

	ACCREDITATION DOCUMENT	F-06/02 Issue Date: 10/08/15 Rev. No: 07 LAB 063
---	-----------------------------------	---

Accreditation No: LAB 063

Awarded to

**Nestle Pakistan Ltd, Testing Lab (Chemical & Micro),
Sheikhupura, Pakistan.**

The scope of accreditation is in accordance with the standard specifications outlined in the following page(s) of this document. The accredited scope shall be visible and legible in areas such as customer service, sample-receiving section etc and shall not mislead its users.

The accreditation was first time granted on **08-04-2013** by Pakistan National Accreditation Council.

The laboratory complies with the requirements of **ISO/IEC 17025:2005**.

The accreditation requires regular surveillance, and is valid until **07-04-2019**.

The decision of accreditation made by Pakistan National Accreditation Council implies that the organization has been found to fulfill the requirements for accreditation within the scope.

The organization however, itself is responsible for the results of performed measurements/tests.

PAKISTAN NATIONAL ACCREDITATION COUNCIL

Date

Director General

	ACCREDITATION DOCUMENT	F-06/02 Issue Date: 10/08/15 Rev. No: 07 LAB 063
---	-----------------------------------	---

Testing Laboratory.

Accreditation Scope of Nestle Pakistan Ltd, Testing Lab (Chemical & Micro), Sheikhpura, Pakistan.

Permanent laboratory premises

Materials/Products tested	Testing field (e.g. environmental testing or mechanical testing)	Types of test/ Properties measured	Reference to standardized method (e.g. ISO 14577-1:2003)/ Internal method reference
Nestle Liquid Dairy (Fresh Milk, UHT Milk, Every Day, Nesvita HCLF Milk, Milo RTD, Nesquik RTD Chocolate, Cream, Soft Serve Shake Mix, Easy Whip, Supligen	MILK Testing	Fat %	1-International standard ISO 11870:2000 : Milk and milk products - Determination of fat content -General guidance on the use of butyrometric methods. 2-International standard ISO 2446 :1976: Milk - Determination of fat content (Routine method). 3-IDF 152A:1997: Milk and milk products - Determination of fat content – General guidance on the use of butyrometric methods. 4-IDF 105:1981: Milk - Determination of fat content - Gerber butyrometers. 5-Kleyn et al. (2001) Determination of fat in raw and processed milks by the Gerber method : collaborative study, J. AOAC Int., 84 (5), 1499-1508 6-Kleyn et al. (1988) Determination of fat in raw milk: Comparison of Mojonnier (ether extraction) and Gerber

16-06-2016
Date

Director



**ACCREDITATION
DOCUMENT**

F-06/02
Issue Date: 10/08/15
Rev. No: 07
LAB 063

	MILK Testing	pH	FIL/IDF 86:1981 Manuel Suisse des Denrées Alimentaires, 1/13-14
	MILK Testing	Acidity %	FIL/IDF 86:1981 Manuel Suisse des Denrées Alimentaires, 1/13-14
	MILK Testing	Protein %	1-ISO 8968-1/IDF 20-1:2001, Milk – Determination of nitrogen content – Part 1: Kjeldahl method 2-AOAC 991.20 (2005), Nitrogen (total) in milk, Final action 1994, IDF-ISO- AOAC Method, Revised March 1996. 3-AOAC 979.09 (2005), Proteins in grains, Final action 1994. 4-AOAC 976.05 (2005), Protein (crude) in animal feed and pet food, Final action 1977, Codex-adopted AOAC Method, Revised March 1996.
	MILK Testing	SNF	1-Bulletin of The International Dairy Federation No. 312/1996 2- Official Methods of Analysis (AOAC International), Sixteenth Edition, 3rd. Revision, 1997. 3-PC SIR/10/SA-2
	MILK Testing	Vitamin A IU/100g	IDF provisional Method 142:1990 Skimmed milk powders: Determination of Vitamin A-Colorimetric HPLC method, Determination of vitamin A by colorimetry, research note QS-RN 97003, E.Tagliaferri, M.Bertholet and L.Vidoudez

16-06-2016
Date

Director



**ACCREDITATION
DOCUMENT**

F-06/02
Issue Date: 10/08/15
Rev. No: 07
LAB 063

	MILK Testing	Vitamin C mg/100g	AOAC Official Method 985.33. Vitamin C (reduced ascorbic acid) in ready-to- feed milk based infant formula. 2,6-dichloroindophenol titrimetric method (1985). AOAC Official Method 967.21. Ascorbic acid in vitamin preparations and juices. 2,6- dichloroindophenol titrimetric method (1967). J.O. Bosset, P. Eberhard, U. Bütikofer, R. Sieber and E. Tagliaferri, Trav. Chim. Aliment. Hyg. 82, 433-456 (1991).
	MILK Testing	Iron mg/100g	[1] Multi-element analysis of food by microwave digestion and ICP-AES, S.C. Dolan and S.G. Capar, Journal of food composition and analysis, 15, 593-615.2002. [2] Revisitation of the matrix effects in inductively coupled plasma atomic emission spectrometry: the key role of the spray chamber. J.M. Mermet. JAAS,13, 419-422.1998. [3] Development and harmonization of measurement uncertainty principles. Part d: Protocol for uncertainty evaluation from validation data. Barwick V.J., Ellison S.L.R LGC, Teddington. 2000. [4] Quality assurance in the analysis of foods for trace contaminants. Horwitz, W.Kamps, L.R. and Boyer,

16-06-2016
Date

Director



**ACCREDITATION
DOCUMENT**

F-06/02
Issue Date: 10/08/15
Rev. No: 07
LAB 063

	MILK Testing	Calcium mg/100g	<p>[1] Multi-element analysis of food by microwave digestion and ICP-AES, S.C. Dolan and S.G. Capar, Journal of food composition and analysis, 15, 593-615.2002.</p> <p>[2] Revisitation of the matrix effects in inductively coupled plasma atomic emission spectrometry: the key role of the spray chamber. J.M. Mermet. JAAS,13, 419-422.1998.</p> <p>[3] Development and harmonization of measurement uncertainty principles. Part d: Protocol for uncertainty evaluation from validation data. Barwick V.J., Ellison S.L.R LGC, Teddington. 2000.</p> <p>[4] Quality assurance in the analysis of foods for trace contaminants. Horwitz, W.Kamps, L.R. and Boyer, K.W. J. Assoc. Off. Anal. Chem.63, 1344 - 1354</p>
	MILK Testing	Melamine mg/L	<p>Instruction Booklet of Abraxis Melamine Plate Kit. Detection of Melamine Using Commercial Enzyme-Linked Immunosorbent Assay Technology, ERIC A. E. GARBBER, Journal of Food Protection, vol. 71, n° 3, 2008, pages 590-594.</p>
	MILK Testing	Starch Test	<p>Practical Organic Chemistry by Frederick George Mann & Bernard Charles Saunders, March 1973 (Page # 369)</p>

16-06-2016
Date

Director



**ACCREDITATION
DOCUMENT**

F-06/02
Issue Date: 10/08/15
Rev. No: 07
LAB 063

	MILK Testing	Urea Test	Kurunegala Bt-Qm & R Rkr/27.01.94.
	MILK Testing	Sucrose Test	1-Valentinis, G.: —Contributo alla ricerca del saccarosio nel latte e nel latte in polvere, in: Boll. Lab. Chim. Prov. 5 (4) 122-126 (1954). A summary of this article can be found in: Dairy Science Abstracts 17 703 (1955) 2-Romani, B.: —Sulla reazione di Molisch per gli zuccheri. - Ricerca del saccarosio nel latte., in: Ann. Chim. Appl.-Roma 21 535-538 (1931)
	MILK Testing	APT (Alcohol Precipitate Test)	Roeder, G., Grundzuge der Milchwirtschaft und des Molkereiwesens. Hamburg u. Berlin, Verlag Paul Parey (1954) 680
	MILK Testing	COB (Clot on Boiling)	Lyons, J.; O' SHEA, M.J., Commercial Method of Testing Milk and Milk Products, Cork University Press, B.H. Blackwell Ltd., Oxford (1950) 161
	MILK Testing	Antibiotic	QS Report RDLS-RD07115, Validation of TwinsensorBT and Charm ROSA MRLBLTET screening kits with simultaneous rapid detection of beta-lactams and tetracyclines in milk QS Report RE-RD010044, Determination of β -lactams in milk by LC-MS Note —Detection and confirmation of antibiotic residues in milk using screening tests; JM. Diserens

16-06-2016
Date

Director

	ACCREDITATION DOCUMENT	F-06/02 Issue Date: 10/08/15 Rev. No: 07 LAB 063
---	-----------------------------------	---

			et al.; 01.02.2005 QS Report RDLS- RD050138, Comparative study & validation COPAN- NF / Delvotest SP-NT
	MILK Testing	Formalin	Spot Test Analysis Clinical, Environmental, Forensic & Geographical Applications By Ervin Jungreis. The Hebrew University of Jerusalem, Israel, 1984 (Page # 259)
	MILK Testing	Sorbitol	UVAs, Lahore
	MILK Testing	Glucose	Manual of Methods of Analysis for Adulterants and Contaminations in Foods (I.C.M.R 1990, page 28)
	MILK Testing	Sodium	1- Instruction Manual, Hach Model 50310 combination sodium Calomel Electrode (pp 1-30) 2- Ion Selective Electrodes, Honold, F. & Camman, K., Chapter 4, Pg 75. In: " Rapid Methods for Analysis of Food and Food Raw Material". (Ed.) Baltes, W. Technomic Publishing Co., Lancaster, Basel, 1990. 3- AOAC Official Method 976.25. Sodium in Foods for Special Dietary Use. Ion Selective Electrode Method. AOAC 1995.
	MILK Testing	Aerobic mesophilic count cfu/g	ISO 4833:2003: Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration of micro- organisms - Colony count

16-06-2016

Date

Director



**ACCREDITATION
DOCUMENT**

F-06/02
Issue Date: 10/08/15
Rev. No: 07
LAB 063

			technique at 300 C
	MILK Testing	Bacterial Spores cfu/g	Singleton, P. and Sainsbury, D. : Dictionary of Microbiology, 1978, ISBN 0-471-99658-0
	MILK Testing	Aflatoxin M1 Elisa	Elisa kit Ridascreen® Fast Aflatoxin M ₁ (R-Biopharm n° R5802) http://www.r- biopharm.com/ , Microplate Reader, e.g. Epoch microplate spectrophotometer from BioTek instruments (a Microtiter plate spectrophotometer is required to read the plate at 450 nm). http://www.biotek.com/produ cts/microplate_detection/epoc h_microplate_spectrophotome ter.html
Nestle Pure Life Water	WATER Testing	Conductivity µs/cm	APHA 2510 NF EN 27888 ISO 7888
	WATER Testing	Magnesium mg/L	3500-Ca B. EDTA Titrimetric Method. Standard Methods for Examination of Water and Wastewater, 20th Edition, American Public Health Association, 1998.
	WATER Testing	Calcium mg/L	3500-Ca B. EDTA Titrimetric Method. Standard Methods for Examination of Water and Wastewater, 20th Edition, American Public Health Association, 1998.

16-06-2016
Date

Director



**ACCREDITATION
DOCUMENT**

F-06/02
Issue Date: 10/08/15
Rev. No: 07
LAB 063

	WATER Testing	Total Alkalinity mg/L	2320 B. Titration Method. Standard Methods for Examination of Water and Wastewater, 20th Edition, American Public Health Association, 1998. NF EN ISO 9963-1.1996. Water quality- Determination of alkalinity - Part 1:
	WATER Testing	Nitrite mg/L	EPA 354.1, US standard methods 4500-NO2- B , EN 26 777.
	WATER Testing	Ammonium mg/L	- EPA 350.1 standard, APHA 4500-NH3 D, ISO 7150/1
	WATER Testing	Bromate µg/L	Laboratory and Field Methods for Determination of Bromate in Drinking Water – BCR information – EUR 19601 EN
	WATER Testing	Total Hardness mg/L	-2340 C. EDTA Titrimetric Method. Standard Methods for Examination of Water and Wastewater, 20th Edition, American Public Health Association, 1998. -ISO 6059. Water Quality – 1984 – Determination the sum of calcium and magnesium – EDTA titrimetric method
	WATER Testing	pH 6.5-	Memento Merck, indicators acid/base, FIL/IDF 81: 1981, FIL/IDF 86: 1981, FIL/IDF 115A: 1989, FIL/IDF 104A: 1984, FIL/IDF 150: 1991
	WATER Testing	Chloride mg/L	AOAC (1995). Official method 986.26 "Chloride in milk-based infant formula- Potentiometric method" in AOAC. International Official

16-06-2016
Date

Director



**ACCREDITATION
DOCUMENT**

F-06/02
Issue Date: 10/08/15
Rev. No: 07
LAB 063

			Method of Analysis, 16th edition. ISO 1841-2:1996 Meat and products- Determination of chloride content - Part 2. Potentiometri
	WATER Testing	Sodium mg/L	Association of official Analytical chemists International(1995)."Sodium and potassium in dried milk."Official Method of analysis of AOAC International, 16th edition,chapter 33; method No.33.5.12. IDF- ISO- AOAC Method.
	WATER Testing	Manganese mg/L	Merck applications note 791 1440692/03-61754442 engl. 2. Colorimetry of the red brown complex of manganese with formaldoxime.
	WATER Testing	Potassium mg/L	Association of official Analytical chemists International(1995)."Sodium and potassium in dried milk."Official Method of analysis of AOAC International, 16th edition,chapter 33; method No.33.5.12. IDF- ISO- AOAC Method.
	WATER Testing	Sulphate mg/L	(1)-4500-SO42-E. Turbidimetric Method.Standard Methods for Examination of wter and Wastewater,20th Edition,American Public Health Association,`1998. (2)- Merch application note for sulfate test kit Spectroquant® N1.14548.
	WATER Testing	TDS mg/L	HACH Method(12.2.3) 8163

16-06-2016
Date

Director



**ACCREDITATION
DOCUMENT**

F-06/02
Issue Date: 10/08/15
Rev. No: 07
LAB 063

	WATER Testing	Chlorine mg/L	HACH DPD Method # 8021 (Free) & 8167 (Total), Standard Methods for the Examination of Water and Wastewater
	WATER Testing	Turbidity NTU	Merck Turbiquant® 1500 T The USEPA Method 180.1 and also APHA – AWWA – WPCF require the use of a tungsten lamp emitting white light (T-models).
	WATER Testing	Color Hazen	Spectroquant® NOVA 60 Method 032, Colour Hazen (Platinum-Cobalt Standard Method) analogous to APHA 2120B, DIN EN ISO 6271-2, Water Research Vol. 30, No. 11, 2771-2775, 1996
	WATER Testing	Intestinal Enterococci cfu/ml	ISO 7899-2:2000 Water quality Detection and enumeration of intestinal enterococci. Part 2: membrane filtration method.
	WATER Testing	Pseudomonas aeruginosa cfu/ml	NF EN 12780 : water Quality - Detection and enumeration of Pseudomonas aeruginosa by membrane filtration.
	WATER Testing	TPC	1- ISO 6222: 1999 Water Quality "Enumeration of culturable micro-organisms. Colony count by inoculation in a nutrient agar culture medium" 2-ISO 8199: 1988 Water Quality "General guide to the enumeration of micro-organisms by culture"
	WATER Testing	Yeast & Moulds	1-ISO 7954 : 1987 Microbiology – General guidance for enumeration of yeasts and moulds – Colony count technique at 25°C. 2-Standard method for the examination of water and

16-06-2016

Date

Director



**ACCREDITATION
DOCUMENT**

F-06/02
Issue Date: 10/08/15
Rev. No: 07
LAB 063

			wastewater – 20th edition (1998) - APHA – 9610B – Detection of fungi – Pour plate technique.
	WATER Testing	Coliforms	1-ISO 9308-1: 2000 Water quality – Detection and enumeration of Escherichia coli and coliform bacteria 2-ISO 9308 1:2000/ Cor.1:2007 Technical corrigendum
	WATER Testing	E.Coli	1-ISO 9308-1: 2000 Water quality – Detection and enumeration of Escherichia coli and coliform bacteria 2-ISO 9308 1:2000/ Cor.1:2007 Technical corrigendum

16-06-2016
Date

Director

	ACCREDITATION DOCUMENT	F-06/02 Issue Date: 10/08/15 Rev. No: 07 LAB 063
---	-----------------------------------	---

Calibration Laboratory.

Accreditation Scope of ABC Lab. PQR City, XYZ Country.

Permanent laboratory premises

Field of measurement:			
Measured quantity	Range	Calibration & Measurement Capability (CMC) expressed as an uncertainty (\pm)	Brief description of measurement and equipment used

16-06-2016
Date

Director