



Certificate of Accreditation

This is to certify that

MULT-CONSULT LABORATORIES LIMITED

No. 13, Alliance Lane, Homeland Estate, opposite Deeper-life camp,
Lagos-Ibadan expressway

Has been assessed by the Nigeria National Accreditation System and meets the requirements of the International Standard

ISO/IEC 17025:2017

with demonstrated technical competence in the field of

Testing

for the specific services listed on the approved Scope of Accreditation.

On behalf of the Nigeria National Accreditation System:



Issue date: **August 12, 2021**
Validity through: **August 11, 2023**

Scope of Accreditation

**Chemical and Microbiology Testing Laboratory
MULT-CONSULT LABORATORIES LIMITED**

NO. 13, ALLIANCE LANE, HOMELAND ESTATE, OPPOSITE DEEPER-LIFE CAMP, LAGOS-IBADAN EXPRESSWAY

Schedule NO.: T 0007

Issue No. 1: 12 08, 2021

Valid to: 11 08, 2023

Materials/ Products Tested	Types of Tests/ Properties Measured / Range of Measurements	Standard Specifications / Techniques Used
Spices/Seasoning, Flour/Grains, Milk Products, Cocoa Products, Animal Feeds, Vegetables/Fruits, Macaroni Products, Evaporated Milk, Infant Formula, Bread, Dried Milk, Cereal, Fats/Oils, Food Grade Salt, Refined Sugar, Tomato Products, Nut and Nut Products	Moisture	AOAC 986.21 AOAC 925.10 AOAC 931.04 AOAC 932.12 AOAC 926.07 AOAC 990.20 AOAC 930.15 AOAC 926.05 AOAC 945.15 ISO 712:2009(E) AOAC 927.05 AOAC 985.26 ISO 6731:2010 Pearson 9 th Ed.,1991, Page 562 Pearson 9 th Ed.,1991, Page 566 ISO 662:2016
Spices/Seasoning, Flour/Grains, Milk Products, Cocoa Products, Animal Feeds, Vegetables/Fruits, Macaroni Products, Evaporated Milk, Infant Formula, Bread, Dried Milk, Cereal, Fats/Oils, Food Grade Salt, Refined Sugar, Nuts and Nut Products, Tea.	Ash	AOAC 923.03 AOAC 972.15 AOAC 971.33 AOAC 945.46 AOAC 941.12a AOAC 925.11 AOAC 942.05 AOAC 940.26 AOAC 930.22 AOAC 930.30 Pearson 9 th Ed.,1991, Page 13, 563

Materials/ Products Tested	Types of Tests/ Properties Measured / Range of Measurements	Standard Specifications / Techniques Used
		Pearson 9 th Ed.,1991, Page 567 ISO 2171:2007(E) AOAC 975.12 AOAC 950.49 AOAC 975.11
Spices/Seasoning, Flour/Grains, Milk Products, Cocoa Products, Animal Feeds, Vegetables/Fruits, Macaroni Products, Evaporated Milk, Infant Formula, Bread, Dried Milk, Cereal, Fats/Oils, Food Grade Salt, Refined Sugar, Bread, Cereal, Nuts and Nut Products.	Fat	AOAC 963.15 AOAC 922.06 AOAC 905.02 AOAC 945.48 AOAC 989.05 AOAC 932.06 AOAC 925.12 (same as 922.06) AOAC 945.16 AOAC 935.38 AOAC 920.39C AOAC 948.22 Pearson 9 th Ed.,1991, Page 538,562 ISO 110085:2008(E) Direct Hydrolysis (Solvent Extraction)
Flour/Grains, Bread, Macarani	Protein	AOAC 986.25 AOAC 920.87 AOAC 930.25 ISO 8968-1:2001(E) Titration
Spices/Seasoning, Flour/Grains, Milk Products, Animal Feeds, Cocoa Products, Dried Milk, Vegetables/Fruits, Macaroni Products, Evaporated Milk, Infant Formula, Bread, Cereal,	Carbohydrates	AOAC 986.25 Calculation by difference (Pearson's Composition and Analysis of Food 9 th Edition. Pg 5, 680) Calculation
Spices, Flour/Grains, Milk Products, Animal Feeds, Cocoa Products,	Energy Value	Pearson's Composition and Analysis of Food 9 th Edition. Calculation

Materials/ Products Tested	Types of Tests/ Properties Measured / Range of Measurements	Standard Specifications / Techniques Used
Vegetables/Fruits, Macaroni Products, Evaporated Milk, Infant Formula, Bread, Dried Milk, Cereal, Refined Sugar		Pg 5, 680
Canned Vegetable, Butter, Spices, Flour/Grains, Milk Products, Nuts and Nut Products.	Salt (Sodium Chloride)	AOAC 971.27 GB 5413.24 part 2 AOAC 960.29 AOAC 986.26 AOAC 950.52 AOAC 2016.13 Titrimetry
Spices, Flour/Grains, Milk Products, Cocoa Products, Animal Feeds, Vegetables/Fruits, Macaroni Products, Evaporated Milk, Infant Formula, Bread, Dried Milk, Cereal, Fats/Oils, Food Grade Salt, Refined Sugar	pH	AOAC 943.02 AOAC 940.23 AOAC 981.12 AOAC 970.21 AOAC 945.42 Potentiometry
Fats & Oils	Loss on drying	ISO 662:2016 Gravimetry
	Refractive Index	AOAC 921.08 Refractometry
	Acid Value	AOAC 940.28 AOAC 969.17 ISO 660:2020(E) Titrimetry
	Free Fatty Acids (FFA)	AOAC 940.28 Titrimetry
	Relative Density	AOAC 985.19 Pycnometry
	Peroxide Value	AOAC 965.33 Titrimetry
	Saponification Value	AOAC 920.160 Titrimetry
	Specific gravity	AOAC 920.212 Pycnometry
	Unsaponifiable Matter	AOAC 933.08 Extraction & Titrimetry
	Insoluble Impurities	ISO 663:2007 Gravimetry
	Iodine Value	Pearson's Composition and Analysis of Food 9 th Edition. Pg 626-627 Wij's Titrimetry
Food Grade Salt	Iodine	AOAC 925.56 PS 1669-2008 Titrimetry
Roasted Coffee	Total Acidity	AOAC 920.92 Gravimetry
Cereal	Fat Acidity	AOAC 939.05 Gravimetry

Materials/ Products Tested	Types of Tests/ Properties Measured / Range of Measurements	Standard Specifications / Techniques Used		
	Alcoholic Acidity as H ₂ SO ₄	IS 1155:2005	Gravimetry	
Spice & Condiments	Alcoholic Soluble Extract	AOAC 898.03	Gravimetry	
Tea	Water Soluble Ash	AOAC 920.100B	Gravimetry	
Cocoa Products	Alkalinity of Insoluble and Soluble Ash	AOAC 975.11	Gravimetry	
	Acid Insoluble Ash	AOAC 975.12		
Honey	Reducing Sugar	AOAC 920.183	Gravimetry	
Flour	Sugar	AOAC 939.03	Gravimetry	
	Lactose	Pearson's Composition and Analysis of Food 9 th Edition. Pg 196, 297, 563	Gravimetry	
	Acidity	Pearson's Composition and Analysis of Food 9 th Edition. Pg 539, 563	Gravimetry	
Processed Fruits & Vegetables	Tomato Soluble Solids	AOAC 970.59	Refractometry	
	pH	AOAC 981.12	Potentiometry	
	Fat	AOAC 930.09	Gravimetry	
	Ash	AOAC 940.26	Gravimetry	
	Titratable Acidity	AOAC 942.15	Titrimetry	
	Total Solids / Moisture (microwave)	AOAC 985.26	Gravimetry	
	Mineral Impurities	AOAC 971.33	Gravimetry	
	Fruit Content	Pearson 9 th Ed., 1991, Page 271-272	Titrimetry	
MICROBIOLOGICAL TESTING				
Water	Foods	Aerobic Plate Count	FDA BAM Chapter 3	Pour Plate Method
	Environmental samples	Enterobacteriaceae	ISO 21528/2	Pour Plate Method
		Staphylococcus aureus	FDA BAM Chapter 28	Pour Plate Method
		Yeast and Mould	FDA BAM Chapter 12	Pour Plate Method
		Listeria	FDA BAM Chapter 18	Pour Plate Method
		Salmonella	FDA BAM Chapter 10	Pour Plate Method
		FDA BAM Chapter 5	Pour Plate Method	

Materials/ Products Tested	Types of Tests/ Properties Measured / Range of Measurements	Standard Specifications / Techniques Used	
	Clostridium perfringens	FDA BAM Chapter 16	Pour Plate Method
	Vibrio	FDA BAM Chapter 9	Pour Plate Method
	Coliforms & E. coli	FDA BAM Chapter 4	Pour Plate Method
	Bacillus Cereus	FDA BAM Chapter 14	Spread Plate Method
	Pseudomonas	BIS 13428-2005	Pour Plate Method
	Legionella	ISO 11731:1998 & ISO 11731-2:2004	Pour Plate Method
WATER LABORATORY			
WATER AND WASTEWATER	Bicarbonate	APHA 2320 - HCO ₃ ⁻ B, AOAC 920.194	Titrimetric Method
	Calcium Hardness	APHA 3500-Ca B.	Titrimetric Method
	Chloride	ASTM 512-67 APHA 4500 Cl-B NIS 554:2007	Argentometric Titration
	Chemical Oxygen Demand	APHA 5220-COD C	Closed Reflux, Titrimetric Method
	Chemical Oxygen Demand	APHA 5220-COD B.	Open Reflux, Titrimetric Method
	Copper	APHA 3500-Cu C	Bathocuproine Method
	Cyanide	APHA 4500-CN	Colorimetric Method
	Dissolved Oxygen	APHA 4500-O C	Azide Modification method
	Flouride	APHA 4500-F C	Ion Selective Electrode Method
	Iron	APHA 3500-Fe B	Phenanthroline Method
	Magnesium Hardness	APHA 3500-Mg B	Calculation from Total Hardness and Calcium Hardness
	Mercury	APHA 3500-Hg	Thio-Michler's Ketone Method

Materials/ Products Tested	Types of Tests/ Properties Measured / Range of Measurements	Standard Specifications / Techniques Used
	Nickel	APHA 3500-Ni Dimethylglyoxime Method
	Nitrate	APHA 4500-NO ₃ B Spectrophotometric Method
	Ozone	APHA 4500-O ₃ B. Indigo Colorimetric Method
	Phosphorus, Ortho Phosphate	APHA 4500-P D. Stannous Chloride Spectrophotometric method
	Sulphate	APHA 4500-SO ₄ E Turbidimetric Method
	Total Alkalinity	APHA 2320 - CaCO ₃ B Titrimetric Method
	Total Hardness	AOAC 973.52 EDTA Titrimetric Method
	Zinc	APHA 2340-C APHA 3500-Zn B Zincon Method
	Aluminum	APHA 3500-Al B Eriochrome Cyanine R Method
	Boron	APHA 4500-B B. Curcumin Method
	Arsenic	APHA 3500-As B Silver Diethyldithiocarbamate Method
	Total Suspended Solids, Volatile Suspended Solids, Mixed Liquor Suspended Solids	APHA 2540 D and E Gravimetric Method