Note-5: One sample from every control unit shall be tested for the requirements of, Aerobic plate count, Coliform count, Yeast and Mould count and Crude Fibre (on dry basis) as laid down in the Indian Standard. If any one or more than one of these samples fail to conform to any of the requirements as laid down in the Indian Standard, the entire control unit shall either be rejected or reprocessed for its conformity to these requirements.

Note-6: A sample shall be tested every month for Vitamin A, Vitamin C, Vitamin D, Thiamine, Riboflavin, Niacin equivalent, Pantothenic Acid, Pyridoxine, Biotin, Dietary Folate equivalent (DFE), Vitamin B₁₂, Zinc, Choline, Inositol, Selenium, *Staphylococcus*

aureus, *Salmonella sp.*, *Listeria monocytogenes*, *Bacillus cereus*, Sulphite reducing *Clostridia*, *E. Coli*, Lead, Copper, Arsenic, Tin, Cadmium, Melamine, Total aflatoxin, Aflatoxin B₁, Sodium Content and Iron. In case of failure of the sample in any one or more of these parameter(s), the root cause of failure shall be investigated, Corrective actions/Preventive be taken and dispatch to be kept on hold. Thereafter, the samples from two consecutive control units shall be tested for the parameter(s) where failure has occurred and once the same has been found to be conforming, original frequency of testing be restored and dispatch resumed.