Issue date: 11 June 2025
Valid Until: -

NO: SAMM 253
(Issue 2, 11 June 2025 replacement
of SAMM 253 dated 11 June 2025)

LABORATORY LOCATION/ CENTRAL OFFICE:	ALS TECHNICHEM (MALAYSIA) SDN. BHD., PULAU PINANG PLOT 256, TINGKAT PERUSAHAAN 5 KAWASAN PERINDUSTRIAN 2 , 13600, PULAU PINANG MALAYSIA
ACCREDITED SINCE :	11 JUNE 2025
FIELD(S) OF TESTING:	CHEMICAL MICROBIOLOGICAL
SITE:	
1 . SITE LABORATORY(HQ) :	CATEGORY I
FIELD(S) OF TESTING :	CHEMICAL

This laboratory has demonstrated its technical competence to operate in accordance with MS ISO/IEC 17025:2017 (ISO/IEC 17025:2017).

This laboratory's fulfillment of the requirements of ISO/IEC 17025 means the laboratory meets both the technical competence requirements and management system requirements that are necessary for it to consistently deliver technically valid test results and calibrations. The management system requirements in ISO/IEC 17025 are written in language relevant to laboratory operations and operate generally in accordance with the principles of ISO 9001 (see Joint ISO-ILAC-IAF Communiqué dated April 2017).

CENTRAL LOCATION:	ALS TECHNICHEM (MALAYSIA) SDN. BHD., PULAU PINANG PLOT 256, TINGKAT PERUSAHAAN 5 KAWASAN PERINDUSTRIAN 2 , 13600, Pulau Pinang
FIELD(S) OF TESTING :	CHEMICAL, MICROBIOLOGICAL

SCOPE OF TESTING : CHEMICAL

Material / Product Tested	**Type Of Test / Properties Measured / Range Of Measurement**	**Standard Test Methods / Equipment / Techniques**
Household Insecticides Mosquito Mat	d-allethrin and Butyl Stearate	In-house Method LWI-TEC-H001
	Prallethrin, Butyl Stearate and Piperonyl Butoxide	In-house Method LWI-TEC-H013
Household Insecticides Insecticidal Aerosol (water-based)	Prallethrin and d-phenothrin	In-house Method LWI-TEC-H004
	Prallethrin and d-phenothrin	In-house Method LWI-TEC-H015 (Direct-weighing Method)
	Transfluthrin, Imiprothrin and Permethrin	In-house Method LWI-TEC-H017

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Material / Product Tested	**Type Of Test / Properties Measured / Range Of Measurement**	**Standard Test Methods / Equipment / Techniques**
	Transfluthrin and Cyfluthrin	In-house Method LWI-TEC-H020
Mosquito Coil	d-allethrin	In-house Method LWI-TEC-H002
	Metofluthrin	In-house Method LWI-TEC-H016
Insecticidal Aerosol (oil-based)	Prallethrin and d-phenothrin	In-house Method LWI-TEC-H003
	d-allethrin and d-phenothrin	In-house Method LWI-TEC-H005
	Imiprothrin and Permethrin	In-house Method LWI-TEC-H006
	Transfluthrin, Imiprothrin and Permethrin	In-house Method LWI-TEC-H018
	Transfluthrin and Cyfluthrin	In-house Method LWI-TEC-H019
Vaporising Liquid	Prallethrin and d-allethrin	In-house Method LWI-TEC-H007
Concentrated Mixture For Oil-based Aerosol	Prallethrin and d-phenothrin	In-house Method LWI-TEC-H008
	d-allethrin and d-phenothrin	In-house Method LWI-TEC-H010
	Imiprothrin and Permethrin	In-house Method LWI-TEC-H011
Concentrated Mixture For Water-based Aerosol	Prallethrin and d-phenothrin	In-house Method LWI-TEC-H009
Concentrate Liquid For Mosquito Mat	Prallethrin, Butyl Stearate and Piperonyl Butoxide	In-house Method LWI-TEC-H014
Environmental Monitoring Industrial Effluents	COD	APHA 5220 D HACH Spectrophotometer Method 8000
	Chromium Hexavalent (Cr^{6+})	APHA 3500-Cr B HACH Spectrophotometer Method 8023
	Chromium Trivalent (Cr^{3+})	In-house method LWI-TEC-W016 based on APHA 3111 B and HACH Spectrophotometer Method 8023
	Phenol	APHA 5530 C In-house method LWI-TEC-W018 based on APHA 5530 B and HACH Spectrophotometer Method 8047
	Boron	APHA 4500-B B HACH Spectrophotometer Method 8015
	BOD_5 at 20°C	APHA 5210 B and APHA 4500 OG
	Cyanide	In-house method LWI-TEC-W017 based on APHA 4500-CN^- C and HACH Spectrophotometer Method 8027
	Free Chlorine	HACH Spectrophotometer Method 8021
	Sulphide	HACH Spectrophotometer Method 8131
	Nitrate	HACH Spectrophotometer Method 8039
	Phosphorus	APHA 4500-P C
	Total Hardness as $CaCO^3$	APHA 2340 B APHA 2340 C
	Turbidity	APHA[1] 2130 B
	Antimony, Calcium, Sodium, Strontium, Beryllium, Magnesium	APHA[1] 3120 B

Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques
	Chloride	APHA[1] 4500 Cl^- B
	Sulphate	APHA 4500-SO_4^{2-} E
	Colour (ADMI)	APHA 2120 F
	Fluoride	HACH Spectrophotometer Method 8029
	Fluoride	APHA1 4500- F D
	Formaldehyde	HACH Spectrophotometer Method 8110
	Ammoniacal Nitrogen	HACH Spectrophotometer Method 8038
	Ammoniacal Nitrogen	APHA[1] 4500- NH_3 F
	Selenium	APHA 3120 B
	Barium	APHA 3120 B
	Silver	APHA 3120 B
	Aluminium	APHA 3120 B
	Boron, Cadmium, Chromium, Copper, Iron, Lead, Manganese, Nickel, Tin and Zinc	APHA 3120 B
	Nitric Acid-Hydrochloric Acid Digestion	APHA 3030 F
	Cyanide	APHA[1] 4500 CN^- C and APHA[1] 4500 CN^- F
	Sulfide	APHA[1] 4500 – S^{2-} D
	Temperature	APHA[1] 2550 B
	Formaldehyde	APHA[1] 6252 B
	Free Chlorine	APHA[1] 4500 – Cl G
	Colour as PtCo	HACH Spectrophotometer Method 8025
	Nitrite	HACH Spectrophotometer Method 8153
	pH Value	APHA 4500-H^+ B
	Total Suspended Solids	APHA 2540 D
	Total Solids	APHA 2540 B
	Total Dissolved Solids	APHA 2540 C
	Oil & Grease	APHA 5520 B
	Oil and Grease (Hydrocarbon)	APHA[1] 5520 B & F
	Mercury	APHA 3112 B
	Arsenic	APHA 3114 B
	Cadmium	APHA 3111 B
	Total Chromium	APHA 3111 B
	Lead	APHA 3111 B
	Copper	APHA 3111 B
	Manganese	APHA 3111 B
	Nickel	APHA 3111 B
	Zinc	APHA 3111 B
	Iron	APHA 3111 B
	Tin	In-house method LWI-TEC-W025 based on APHA 3111 D

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Material / Product Tested	**Type Of Test / Properties Measured / Range Of Measurement**	**Standard Test Methods / Equipment / Techniques**
Environmental Monitoring Liquid Waste / Inorganic Acid Waste	Heavy Metals Aluminium Arsenic Barium Beryllium Calcium Cadmium Cobalt Chromium Copper Iron Manganese Molybdenum Nickel Lead Antimony Selenium Titanium Vanadium Zinc Silver Tin	APHA[1] 3030 D & E USEPA 6010 D
Environmental Monitoring Leachate Soil/sediment/sludge Solid Wastes Liquid Wastes	Moisture	EPA Method 9000 (Karl Fischer Titration)
	Reactivity (Cyanide)	APHA[1] 4500-CN^- A APHA[1] 4500 CN^- C APHA[1] 4500 CN^- F
Environmental Monitoring Sludge/solvent Waste	Flash Point (Flammability)	EPA Method 1010 A ASTM D 93-16a (Procedures A and B)
Sewage Water	Barium, Selenium, Aluminium, Silver	APHA[1] 3120 B
	Dissolved Oxygen	APHA[1] 4500-O G
	Anionic Surfactants as MBAS	APHA[1] 5540 C
Leachate Liquid Wastes	Specific Gravity	ASTM D 891-09
	Sulphur	In-house method LWI-TEC-C018 based on ASTM D 3177-02
	Total Hydrocarbons	APHA[1] 5520 B APHA[1] 5520 F
	Separation Funnel Liquid-Liquid Extraction	EPA Method 3510 C
	Phenol	APHA[1] 5530 B APHA[1] 5530 D
	Fluoride	APHA[1] 4500-F^- B APHA[1] 4500-F^- D
	pH (Corrosivity)	EPA Method 9040 B
	Nitric Acid Digestion of Metals	APHA[1] 3030-E
	Reactivity (Sulphide)	APHA[1] 4500-S^{2-} A (Qualitative antimony test)

Material / Product Tested	**Type Of Test / Properties Measured / Range Of Measurement**	**Standard Test Methods / Equipment / Techniques**
	Mercury	EPA Method 7471 B
Soil/sediment/sludge Solid Wastes	Sulphur	In-house method LWI-TEC-C018 based on ASTM D 3177- 02
	pH (Corrosivity)	EPA Method 9045 D
	Total Hydrocarbons	APHA[1] 5520 E APHA[1] 5520 F
	Reactivity (Sulphide)	In-house method LWI-TEC-C020 based on APHA[1] 4500- S^{2-} A (Qualitative antimony test)
Sediment/sludge/solid Wastes	Mercury	EPA Method 7471 B
Solid Wastes	Soxhlet Extraction	EPA Method 3540 C
Industrial Effluents	Chromium Trivalent (Cr^{3+})	APHA 3120 B and APHA 3500-Cr B
Water Potable And Domestic Water Ground Water Mineral Water Reverse Osmosis Water Industrial / Cooling Purposes Steam Raising / Boiler Water Swimming Pool Water And Spa Surface Water	COD	APHA 5220 D HACH Spectrophotometer Method 8000
	BOD_5 at 20°C	APHA 5210 B APHA 4500 OG
	Chromium Hexavalent (Cr^{6+})	APHA 3500-Cr B HACH Spectrophotometer Method 8023
	Chromium Trivalent (Cr^{3+})	In-house method LWI-TEC-W016 based on APHA 3111B and HACH Spectrophotometer Method 8023
	Phenol	APHA 5530 C In-house method LWI-TEC-W018 based on APHA 5530 B and HACH Spectrophotometer Method 8047
	Boron	APHA 4500-B B HACH Spectrophotometer Method 8015
	pH value	APHA 4500-H^+ B
	Free Chlorine	HACH Spectrophotometer Method 8021
	Sulphide	HACH Spectrophotometer Method 8131
	Cyanide	In-house method LWI-TEC-W017 based on APHA 4500-CN^- C and HACH Spectrophotometer Method 8027
	Colour as PtCo	HACH Spectrophotometer Method 8025
	Total Hardness as $CaCO_3$	APHA 2340 C
	Fluoride	APHA 4110 B
	Chloride	APHA 4110 B
	Bromide	APHA 4110 B

Material / Product Tested	**Type Of Test / Properties Measured / Range Of Measurement**	**Standard Test Methods / Equipment / Techniques**
	Nitrate	APHA 4110 B HACH Spectrophotometer Method 8039
	Nitrite	APHA 4110 B HACH Spectrophotometer Method 8153
	Phosphate	APHA 4110 B
	Sulphate	APHA 4110 B APHA 4500-SO_4^{2-} E
	Phosphorus	APHA 4500-P C
	Alkalinity as $CaCO_3$	APHA 2320 B
	Total Suspended Solids	APHA 2540 D
	Total Solids	APHA 2540 B
	Total Dissolved Solids	APHA 2540 C
	Oil & Grease	APHA 5520 B
	Mercury	APHA 3112 B
	Arsenic	APHA 3114 B
	Copper	APHA 3111 B
	Cadmium	APHA 3111 B
	Total Chromium	APHA 3111 B
	Lead	APHA 3111 B
	Manganese	APHA 3111 B
	Nickel	APHA 3111 B
	Zinc	APHA 3111 B
	Iron	APHA 3111 B
	Tin	In-house method LWI-TEC-W025 based on APHA 3111 D
Water Drinking Water Potable And Domestic Water Ground Water Mineral Water Reverse Osmosis Water Surface Water	Free Chlorine	APHA[1] 4500 – Cl G
	Formaldehyde	APHA[1] 6252 B
	Total Organic Carbon	APHA[1] 5310 C
	Anionic Surfactants as MBAS	APHA[1] 5540 C
Potable And Domestic Water	Total Hardness as $CaCO_3$	APHA 2340 B
	Boron, Cadmium, Chromium, Copper, Iron, Lead, Manganese, Nickel, Tin and Zinc	APHA 3120 B
Potable And Domestic Water Ground Water Mineral Water Reverse Osmosis Water Industrial / Cooling Purposes Steam Raising / Boiler Water Surface Water Distilled Demineralized Water	Turbidity	APHA[1] 2130 B
	Conductivity	APHA[1] 2510 B
	Antimony, Calcium, Sodium, Strontium, Berylium, Magnesium, Barium, Selenium, Aluminium, Silver	APHA[1] 3120 B
Swimming Pool Water & Spa	Turbidity	APHA[1] 2130 B
	Total Residual Chlorine	APHA[1] 4500-Cl G
Potable And Domestic Water Mineral Water Reverse Osmosis Water Industrial / Cooling Purposes	Bromate	USEPA 300.1
	Borate	BS 6068-2.40: 1991 ISO 9390: 1990
	Trihalomethanes	APHA[1] 6232 B

Material / Product Tested	**Type Of Test / Properties Measured / Range Of Measurement**	**Standard Test Methods / Equipment / Techniques**
	Total Residual Chlorine	APHA[1] 4500-CI G
Surface Water Ground Water	Oil & Grease (hydrocarbon)	APHA[1] 5520 B & F
	Dissolved Oxygen	APHA[1] 4500-O G
Potable And Domestic Water Industrial / Cooling Purposes	Dissolved Oxygen	APHA[1] 4500-O G
Potable And Domestic Water Ground Water Mineral Water Reverse Osmosis Water Surface Water	Organochlorine Pesticide ? Hexachlorobenzene ? Lindane ? Heptachlor ? Heptachlor Epoxide ? Dieldrin ? DDT ? Methoxychlor	In-house Method LWI-TEC-W026 based on AOAC1 990.06, 16th Edition
Drinking Water Potable And Domestic Water Ground Water Mineral Water Reverse Osmosis Water Surface Water	Cyanide	APHA[1] 4500 CN- C and APHA[1] 4500 CN^- F
	Sulfide	APHA[1] 4500 – S^{2-} D
Drinking Water Potable And Domestic Water Mineral Water Reverse Osmosis Water	Mineral Oil	In-house method LWI-TEC-W054 based on ISO 9377-2
	Phenol	In-house method LWI-TEC-W062 based on EPA Method 604 by GC-µECD
Drinking Water Portable And Domestic Water Mineral Water Reverse Osmosis Water Ground Water Industrial/cooling Purposes Steam Raising/boiler Water Swimming Pool Water & Spa Surface Water	Chromium Trivalent (Cr^{3+})	APHA 3120 B and APHA 3500- Cr B
Foods Alcoholic Beverage Dairy Products Egg And Egg Products Fish And Fish Products Flour And Confectionery Infant Foods Meat, Poultry And Derived Products Non-alcoholic Beverages Nut, Fruit And Vegetables And Derived Products Pet Foods Sauces, Herbs, Spices And Condiments Sugars And Sugar Products	Crude Protein	MS 1194: 1991
	Crude Fibre	In-house Method LWI-TEC-F002 based on Pearson's Chemical Analysis of Food, 8th Edition (1981)
	Fat	In-house method LWI-TEC-F003 based on AOAC[1] 989.05 (Liquid-Liquid Extraction)
	Fat	In-house method LWI-TEC-F003 based on AOAC[1] 920.39 (Soxhlet Extraction)
	Moisture	AOAC[1] 984.25
	Ash	AOAC[1] 923.03
	Total Sugar	AOAC[1] 968.28
	Energy	In-house method LWI-TEC-F007 and LWI-TEC-F008 based on Analysis for Nutrition Labeling, AOAC, 1993 and Food Regulations 1985

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Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques
	Carbohydrate	In-house method LWI-TEC-F009 based on Analysis for Nutrition Labeling, AOAC, 1993 and Food Regulations 1985
	Arsenic	In-house method LWI-TEC-F010 based on Pearson's Chemical Analysis of Foods 9th Edition (1991)
	Lead	In-house method LWI-TEC-F011 based on Pearson's Chemical Analysis of Foods 9th Edition (1991)
	Mercury	In-house method LWI-TEC-F012 based on Pearson's Chemical Analysis of Foods 9th Edition (1991)
	Tin	AOAC[1] 985.16
	Cadmium	In-house method LWI-TEC-F013 based on AOAC[1] 973.34
	Antimony	In-house Method LWI-TEC-F015 based on AOAC[1] 964.16
	Cholesterol	AOAC[1] 994.10
	Fatty Acid Composition: Monounsaturated Fat Polyunsaturated Fat Saturated Fat Trans Fat Omega Fatty acid of n-3 and n-6	In-house Method LWI-TEC-F021 based on AOCS Ce 1-62, 4 th Edition
	Benzoic Acid	In-house method LWI-TEC-F020 using HPLC
	Sorbic Acid	In-house method LWI-TEC-F020 using HPLC
	Iron	AOAC[1] 985.35
	Sodium	AOAC[1] 985.35
Foods Flour And Confectionery Dairy Products Infant Foods Pet Foods	Melamine	In-house method LWI-TEC-F019 based on FDA Method

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Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques
Foods Alcoholic Beverages Non-alcoholic Beverages Dairy Products Egg And Egg Products Fish And Fish Products Flour And Confectionery Infant Foods Meat, Poultry And Derived Products Nut, Fruit, Vegetables And Derived Products Sauces, Herbs, Spices And Condiments Sugars And Sugar Products	Copper, Selenium, Zinc and Calcium	In-house method LWI-TEC-F033 based on AOAC[1] 985.01
Foods Dairy Products Edible Oil, Fats And Their Products Flour And Confectionery Sauces, Herbs, Spices And Condiments Meat, Poultry And Derived Products Non-alcoholic Beverages	Sulphur Dioxide	AOAC[1] 990.28
Foods Fluor And Confectionery Sauces, Herbs, Spices And Condiments Nut, Vegetables And Derived Products Fish And Fish Products Sugar And Sugar Products Dairy Products Meat, Poultry And Derived Products Non-alcoholic Beverages	Dietary Fiber	AOAC 985.29
	Potassium	AOAC[1] 985.35
Fish And Fish Products	Histamine	In-house Method LWI-TECF025 by HPLC Fluorescence Detection using OPA Derivatisation
	Metabolites of Nitrofurans: ? Semicarbazide (SEM) ? 3-amino-2-oxazolidinone (AOZ) ? 5-morpholinomethyl-2-oxazolidinone (AMOZ) ? 1-aminohydantoin (AHD)	In-house method LWI-TECF027 by LC/MS/MS
Non-alcoholic Beverage Coffee And Premixed Coffee Powder	Caffeine	In-house method LWI-TEC-F023 by HPLC-UV Detection
Meat, Poultry And Derived Products Sauces, Herbs, Spices And Condiments Seasoning Products	Free-glutamic Acid or Monosodium Glutamate	In-house method LWI-TEC-F024 by HPLC Fluorescence Detection using OPA Derivatisation
Bird-™s Nest	Nitrite Nitrate	In-house method LWI-TEC-F026 by Ion Chromatograph
Hydrolysed Vegetable Protein (soy Sauce, Soups, Stocks, Malt Extracts, Soup Powder And Stock Cubes)	3-MCPD	AOAC 2000.01 (2002)

Material / Product Tested	**Type Of Test / Properties Measured / Range Of Measurement**	**Standard Test Methods / Equipment / Techniques**
Dairy Products Sugars And Sugars Products Cocoa And Cocoa Products	Water activity	AOAC 978.18 (2000)
Dairy Products Non-alcoholic Beverages Sauces, Herbs, Spices And Condiments Flour And Confectionery Sugar And Sugar Products Nut, Fruits And Vegetables And Derived Products	Ascorbic Acid	In-house method LWI-TEC-F029 by HPLC with HILIC column and UV detection
Dairy Products Sauces Fish And Fish Products	Cadmium Lead Tin	In-house method LWI-TEC-F033 based on AOAC[1] 985.01
Dairy Products Edible Oil, Fats And Their Products Non-alcoholic Beverages Sauces, Herbs, Spices And Condiments Flour And Confectionery Sugar And Sugar Products Nut, Fruits And Vegetables And Derived Products	Vitamin A (Retinol)	In-house method LWI-TEC-F030 by HPLC
Vinegar And Sauces	Acidity as Acetic Acid	AOAC 930.35 (2000)
Cereal Grains	Chlorpyrifos Chlorpyrifos-methyl Fenitrothion Cypermethrin	In-house method LWI-TEC-F047 based on AOAC 2007.01 (2007) by GCMS
Non-alcoholic Beverages Cocoa And Cocoa Products Dairy Products	Vitamin B1 and B2	In-house method LWI-TEC-F038 by HPLC with Fluorescence Detection
	Vitamin B5	In-house method LWI-TEC-F042 based on AOAC 2012.16 (2012) by LC/MS/MS
Beverages Semi-solid And Solids Foods	Ethanol	In-house method LWI-TEC-F045 based on AOAC 986.12 (2000) by headspace GCMS
Nut, Fruits And Vegetables And Derived Products Herbs, Spices And Condiments Flour And Confectionery	Aflatoxin B1 Aflatoxin B2 Aflatoxin G1 Aflatoxin G2	In-house method LWI-TEC-F028 based on AOAC[1] 990.33
Coffee & Coffee Products Cocoa & Cocoa Products Edible Oils, Fat And Their Products	Aflatoxin B1 Aflatoxin B2 Aflatoxin G1 Aflatoxin G2	In-house method LWI-TEC-F028 by HPLC using Immunoaffinity Columns

Material / Product Tested	**Type Of Test / Properties Measured / Range Of Measurement**	**Standard Test Methods / Equipment / Techniques**
Fresh Vegetables	Organochloride ? heptachlor epoxide ? lindane Organophoshate ? mevinphos ? pyrazophos ? dichlorvos ? disulfoton ? methacrifos ? sulfotep ? fonofos ? diazinone ? etrimifos ? dichlorfenthion ? chlorpyrifos-methyl ? primiphos-methyl ? primiphos-ethyl ? chlorfenvinphos ? methidathion ? bromophos-ethyl ? ethion ? carbophenothion Pyrethroid ? bifenthrin ? permethrin	In-house method LWI-TEC-F034 based on AOAC 2007.01
Nuts And Nut Products Dairy Products Herbs And Spices Flour And Flour Confectioneries	Ochratoxin A	In-house method LWI-TEC-F053 based on AOAC 2000.03 by LC-MS/MS
Infant Cereal Infant Milk Formula Fresh Milk Sweetened Condensed Milk Yogurt Honey Premixed Coffee Powder Cocoa & Cocoa Products Flour And Confectionaries	Sugar: • Glucose • Fructose • Maltose • Sucrose • Lactose	In-house method LWI-TEC-F044 based on Swift Siliker Method SWM-CHEM-008, version 04 by HPLC-RID
Agricultural Products And Materials Stockfoods/ Feed Meal	Crude Protein	MS 1194: 1991
	Crude Fibre	In-house method LWI-TEC-F002 based on Pearson's Chemical Analysis of Food, 8th Edition (1981)
	Fat	In-house method LWI-TEC-F003 based on AOAC[1] 989.05 (Liquid-Liquid Extraction) In-house method LWI-TEC-F003 based on AOAC[1] 920.39 (Soxhlet Extraction)
	Moisture	AOAC[1] 984.25
	Ash	AOAC[1] 923.03
	Total Sugar	AOAC[1] 968.28

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	Energy	In-house method LWI-TEC-F007 and LWI-TEC-F008 based on Analysis for Nutrition Labeling, AOAC, 1993 and Food Regulations 1985
Animal Feed	Aflatoxin B1 Aflatoxin B2 Aflatoxin G1 Aflatoxin G2	In-house method LWI-TEC-F028 by HPLC using Immunoaffinity Columns
Polymers Toys And Plastic Products	Phthalates - Dimethyl phthalate (DMP) - Dibutyl phthalate (DBP) - Di-isobutyl phthalate (DIBP) - Diamyl phthalate (DAP) - Dicyclohexyl phthalate (DCHP) - Diphenyl phthalate (DPP) - Benzyl butyl phthalate (BBP) - Bis(2-ethylhexyl) phthalate (DEHP) - Di-n-octyl phthalate (DNOP) - Di-isononyl phthalate (DINP) - Di-isodecyl phthalate (DIDP)	In-house Method LWI-TEC-C006 based on USEPA 3540 C and 8270 D
Electrotechnical Products (polymers, Metals And Electronics)	Mercury Cadmium Lead Chromium Hexavalent	IEC 62321, Edition 1, 2008

Material / Product Tested	**Type Of Test / Properties Measured / Range Of Measurement**	**Standard Test Methods / Equipment / Techniques**
Electrotechnical Products (polymers)	Polybrominated Diphenyl Ether (PBDE) - 2-Bromodiphenyl ether - 2,4-dibromodiphenyl ether - 2,4,4'-Tribromodiphenyl ether - 2,2',4,4'-Tetrabromodiphenyl ether - 2,2',4,4',6-Pentabromodiphenyl ether - 2,2',4,4',5-Pentabromodiphenyl ether - 2,2',4,4',5,5'-Hexabromodiphenyl ether - 2,2',4,4',5,6'-Hexabromodiphenyl ether - 2,2',3,4,4',5',6-Heptabromodiphenyl ether - 2,2',3,4,4',5,5',6-Octabromodiphenyl ether - 2,2',3,3',4,4',5,5',6-Nonabromodiphenyl ether - Decabromodiphenyl ether Polybrominated Biphenyl (PBB) - 4-Bromobiphenyl - 4,4'-Dibromobiphenyl - 2,4,5-Tribromobiphenyl - 2,2',4,5'-Tetrabromobiphenyl - 2,2',4,5',6-Pentabromobiphenyl - 2,2',4,4',5,5'-Hexabromobiphenyl - 2,2',3,3',4,4',5,5'-Octabromobiphenyl - 2,3,3',4,4',5,5'-Heptabromobiphenyl - Decabromobiphenyl	IEC 62321, Edition 1, 2008
Circuit Board	Ammonium, Lithium, Sodium, Potassium, Calcium and Magnesium	In-house method LWI-TEC-C024 based on IPC-TM-650- N.2.3.28 (2012)
Workplace Environment And Hazard Inorganic Aerosol Collected In Cellulose Ester Membrane Filter	Chromium and Compounds, as Cr	NIOSH 7024 (Excluding sampling)
	Copper and Compounds, as Cu	NIOSH 7029 (Excluding sampling)
	Cadmium and Compounds, as Cd	NIOSH 7048 (Excluding sampling)
	Zinc and Compounds, as Zn	NIOSH 7030 (Excluding sampling)
	Lead and Compounds, as Pb	NIOSH 7082 (Excluding sampling)
	Arsenic and Compounds, as As	NIOSH 7900 (Excluding sampling)

SCOPE OF TESTING : MICROBIOLOGICAL

Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques
Foods Alcoholic Beverages Dairy Products Edible Oils, Fats And Their Product Egg And Egg Products Essential Nutrients, Including Vitamins Fish And Fish Products Flour And Confectionery Food Additives And Supplements Honey And Honey Products Infant Foods Meat, Poultry And Derived Products Non-alcoholic Beverages Nut, Fruit And Vegetables And Derived Products Pet Foods Sauces, Herbs, Spices And Condiments Sugars And Sugar Products	Total Bacteria Count / Aerobic Plate Count	FDA's BAM Chapter 3 (Pour Plate Technique)
	Total Plate Count	FDA's BAM Chapter 3 (Pour Plate Technique)
	Coliform Count	FDA's BAM Chapter 4 (MPN & Pour Plate Technique)
	Escherichia coli Count	FDA's BAM Chapter 4 (MPN & Pour Plate Technique)
	Salmonella Detection	FDA's BAM Chapter 5
	Vibrio parahaemolyticus	FDA's BAM Chapter 9 (Detection & MPN Technique)
	Staphylococcus aureus Count	FDA's BAM Chapter 12 (Spread Plate Technique)
	Bacillus cereus Count	FDA's BAM Chapter 14 (MPN & Spread Plate Technique)
	Vibrio cholerae Detection	FDA's BAM Chapter 9
	Clostridium perfringens	FDA's BAM Chapter 16 (Detection, MPN & Spread Plate Technique)
	Yeasts and Molds Count	FDA's BAM Chapter 18 (Pour & Spread Plate Technique)
	Standard Plate Count	AS 5013.5 – 2004 (Pour Plate Technique)
	Coliform Count	AS 5013.3 – 2004 (MPN Technique)
	Escherichia coli Count	AS 5013.15 – 2004 (MPN Technique)
	Coagulase-positive *Staphylococci* Count	AS 5013.12.1 – 2017 (Spread Plate Method)
Foods Food Additives And Supplements Sauces, Herbs, Spices And Condiments Fish And Fish Products Seafood And Seafood Products Flour And Confectionery Non -" Alcoholic Beverages Dairy Products Pet Foods Meat, Poultry And Derived Products Infant Foods Alcoholic Beverages Edible Oils, Fats And Their Product Egg And Egg Product Essential Nutrients, Including Vitamins Honey And Honey Products Nut, Fruits And Vegetables And Derived Products Sugars And	*Coliform* Count *Escherichia coli* Count	AOAC Official Method 991.14 (3M™ Petrifilm™ *E.coli / Coliform* Count Plate)

Material / Product Tested	**Type Of Test / Properties Measured / Range Of Measurement**	**Standard Test Methods / Equipment / Techniques**
Sugar Products	Yeast and Molds Count	AOAC Official Method 2014.05 (3M™ Petrifilm™ Rapid Yeast and Mold Count Plate)
	Aerobic Plate Count	AOAC Official Method 2015.13 3M™ Petrifilm™ Rapid Aerobic Plate Count)
	Salmonella Detection	AOAC Official Method 2014.01 (3M™ Petrifilm™ *Salmonella* Express System)
	Staphylococcus aureus Count	AOAC Official Method 2003.07 (3M™ Petrifilm™ Staph Express Count Plate)
	Enterobacteriaceae Count	AOAC Official Method 2003.01 (3M™ Petrifilm™ *Enterobacteriaceae* Count Plate)
Seafood, Seafood Product Dairy Product Flour And Confectionery Honey And Honey Product Food Additives And Supplements Infant Foods Meat, Poultry And Derived Products Non-alcoholic Beverages Nut, Fruit And Vegetables Pet Foods Sauces, Herbs, Spices And Condiments Sugars And Sugar Products	*Listeria spp.* and *monocytogenes* Detection	ISO 11290 – 1:2017
	Listeria spp. and *Listeria monocytogenes* Count	ISO 11290 – 2: 2017
Dairy Products Non-alcoholic Beverages Sauces, Herbs, Spices And Condiments Flour And Confectionery Sugar And Sugar Products Seafoods And Seafood Products	*Enterobacteriaceae* Detection & Count	ISO 21528-1: 2004 (Multiple-Tube Techniques)
	Enterobacteriaceae Count	ISO 21528-2: 2017 (Pour Plate Techniques)
Cereal Products Chocolate And Chocolate Products Dairy Products Snacks Fish, Crustaceans And Mollusca Sugar Products, Honey And Confectionery Products Beverages Mixed Foods Herbs And Spices Yogurt Products Milk Powder Bakery Products	*Salmonella spp* detection	ISO 6579-1: 2017
Dairy Products Herbs And Spices Cereal Products Edible Fats And Oils Beverages Gelatin And Food Gums Food Additives	*Listeria spp*. and *Listeria monocytogenes* detection	FDA's BAM Chapter 10 (2022)
	Coliform detection	ISO 4831:2006
	Escherichia coli detection	ISO 7251:2005/Amd 1:2023
Stick Swab From Environmental Surfaces	*Salmonella spp* detection	ISO 6579-1: 2017

Material / Product Tested	**Type Of Test / Properties Measured / Range Of Measurement**	**Standard Test Methods / Equipment / Techniques**
Agricultural Products And Materials Stockfoods/feed Meal	*Coliform* Count	AS 5013.3-2004 (MPN Technique)
	Standard Plate Count	AS 5013.5-2004 (Pour Plate Technique)
	Coagulase-positive *staphylococci* Count	AS 5013.12.1–2004 (Spread Plate Method)
	Escherichia coli Count	AS 5013.15-2004 (MPN Technique)
Water Ground Water Mineral Water Pharmaceutical Water Potable And Domestic Reverse Osmosis Water Surface Water Swimming Pool Water And Spa	Total Heterotrophic Count	APHA 9215 B (Pour Plate Techniques) APHA 9215 C (Spread Plate Techniques) APHA 9215 D (Membrane Filter Techniques)
	Coliform Fecal *Coliform* *Escherichia coli*	APHA 9221B-MPN Technique APHA 9222B - Membrane Filter Techniques APHA 9221E-MPN Technique -‹-‹-‹-‹-‹-‹APHA 9222D-Membrane Filter Techniques APHA 9221F-MPN Technique -‹-‹-‹-‹-‹-‹APHa 9222H-Membrane Filter Techniques
	Pseudomonas aeruginosa Detection and Count	APHA 9213 E (Membrane Filter Technique)
	Pseudomonas aeruginosa Count	APHA 9213 F (MPN Technique)
Water Ground Water Mineral Water Potable And Domestic Reverse Osmosis Water Industrial / Cooling Purposes Steam Raising & Boiler Water Surface Water Swimming Pool Water And Spa	Spore of sulfite-reducing Anaerobes (*Clostridia*) Count	BS EN 26461-2: 1993 BS 6068-4:9: 1993 ISO 6461-2: 1986 (Membrane Filtration Method)
	Fecal *Enterococcus*/ *Streptococcus* Count	APHA[1] 9230 C (Membrane Filtration Method)
Cosmetics And Essential Oils Cosmetics And Toiletries Herbal-based Cosmetics Perfumes	Aerobic Plate Count	FDA's BAM Chapter 23 (Spread Plate Technique)
	Staphylococcus aureus Count	FDA's BAM Chapter 23 (Spread Plate Technique)
	Yeasts and Molds Count	FDA's BAM Chapter 23 (Spread Plate Technique)
	Pseudomonas aeruginosa Detection	FDA's BAM Chapter 23

Material / Product Tested	**Type Of Test / Properties Measured / Range Of Measurement**	**Standard Test Methods / Equipment / Techniques**
Environmental Monitoring Environmental Surfaces	Total Bacteria Count *Coliform* Count *Escherichia coli* Count Yeast & Mould Count *Enterobacteriaceae* Count	Compendium of Methods for the Microbiological Examination of Foods, 3rd Edition, 1992 by Swab Method
	Coliform Count	In-house swab contact method LWI-TEC-M045 based on Compendium of Methods for the Microbiological Examination of Foods, 3rd Edition, 1992 by Swab Method and Microbial Test by 3M™ Petrifilm™ *E.coli* / *Coliform* Count Plate
	Yeast and Mold Count	In-house swab contact method LWI-TEC-M045 based on Compendium of Methods for the Microbiological Examination of Foods, 3rd Edition, 1992 by Swab Method and Microbial Test by 3M™ Petrifilm™ Rapid Yeast and Mold Count Plate
	Escherichia coli Count	In-house swab contact method LWI-TEC-M045 based on Compendium of Methods for the Microbiological Examination of Foods, 3rd Edition, 1992 by Swab Method and Microbial Test by 3M™ Petrifilm™ *E.coli* / *Coliform* Count Plate
	Aerobic Plate Count	In-house swab contact method LWI-TEC-M045 based on Compendium of Methods for the Microbiological Examination of Foods, 3rd Edition, 1992 by Swab Method and Microbial Test by 3M™ Petrifilm™ Aerobic Count Plate
	Enterobacteriaceae count	In-house method LWI-TEC-M049 based on Compendium of Methods for The Microbiological Examination of Food 4th Edition 2001, Surface Contact Method Using 3M™ Petrifilm™ *Enterobacteriaceae* Count Plate
	Listeria spp. and *Listeria monocytogenes* detection	ISO 11290 – 1:2017 (Swab and Sponge Contact)
	Salmonella spp. detection	ISO 6579-1:2017/Amd 1:2020 (Sponge Swab)

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Material / Product Tested	**Type Of Test / Properties Measured / Range Of Measurement**	**Standard Test Methods / Equipment / Techniques**
Air Monitoring	Total Bacteria Count Total Yeast and Mold Count *Enterobacteriaceae* Count	Compendium of Methods for the Microbiological Examination of Foods, 3rd Edition, 1992 by Sedimentation Method
Sewage Water	Spore of sulfite-reducing anaerobes (*Clostridia*) Count	BS EN 26461-2: 1993 BS 6068-4:9: 1993 ISO 6461-2: 1986 (Membrane Filtration Method)
	Fecal *Enterococcus* / *Streptococcus* Count	APHA[1] 9230 C (Membrane Filtration Method)
Finger Dibbing	Bioburden Count	Glove Fingertip Sampling USP General Chapter 797, 2012

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SITE LOCATION (HQ)	1. CATEGORY I
FIELD(S) OF TESTING :	CHEMICAL

SCOPE OF TESTING : CHEMICAL

Material / Product Tested	**Type Of Test / Properties Measured / Range Of Measurement**	**Standard Test Methods / Equipment / Techniques**
Environmental Monitoring Air (including Stack Emission And Ambient Monitoring)	Smoke Density	Ringelmann Smoke Chart Information Circular 8333, Revision of IC 7718, Bureau of Mines, United States Department of the Interior, May 1967.
Stationary Source Emissions	Particulate Matter	USEPA 5 – Determination of Particulate Emissions From Stationary Sources
	Particulate Matte	MS 1596: 2003 – Determination of concentration and mass flow of particulate matter in flue gas for stationary sources emissions
	SO2	USEPA-6 – Determination of Sulfur Dioxide Emissions From Stationary Sources
	H2SO4 and SO2 as SO3	USEPA 8 – Determination of Sulfuric Acid and Sulfur Dioxide Emission From Stationary Sources
	HCI, HF, HBr, CI2, Br2	USEPA 26a – Determination of Hydrogen Halide and Halogen emissions From Stationary Sources
	Cd, Pb, Sb, As, Zn, Cu, Hg	USEPA 29 – Determination of Metals Emissions From Stationary Sources