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LABORATORY LOCATION/ CENTRAL OFFICE:	Biochem Laboratories Sdn Bhd 101-07-03 Menara Perdana Jalan Gurdwara, Georgetown 10300 Pulau Pinang , 10300, PULAU PINANG MALAYSIA
ACCREDITED SINCE :	18 MARCH 2025
FIELD(S) OF TESTING:	CHEMICAL CHEMICAL (PALM OIL PROGRAMME) MICROBIOLOGY
SITE:	
1 . SITE LABORATORY(HQ) :	Biochem Laboratories Sdn Bhd, 101-07-03 Menara Perdana Jalan Gurdwara, Georgetown 10300 Pulau Pinang, MALAYSIA
FIELD(S) OF TESTING:	CHEMICAL,MECHANICAL,MICROBIOLOGY

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:	Biochem Laboratories Sdn Bhd 101-07-03 Menara Perdana Jalan Gurdwara, Georgetown 10300 Pulau Pinang , 10300, Pulau Pinang
FIELD(S) OF TESTING:	CHEMICAL, CHEMICAL, MICROBIOLOGICAL

#### **SCOPE OF TESTING: CHEMICAL**

Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques
Environmental Monitoring - Industrial Effluents - Sewage /	Nitrite	(BLC-68) based on HACH Spectrophotometer Method 8153
Sewage - Discharge	Phosphorus	(BLC-74) based on HACH Spectrophotometer Method 8048

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/laterial / Product Tested	Type Of Test / Properties	Standard Test Methods /
	Measured / Range Of Measurement	Equipment / Techniques
	Aluminium	(BLC-73) based on HACH
		Spectrophotometer Method 8012
	Silica	(BLC-72) based on HACH
		Spectrophotometer Method 8186
	Sulphate	(BLC-71) based on HACH
	·	Spectrophotometer Method 8051
	Fluoride	(BLC-70) based on HACH
		Spectrophotometer Method 8029
	Nitrate	(BLC-67) based on HACH
		Spectrophotometer Method 8039
	Nitrogen Ammonia	(BLC-66) based on HACH
		Spectrophotometer Method 8038
	Total Kjeldhal Nitrogen	(BLC-65) based on HACH
	,	Spectrophotometer Method 8075
	Sulphide	(BLC-63) based on HACH
		Spectrophotometer Method 8131
	Phenol	(BLC-62) based on HACH
	1 1101101	Spectrophotometer Method 8047
	Cyanide	(BLC-61) based on HACH
	Cyaniac	Spectrophotometer Method 8027
	Chromium Hexavalent	(BLC-60) based on HACH
	Omorniam Hexavalent	Spectrophotometer Method 8023
	Total Chlorine	(BLC-59) based on HACH
	Total Gillottile	Spectrophotometer Method 8167
	Free Chlorine	(BLC-58) based on HACH
	Tree Chilomite	Spectrophotometer Method 8021
	Boron	(BLC-57) based on HACH
	Bolon	Spectrophotometer Method 8015
	Boron	APHA 4500-BB (2005)
	Cyanide	APHA (2005)
	Nitrate Nitrogen	APHA 4500- (2005)
		APHA 4500- (2005) APHA (2005)
	Nitrite Nitrogen	,
	Phenol	APHA 5530D (2005)
	Phosphorus Sulphido	APHA 4500-PE (2005) APHA C&D (2005)
	Sulphoto	
	Sulphate	APHA 4500-SQ (2005)
	Total Chlorine	APHA 4500-CIG (2005)
	Free/Residual Chlorine	APHA (2005)
	Colour (Spectrophotometric	APHA 2120D (2005)
	Method)	** DITA 0400D
	Colour (Visual Comparison	*APHA 2120B
	Method)	A DI IA (0005)
	Chloride	APHA (2005)
	Total Solids	APHA 2540B (2005)
	Total Dissolved Solids	APHA 2540C (2005)
	Total Hardness	APHA 2340C (2005)
	Alkalinity	APHA 2320B (2005)
	Nitric Acid Digestion	APHA 3030E (2005)

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Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques
		In house Method (DLC 70) head
	Chromium Trivalent	In-house Method (BLC-78) based
		on APHA 3111B (2005) and
		APHA3500-CrB (2017) / HACH
	Tio Augusta Managan	Spectrophotometer Method 8023
	Tin Arsenic Mercury	APHA 3111D (2005) APHA 3114C
	On their section of the section of t	(2005) APHA 3112B (2005)
	Cadmium Total Chromium Lead	APHA 3111B (2005)
	Copper Manganese Nickel Zinc Iron Magnesium Sodium	
	pH	APHA 4500-H+B (2005)
	Total Suspended Solid	APHA 2540D (2005)
	COD	APHA 5220B (2005)
Environmental Monitoring - Oil Mill	COD BOD (3 days @ 30?C) Oil	DOE Standard Method (1995)
Effluents - Rubber Effluents	&Grease Total Suspended Solids	(Reference Method)
	Total Kjeldhal Nitrogen	
	Ammoniacal Nitrogen	
Environmental Monitoring Air	Air Monitoring for Metal and	NIOSH Method No . 7900 (1994)
(industrial Hygiene)	Metallic compounds: Arsenic	NIOSH Method No . 7048 (1994)
	Cadmium Copper Lead Mercury	NIOSH Method No . 7029 (1994)
	Zinc Antimony	NIOSH Method No . 7082 (1994)
		NIOSH Method No . 6009 (1994)
		NIOSH Method No . 7030 (1994)
		In-house Method [BLC132(I)]
		basedon NIOSH Method No. 7082 (1994)
Water - Portable Water - Domestic	Aluminium	(BLC-73) based on HACH
Water - Distilled Water - Ground		Spectrophotometer Method 8012
Water - Industrial Or Cooling	Silica	(BLC-72) based on HACH
Water - Mineral Water - Processed		Spectrophotometer Method 8186
Water - Reverse Osmosis Water -	Sulphate	(BLC-71) based on HACH
Steam Raising Water - Boiler	·	Spectrophotometer Method 8051
Water - Surface Water - Swimming	Fluoride	(BLC-70) based on HACH
Pool And Spawater - Ultra Pure		Spectrophotometer Method 8029
Water - Drinking Water Raw And	Organic Nitrogen	(BLC-69) based on HACH
Treated Water		Spectrophotometer Method 8075
		&8038
	Nitrite	(BLC-68) based on HACH
		Spectrophotometer Method 8153
	Nitrate	(BLC-67) based on HACH
		Spectrophotometer Method 8039
	Nitrogen Ammonia	(BLC-66) based on HACH
		Spectrophotometer Method 8038

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Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques
	Total Chlorine Chromium	(BLC-59) based on HACH
	Hexavalent Cyanide Phenol	Spectrophotometer Method 8167
	Sulphide Turbidity Total Kjeldhal	(BLC-60) based on HACH
	Nitrogen	Spectrophotometer Method 8023
	, m. egen	(BLC-61) based on HACH
		Spectrophotometer Method 8027
		(BLC-62) based on HACH
		Spectrophotometer Method 8047
		(BLC-63) based on HACH
		Spectrophotometer Method 8131 (BLC-64) based on HACH
		Spectrophotometer Method 8237
		(BLC-65) based on HACH
		Spectrophotometer Method 8075
	Colour as PtCo	(BLC-75) based on HACH
		Spectrophotometer Method 8025
	Phosphorus	(BLC-74) based on HACH
		Spectrophotometer Method 8048
	Free Chlorine	(BLC-58) based on HACH
		Spectrophotometer Method 8021
	Boron	(BLC-57) based on HACH
		Spectrophotometer Method 8015
	Boron	APHA 4500-BB (2005)
	Cyanide	APHA 4500-CN-C&D (2005)
	Nitrate Nitrogen	APHA 4500- NO3 - B (2005)
	Nitrite Nitrogen	APHA 4500- NO2 - B (2005)
	Phenol	APHA 5530D (2005)
	Phosphorus	APHA 4500-PE (2005)
	Sulphide	APHA C&D (2005)
	Sulphate	APHA E (2005)
	Total Chlorine	APHA (2005)
	Free/Residual Chlorine	APHA 4500-CIG (2005)
	Colour (Spectrophotometric Method)	APHA 2120D (2005)
	Colour (Visual Comparison Method)	*APHA 2120B
	Chloride	APHA (2005)
	Total Solids	APHA 2540B (2005)
	Total Dissolved Solids	APHA (2005)
	Total Hardness	APHA 2340C (2005)
	Alkalinity	APHA 2320B (2005)
	Nitric Acid Digestion	APHA 3030E (2005)
	Chromium Trivalent	In-house Method (BLC-78) based
	Omomuni Hivaiciit	on APHA 3111B (2005) and APH
		3500-CrB (2017) / HACH
		Spectrophotometer Method 8023
	Mercury	APHA 3112B (2005)
	Arsenic	APHA 3114C (2005)

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Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques
	Tin	APHA 3111D (2005)
	COD Total Suspended Solids pH	APHA 5220B (2005) APHA 2540D
	Cadmium Total Chromium Lead	(2005) APHA 4500-H*B (2005)
	Copper Manganese Nickel Zinc	ÀPHÁ 3111B (2005)
	Iron Magnesium Sodium	( = = = ,
Environmental Monitoring	Colour (ADMI Weighted- Ordinate	APHA 2120 F (2017)
Industrial Effluents	Spectrophotometric Method)	- ( - ,
Sewage/sewage Discharge Water	Nitrogen (Ammonia) (Ammoniacal	APHA B & C (2017)
Potable Water Domestic Water	Nitrogen)	, ,
Distilled Water Ground Water	Chromium Hexavalent	APHA 3500-Cr B (2017)
Industrial/cooling Tower Water	Oil and Grease (Liquid-Liquid,	APHA 5520 B (2017)
Mineral Water Process Water	Partition-Gravimetric Method)	,
Reverse Osmosis Water Steam	Biochemical Oxygen Demand	APHA 5210 B (2017)
Raising Water Boiler Water	(5-Day BOD Test)	,
Surface Water Swimming Pool	Dissolved Oxygen	APHA 4500-0 G (2017)
And Spa Water Ultra Pure Water	Temperature	APHA 2550 B (1) (2017)
Drinking Water Raw And Treated	'	
Water River Water		
Environmental Monitoring	Aluminium Barium Selenium Silver	APHA 3030 F & 3120 B (2017)
Industrial Effluents/ Influents	Formaldehyde	US EPA 8315A (rev.1) (1996)
Water Potable Water Domestic	Fluoride	APHA 4500-F- B & D (2017)
Water Distilled Water Ground		, ,
Water Industrial/cooling Tower		
Water Mineral Water Processed		
Water Reverse Osmosis Water		
Steam Raising Water Boiler Water		
Surface Water Swimming Pool		
And Spa Water Ultra Pure Water		
Drinking Water Raw And Treated		
Water River Water		
Metals And Alloys - Solder	Sulphur	In-house Method [BLC130(I)]
•		based on HACH
		Spectrophotometer Method 8051
	Phosphorus	In-house Method [BLC129(I)]
		based on HACH
		Spectrophotometer Method 8048
	Silver	MS 1004 : 1986
	Arsenic	JIS Z3910 Method for Chemical
		Analysis of Solder (1990)
	Aluminium	In-house Method [BLC126(I)]
		basedon JIS Z3910 Method for
		Chemical Analysis of Solder
		(1990)
	Copper Antimony Iron Nickel	In-house Method [BLC125(I)]
	Bismuth Zinc Gold Cadmium Tin	based on JIS Z3910 Method for
	Lead	Chemical Analysis of Solder
		-
		(1990)

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Material / Product Tested	Type Of Test / Properties	Standard Test Methods /
	Measured / Range Of Measurement	Equipment / Techniques
Foods - Sugars And Sugar	Colour	Pearson?s Composition and
Products		Analysis of Foods 9th Edition
		(1991) Chapter 6, Page 210
	Moisture Polarisation Sulphated	MS 5 Part 1: 2012
Animal Feeds	Ash Sodium Chloride	MS 3:1982
Allillai Feeus	Total Ash	MS ISO 5984 :2003
	Crude Fibre	MS 1414 :1997
	Free Fatty Acid	MS 3:1982
	Crude Fat	MS 1416 :1997
	Nitrogen	MS 3 :1982
Foods Tomata/Chili/Overtor	Moisture	MS ISO 6496:2003
Foods - Tomato/ Chili/ Oyster /soya Sauce	Total Solids Acidity pH Relative Density Salt Total Nitrogen Amino Nitrogen	MS 1120: 2012
Foods		In-house Method [BLC159(1)]
roous	Sugar	based on AOAC 4.7.02 & 44.1.15
		21st Edition (2019) & Pearson?s
		Composition and Analysis of
		Foods 9th. Edition (1991) Chapter
	France (Octobries	6, Page 195
	Energy/Calories	AOAC (1993) Methods of Analysis
	0-11-15-1	for Nutrition Labeling Chapter 1
	Saturated Fat	In-house Method [BLC157(I)]
		based on MPOB P3.4 Part 1 &
	Fat (Cardalat Fritza atian Cristana)	P3.5 (2004)
	Fat (Soxhlet Extraction System)	In-house Method [BLC156(I)B]
	Est (Asi III deal sis Mathe I)	based on MS 1416: 1997
	Fat (Acid Hydrolysis Method)	In-house Method [BLC156(I)A]
		based on AOAC 32.1.14 21st.
	Daniel's	Edition (2019)
	Protein	In-house Method [BLC153(1)] based on MS 3:1982
	Carbohydrate (by difference)	Pearson?s Composition and
		Analysis of Foods 9th. Edition
		(1991) Chapter 13, Page 489
	Total Dietary Fiber	Methods of Analysis for Nutrition
	-	Labeling Chapter 16, Dietary
		Fiber(985.29: Total Dietary Fiber
		in Foods)
	Vitamin C	In-house Method [BLC155(I)] using HPLC
	Cholesterol	In-house Method [BLC152(I)]
	3	based on AOAC 45.4.06 21st
		Edition (2019)
	Phosphorus	Pearson?s Composition and
	. Hoophordo	Analysis of Foods 9th Edition
		(1991) Chapter 2, Page 37

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Measured / Range Of	Standard Test Methods / Equipment / Techniques
Sodium Chloride	In-house Method [BLC165(I)]
	based on MS 3: 1982
Total Ash	In-house Method [BLC164(I)]
	based on MS ISO 5984: 2003
Crude Fibre	In-house Method [[BLC163(I)]
	based on MS 1414: 1997
Moisture	In-house Method [BLC162(I)]
	based on MS ISO 6496: 2003
Colouring Matters	The Chemical Analysis of Foods
	7th Edition (1976) Chapter 3, Page
	53
Mercury	In-house Method [BLC112(I)]
	based on Pearson?s Composition
	and Analysis of Foods 9th Edition
	(1991) Chapter 5, Page 146
Lead	In-house Method [BLC111(I)]
	based on Pearson?s Composition
	and Analysis of Foods 9th Edition
	(1991) Chapter 5, Page 145
Arsenic	In-house Method [BLC110(I)]
	based on Pearson?s Composition
	and Analysis of Foods 9th Edition
	(1991) Chapter 5, Page 144
Antimony	In-house Method [BLC161(I)]
	based on MS ISO 6869 : 2005
Sodium Potassium Cadmium Tin	In-house Method [BLC109(I)]
	based on MS ISO 6869 : 2005
Calcium Copper Iron Magnesium Manganese Zinc	MS ISO 6869 : 2005
Boric Acid	AOAC 47.3.07 & 47.3.10 21st. Edition (2019)
Benzoic Acid Sorbic Acid	In-house Method [BLC105(I)] using HPLC
Sulphur Dioxide	The Chemical Analysis of Foods
	7th. Edition (1976) Chapter 3,
Sodium Nitrite	AOAC 39.1.21 21st. Edition (2019)
Aflatoxin	In-house Method [BLC150(I)]
	based on Veratox Quantitative Aflatoxin Test
Histamine	In-house Method [BLC151(I)]
Tiolarinio	based on Veratox Quantitative Histamine Test
Chloramphanical	In-house Method [BLC149(I)]
Спотаприепісої	based on Veratox Quantitative Chloramphenicol Test
	Measurement Sodium Chloride  Total Ash Crude Fibre  Moisture Colouring Matters  Mercury  Lead  Arsenic  Antimony  Sodium Potassium Cadmium Tin Calcium Copper Iron Magnesium Manganese Zinc Boric Acid  Benzoic Acid Sorbic Acid  Sulphur Dioxide

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Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques
Oleochemicals - Fatty Acids	Melting Point Impurities Fatty Acid	AOCS Cc 1-25 (2017) AOCS Ca
	Compositions	3a-46 (2017) AOCS Ce 1-62 (09)
	Colour	AOCS Cc 13b-45 (2017)/ AOCS Td 1b-64 (2017)
	Acid Value lodine Value	AOCS Te 1a-64 (2017) AOCS Tg
	Saponification Value Titre	1a-64 (2017) AOCS TI 1a-64
	Unsaponifiable Matter	(2017) AOCS Tr 1a-64 (2017)
		AOCS Tk 1a-64 (2017)
Frozen Cooked & Peeled Prawns,	рН	Compendium of Methods for
Fish And Crustaceans (for Ministry		theMicrobiological Examination of
Of Health Samples)		Foods 5th. Edition, 2015
	Total Coliform Count Escherichia	MOH, ACCREDITATION
	coli Count Coagulase Positive -	COMMITTEE, 1982
	Staphylococcus aureus	
	Salmonella Vibrio cholerae Vibrio	
	parahaemolyticus Standard Plate Count	
Fish, Crustaceans, Precooked	Yeast Moulds	AS1766.2.2, 1997
Seafoods, Meat And Poultry	Clostridium perfringens Bacillus	FDA-BAM CHAPTER 16, 1995
Products, Fruit Beverages, Cereal	cereus	FDA-BAM CHAPTER 14, 1995
And Cereal Products,	Listeria spp.	FDA-BAM CHAPTER 10, 1995
Confectionery Products, Sauces,		Screening using Rapid
Herbs, Jellies, Ready To Eat		Method(Tecra/Oxoid)
Foods, Salads, Processed Foods	Salmonella spp. Vibrio cholerae	FDA-BAM CHAPTER 5, 2018 FDA-
	Vibrio parahaemolyticus	BAM CHAPTER 9, 2004 FDA-
		BAM CHAPTER 9, 2004
	Coagulase Positive ?	FDA-BAM CHAPTER 12, 1995
	Staphylococcus aureus	
	Standard Plate Count Total	FDA-BAM CHAPTER 3, 2001 FDA-
	Coliform Count Escherichia coli	BAM CHAPTER 4, 2002 FDA-
	Count	BAM CHAPTER 4, 2002

# SCOPE OF TESTING: CHEMICAL (PALM OIL PROGRAMME)

Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques
Environmental Monitoring -	Nitrite	(BLC-68) based on HACH
Industrial Effluents - Sewage /		Spectrophotometer Method 8153
Sewage - Discharge	Phosphorus	(BLC-74) based on HACH
		Spectrophotometer Method 8048
	Aluminium	(BLC-73) based on HACH
		Spectrophotometer Method 8012
	Silica	(BLC-72) based on HACH
		Spectrophotometer Method 8186

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Material / Product Tested	Type Of Test / Properties Measured / Range Of	Standard Test Methods / Equipment / Techniques
	Measurement	_qaipilloitt, Tooliiliquoo
	Sulphate	(BLC-71) based on HACH
	Salphato	Spectrophotometer Method 8051
	Fluoride	(BLC-70) based on HACH
	ridonde	Spectrophotometer Method 8029
	Nitrate	(BLC-67) based on HACH
	INITIALE	Spectrophotometer Method 8039
	Nitrogon Ammonia	(BLC-66) based on HACH
	Nitrogen Ammonia	, ,
	Total Kieldhel Nitrogen	Spectrophotometer Method 8038
	Total Kjeldhal Nitrogen	(BLC-65) based on HACH
	0.1.1.1	Spectrophotometer Method 8075
	Sulphide	(BLC-63) based on HACH
		Spectrophotometer Method 8131
	Phenol	(BLC-62) based on HACH
		Spectrophotometer Method 8047
	Cyanide	(BLC-61) based on HACH
		Spectrophotometer Method 8027
	Chromium Hexavalent	(BLC-60) based on HACH
		Spectrophotometer Method 8023
	Total Chlorine	(BLC-59) based on HACH
		Spectrophotometer Method 8167
	Free Chlorine	(BLC-58) based on HACH
		Spectrophotometer Method 8021
	Boron	(BLC-57) based on HACH
		Spectrophotometer Method 8015
	Boron	APHA 4500-BB (2005)
	Cyanide	APHA (2005)
	Nitrate Nitrogen	APHA 4500- (2005)
	Nitrite Nitrogen	APHA (2005)
	Phenol	APHA 5530D (2005)
	Phosphorus	APHA 4500-PE (2005)
	Sulphide	APHA C&D (2005)
	Sulphate	APHA 4500-SQ (2005)
	Total Chlorine	APHA 4500-CIG (2005)
	Free/Residual Chlorine	APHA (2005)
	Colour (Spectrophotometric	APHA 2120D (2005)
	Method)	ATTIA 2120D (2000)
	Colour (Visual Comparison	*APHA 2120B
	Method)	AFTIA 2120B
	Chloride	ADHA (2005)
		APHA (2005)
	Total Solids	APHA 2540B (2005)
	Total Hardness	APHA 2340C (2005)
	Total Hardness	APHA 2340C (2005)
	Alkalinity	APHA 2320B (2005)
	Nitric Acid Digestion	APHA 3030E (2005)
	Chromium Trivalent	In-house Method (BLC-78) based
		on APHA 3111B (2005) and
		APHA3500-CrB (2017) / HACH
		Spectrophotometer Method 8023

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Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques
Tin Arsenic Mercury	APHA 3111D (2005) APHA 3114C (2005) APHA 3111B (2005)
Cadmium Total Chromium Lead Copper Manganese Nickel Zinc	APHA 3111B (2005)
рН	APHA 4500-H+B (2005) APHA 2540D (2005)
	APHA 5220B (2005)
COD BOD (3 days @ 30?C) Oil &Grease Total Suspended Solids Total Kjeldhal Nitrogen	DOE Standard Method (1995) (Reference Method)
Air Monitoring for Metal and Metallic compounds: Arsenic Cadmium Copper Lead Mercury Zinc Antimony	NIOSH Method No . 7900 (1994) NIOSH Method No . 7048 (1994) NIOSH Method No . 7029 (1994) NIOSH Method No . 7082 (1994) NIOSH Method No . 6009 (1994) NIOSH Method No . 7030 (1994) In-house Method [BLC132(I)] basedon NIOSH Method No. 7082 (1994)
Aluminium	(BLC-73) based on HACH Spectrophotometer Method 8012
Silica	(BLC-72) based on HACH Spectrophotometer Method 8186
Sulphate	(BLC-71) based on HACH Spectrophotometer Method 8051
Fluoride	(BLC-70) based on HACH Spectrophotometer Method 8029
Organic Nitrogen	(BLC-69) based on HACH Spectrophotometer Method 8075 &8038
Nitrite	(BLC-68) based on HACH Spectrophotometer Method 8153
Nitrate	(BLC-67) based on HACH Spectrophotometer Method 8039
Nitrogen Ammonia	(BLC-66) based on HACH Spectrophotometer Method 8038
	Measured / Range Of Measurement Tin Arsenic Mercury  Cadmium Total Chromium Lead Copper Manganese Nickel Zinc Iron Magnesium Sodium pH Total Suspended Solid COD  COD BOD (3 days @ 30?C) Oil &Grease Total Suspended Solids Total Kjeldhal Nitrogen Ammoniacal Nitrogen Air Monitoring for Metal and Metallic compounds: Arsenic Cadmium Copper Lead Mercury Zinc Antimony  Aluminium  Silica  Sulphate  Fluoride  Organic Nitrogen  Nitrite  Nitrate

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Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques
	Total Chlorine Chromium	(BLC-59) based on HACH
	Hexavalent Cyanide Phenol	Spectrophotometer Method 8167
	Sulphide Turbidity Total Kjeldhal	(BLC-60) based on HACH
	Nitrogen	Spectrophotometer Method 8023
		(BLC-61) based on HACH
		Spectrophotometer Method 8027
		(BLC-62) based on HACH
		Spectrophotometer Method 8047 (BLC-63) based on HACH
		Spectrophotometer Method 8131
		(BLC-64) based on HACH
		Spectrophotometer Method 8237 (BLC-65) based on HACH
		Spectrophotometer Method 8075
	Colour as PtCo	(BLC-75) based on HACH
		Spectrophotometer Method 8025
	Phosphorus	(BLC-74) based on HACH
	i nesprierds	Spectrophotometer Method 8048
	Free Chlorine	(BLC-58) based on HACH
	i res simemie	Spectrophotometer Method 8021
	Boron	(BLC-57) based on HACH
		Spectrophotometer Method 8015
	Boron	APHA 4500-BB (2005)
	Cyanide	APHA 4500-CN-C&D (2005)
	Nitrate Nitrogen	APHA 4500- NO3 - B (2005)
	Nitrite Nitrogen	APHA 4500- NO2 - B (2005)
	Phenol	APHA 5530D (2005)
	Phosphorus	APHA 4500-PE (2005)
	Sulphide	APHA C&D (2005)
	Sulphate	APHA E (2005)
	Total Chlorine	APHA (2005)
	Free/Residual Chlorine	APHA 4500-CIG (2005)
	Colour (Spectrophotometric Method)	APHA 2120D (2005)
	Colour (Visual Comparison Method)	*APHA 2120B
	Chloride	APHA (2005)
	Total Solids	APHA 2540B (2005)
	Total Dissolved Solids	APHA (2005)
	Total Hardness	APHA 2340C (2005)
	Alkalinity	APHA 2320B (2005)
	Nitric Acid Digestion	APHA 3030E (2005)
	Chromium Trivalent	In-house Method (BLC-78) based on APHA 3111B (2005) and APHA
		3500-CrB (2017) / HACH Spectrophotometer Method 8023
	Mercury	APHA 3112B (2005)
	Arsenic	APHA 3114C (2005)

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Material / Product Tested Type Of Test / Properties Standard Test Method	
Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques
Tin	APHA 3111D (2005)
COD Total Suspended Solids pH	APHA 5220B (2005) APHA 2540D
	(2005) APHA 4500-H*B (2005)
	APHA 3111B (2005)
	/ (2000)
	APHA 2120 F (2017)
, ,	/
	APHA B & C (2017)
, , ,	7
	APHA 3500-Cr B (2017)
	APHA 5520 B (2017)
	741114 6626 25 (2611)
,	APHA 5210 B (2017)
, -	/
	APHA 4500-0 G (2017)
	APHA 2550 B (1) (2017)
remperature	ATTIA 2550 B (1) (2017)
Aluminium Parium Calanium Cilvar	ADUA 2020 F 8 2420 B (2047)
	, ,
	US EPA 8315A (rev.1) (1996)
Fluoride	APHA 4500-F- B & D (2017)
Sulphur	In-house Method [BLC130(I)]
	based on HACH
	Spectrophotometer Method 8051
Phosphorus	In-house Method [BLC129(I)]
	based on HACH
	Spectrophotometer Method 8048
Silver	MS 1004 : 1986
Arsenic	JIS Z3910 Method for Chemical
	Analysis of Solder (1990)
Aluminium	In-house Method [BLC126(I)]
	basedon JIS Z3910 Method for
	Chemical Analysis of Solder
	(1990)
Copper Antimony Iron Nickel	In-house Method [BLC125(I)]
	[DLO 120(1)]
1	based on JIS 73910 Method for
Bismuth Zinc Gold Cadmium Tin	based on JIS Z3910 Method for Chemical Analysis of Solder
1	based on JIS Z3910 Method for Chemical Analysis of Solder (1990)
	Measurement Tin COD Total Suspended Solids pH Cadmium Total Chromium Lead Copper Manganese Nickel Zinc Iron Magnesium Sodium Colour (ADMI Weighted- Ordinate Spectrophotometric Method) Nitrogen (Ammonia) (Ammoniacal Nitrogen) Chromium Hexavalent Oil and Grease (Liquid-Liquid, Partition-Gravimetric Method) Biochemical Oxygen Demand (5-Day BOD Test) Dissolved Oxygen Temperature  Aluminium Barium Selenium Silver Formaldehyde Fluoride  Sulphur  Phosphorus  Silver Arsenic

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Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques
Foods - Sugars And Sugar Products	Colour	Pearson?s Composition and Analysis of Foods 9th Edition (1991) Chapter 6, Page 210
	Moisture Polarisation Sulphated Ash	MS 5 Part 1: 2012
Animal Feeds	Sodium Chloride	MS 3:1982
	Total Ash	MS ISO 5984 :2003
	Crude Fibre	MS 1414 :1997
	Free Fatty Acid	MS 3 :1982
	Crude Fat	MS 1416 :1997
	Nitrogen	MS 3 :1982
	Moisture	MS ISO 6496:2003
Foods - Tomato/ Chili/ Oyster /soya Sauce	Total Solids Acidity pH Relative Density Salt Total Nitrogen Amino	MS 1120: 2012
•	Nitrogen	
Foods	Sugar	In-house Method [BLC159(1)]
		based on AOAC 4.7.02 & 44.1.15
		21st Edition (2019) & Pearson?s
		Composition and Analysis of
		Foods 9th. Edition (1991) Chapter
		6, Page 195
	Energy/Calories	AOAC (1993) Methods of Analysis
	3,7 - 3 - 3 - 3	for Nutrition Labeling Chapter 1
	Saturated Fat	In-house Method [BLC157(I)]
		based on MPOB P3.4 Part 1 & P3.5 (2004)
	Fat (Soxhlet Extraction System)	In-house Method [BLC156(I)B] based on MS 1416: 1997
	Fat (Acid Hydrolysis Method)	In-house Method [BLC156(I)A] based on AOAC 32.1.14 21st.
	D	Edition (2019)
	Protein	In-house Method [BLC153(1)] based on MS 3:1982
	Carbohydrate (by difference)	Pearson?s Composition and Analysis of Foods 9th. Edition (1991) Chapter 13, Page 489
	Total Dietary Fiber	Methods of Analysis for Nutrition Labeling Chapter 16, Dietary Fiber(985.29: Total Dietary Fiber
		in Foods)
	Vitamin C	In-house Method [BLC155(I)] using HPLC
	Cholesterol	In-house Method [BLC152(I)] based on AOAC 45.4.06 21st Edition (2019)
	Phosphorus	Pearson?s Composition and Analysis of Foods 9th Edition (1991) Chapter 2, Page 37

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Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques
	Sodium Chloride	In-house Method [BLC165(I)] based on MS 3: 1982
	Total Ash	In-house Method [BLC164(I)] based on MS ISO 5984: 2003
	Crude Fibre	In-house Method [[BLC163(I)] based on MS 1414: 1997
	Moisture	In-house Method [BLC162(I)] based on MS ISO 6496: 2003
	Colouring Matters	The Chemical Analysis of Foods 7th Edition (1976) Chapter 3, Page 53
	Mercury	In-house Method [BLC112(I)] based on Pearson?s Composition and Analysis of Foods 9th Edition (1991) Chapter 5, Page 146
	Lead	In-house Method [BLC111(I)] based on Pearson?s Composition and Analysis of Foods 9th Edition (1991) Chapter 5, Page 145
	Arsenic	In-house Method [BLC110(I)] based on Pearson?s Composition and Analysis of Foods 9th Edition (1991) Chapter 5, Page 144
	Antimony	In-house Method [BLC161(I)] based on MS ISO 6869 : 2005
	Sodium Potassium Cadmium Tin	In-house Method [BLC109(I)] based on MS ISO 6869 : 2005
	Calcium Copper Iron Magnesium Manganese Zinc	MS ISO 6869 : 2005
	Boric Acid	AOAC 47.3.07 & 47.3.10 21st. Edition (2019)
	Benzoic Acid Sorbic Acid	In-house Method [BLC105(I)] using HPLC
	Sulphur Dioxide	The Chemical Analysis of Foods 7th. Edition (1976) Chapter 3, Page 29
Foods Meat, Poultry And Derived Products	Sodium Nitrite	AOAC 39.1.21 21st. Edition (2019)
Foods Nuts, Fruits And Vegetables And Derived Products	Aflatoxin	In-house Method [BLC150(I)] based on Veratox Quantitative Aflatoxin Test
Foods - Fish And Fish Products	Histamine	In-house Method [BLC151(I)] based on Veratox Quantitative Histamine Test
	Chloramphenicol	In-house Method [BLC149(I)] based on Veratox Quantitative Chloramphenicol Test

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Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques
Oleochemicals - Fatty Acids	Melting Point Impurities Fatty Acid	AOCS Cc 1-25 (2017) AOCS Ca
	Compositions	3a-46 (2017) AOCS Ce 1-62 (09)
	Colour	AOCS Cc 13b-45 (2017)/ AOCS Td 1b-64 (2017)
	Acid Value Iodine Value	AOCS Te 1a-64 (2017) AOCS Tg
	Saponification Value Titre	1a-64 (2017) AOCS TI 1a-64
	Unsaponifiable Matter	(2017) AOCS Tr 1a-64 (2017)
		AOCS Tk 1a-64 (2017)
Frozen Cooked & Peeled Prawns,	рН	Compendium of Methods for
Fish And Crustaceans (for Ministry		theMicrobiological Examination of
Of Health Samples)		Foods 5th. Edition, 2015
	Total Coliform Count Escherichia	MOH, ACCREDITATION
	coli Count Coagulase Positive -	COMMITTEE, 1982
	Staphylococcus aureus	
	Salmonella Vibrio cholerae Vibrio	
	parahaemolyticus Standard Plate	
	Count	
Fish, Crustaceans, Precooked	Yeast Moulds	AS1766.2.2, 1997
Seafoods, Meat And Poultry	Clostridium perfringens Bacillus	FDA-BAM CHAPTER 16, 1995
Products, Fruit Beverages, Cereal	cereus	FDA-BAM CHAPTER 14, 1995
And Cereal Products,	Listeria spp.	FDA-BAM CHAPTER 10, 1995
Confectionery Products, Sauces,		Screening using Rapid
Herbs, Jellies, Ready To Eat		Method(Tecra/Oxoid)
Foods, Salads, Processed Foods	Salmonella spp. Vibrio cholerae	FDA-BAM CHAPTER 5, 2018 FDA-
	Vibrio parahaemolyticus	BAM CHAPTER 9, 2004 FDA-
		BAM CHAPTER 9, 2004
	Coagulase Positive ?	FDA-BAM CHAPTER 12, 1995
	Staphylococcus aureus	
	Standard Plate Count Total	FDA-BAM CHAPTER 3, 2001 FDA-
	Coliform Count Escherichia coli	BAM CHAPTER 4, 2002 FDA-
	Count	BAM CHAPTER 4, 2002

# **SCOPE OF TESTING: CHEMICAL**

Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques
Foods - Edible Oils, Fats And Their Products	TBHQ	Handbook of Analysis and QualityControl for Fruit and Vegetable Products 2nd Edition Chapter 12, Page 318
	Rancidity	Pearson?s Composition and Analysis of Foods 9". Edition (1991) Chapter 16, Page 641

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Material / Product Tested	Type Of Test / Properties Measured / Range Of	Standard Test Methods / Equipment / Techniques
	Measurement	
	BHA BHT	The Chemical Analysis of Foods
		7th Edition (1976) Chapter 3, Page
		48 using HPLC
	Mineral Oils	The Chemical Analysis of Foods
		7th Edition (1976) Chapter 14,
		Page 492
	Unsaponifiable Matter	AOCS Ca 6a-40 (2017)
	Refractive Index	AOCS Cc 7-25 (2017)
	Melting Point	AOCS Cc 3-25 (2017)
	Cloud Point	AOCS Cc 6-25 (2017)
	Insoluble Impurities	AOCS Ca 3a-46 (2017)
	Peroxide Value	AOCS Cd 8-53 (97)
	Saponification Value	AOCS Cd 3-25 (2017)
	Iodine Value	AOCS Cd 1b-87 (2017)/ AOCS Cd
		1d-92 (2017)
	Colour	AOCS Cc 13b-45 (2017)
	Moisture & Volatile Matter (Oven	AOCS Ca 2c-25 (2017) AOCS Ca
	Method) (Karl Fischer Method)	2e-84 (2017)
	Acid Value	AOCS Cd 3d-63 (2017)
	Free Fatty Acid	AOCS Ca 5a-40 (2017)
	Fatty Acid Compositions	MS 817: 1989
	Anisidine Value	MS 817: Part 5: 1998
	Slip Melting Point Cloud Point	MS 817: 1989
	Refractive Index Dobi	
	Colour	MS 817: Part 12: 2004
	lodine Value	MS 817: Part 3: 1998
	Saponification Value	MS ISO: 3657: 2009
	Unsaponifiable Matter	MS 817: Part 7: Section 2: 2001
	Acidity	MS 817:1989
	Peroxide Value	MS 817: Part 11: 2004
	Impurities	MS 817:1989
	Volatile Matter	MS 817: Part 2: 1998

# SCOPE OF TESTING: CHEMICAL (PALM OIL PROGRAMME)

Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques
Foods - Edible Oils, Fats And	TBHQ	Handbook of Analysis and
Their Products		QualityControl for Fruit and
		Vegetable Products 2nd Edition
		Chapter 12, Page 318
	Rancidity	Pearson?s Composition and
		Analysis of Foods 9". Edition
		(1991) Chapter 16, Page 641

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Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques
	BHA BHT	The Chemical Analysis of Foods 7th Edition (1976) Chapter 3, Page 48 using HPLC
	Mineral Oils	The Chemical Analysis of Foods 7th Edition (1976) Chapter 14, Page 492
	Unsaponifiable Matter	AOCS Ca 6a-40 (2017)
	Refractive Index	AOCS Cc 7-25 (2017)
	Melting Point	AOCS Cc 3-25 (2017)
	Cloud Point	AOCS Cc 6-25 (2017)
	Insoluble Impurities	AOCS Ca 3a-46 (2017)
	Peroxide Value	AOCS Cd 8-53 (97)
	Saponification Value	AOCS Cd 3-25 (2017)
	Iodine Value	AOCS Cd 1b-87 (2017)/ AOCS Cd
		1d-92 (2017)
	Colour	AOCS Cc 13b-45 (2017)
	Moisture & Volatile Matter (Oven	AOCS Ca 2c-25 (2017) AOCS Ca
	Method) (Karl Fischer Method)	2e-84 (2017)
	Acid Value	AOCS Cd 3d-63 (2017)
	Free Fatty Acid	AOCS Ca 5a-40 (2017)
	Fatty Acid Compositions	MS 817: 1989
	Anisidine Value	MS 817: Part 5: 1998
	Slip Melting Point Cloud Point	MS 817: 1989
	Refractive Index Dobi	
	Colour	MS 817: Part 12: 2004
	lodine Value	MS 817: Part 3: 1998
	Saponification Value	MS ISO: 3657: 2009
	Unsaponifiable Matter	MS 817: Part 7: Section 2: 2001
	Acidity	MS 817:1989
	Peroxide Value	MS 817: Part 11: 2004
	Impurities	MS 817:1989
	Volatile Matter	MS 817: Part 2: 1998

**SCOPE OF TESTING: MICROBIOLOGY** 

Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques
Bottled Water, Mineral, Water - Recreational Water, - Portable Water & - Industrial Water - Purified Water	Standard Plate Count Coliform Count Fecal Coliform Fecal Streptococci Pseudomonas aeruginosa Legionella spp.	APHA 9215B & APHA 9215D, 2005 APHA 9221B & APHA 9222B, 2005 APHA 9221E, 2005 APHA 9230B, 2005 APHA 9213F, 2005 APHA 9260J, 2005

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Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques
Cosmetic	Standard Plate Count Yeast Moulds Staphylococcus aureus Pseudomonas aeruginosa	FDA-BAM CHAPTER 23, 1995
Microbiological Monitoring (environmental Sampling And Monitoring)	Air Monitoring for Total - Bacteria and Total Fungus -Count by Impingement - Methods Sedimentation Methods Swab Contact Methods Rodac Plate (Agar Contact) - Methods	In-house Methods [BLM27] basedon Compendium of Methods for the Microbiological Examination of Foods 3rd. Edition, 1992
Microbiological Examination (non- sterile Products/ Gloves/medical Devices/ Medical Products)	Bioburden Test Membrane Filtration	British Pharmacopoiea 1998, Volume II, Appendix XVIB A 245 & European Pharmacopoiea 4th. Edition, 2002
Canned Foods	рН	Compendium of Methods for the Microbiological Examination of Foods 5th Edition, 2015
	Flat Sour Organisms Anaerobic Organisms Leakage Organisms - (Sterillity Test)	FDA-BAM CHAPTER 21,1995

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SITE LOCATION (HQ)	1. Biochem Laboratories Sdn Bhd,	
	101-07-03 Menara Perdana Jalan Gurdwara, Georgetown 10300	
	Pulau Pinang,	
	MALAYSIA	
FIELD(S) OF TESTING:	CHEMICAL,MECHANICAL,MICROBIOLOGY	

#### **SCOPE OF TESTING: CHEMICAL**

Material / Product Tested	Type Of Test / Properties	Standard Test Methods /
	Measured / Range Of	Equipment / Techniques
	Measurement	
Environmental Monitoring - Stack/	Dark Smoke	BS2742:2009
Flue Gas - Air Emission From	Carbon Monoxide (CO)	USEPA 40 CFR 60, App.A,
Stationary Sources		Method No.10
	Oxygen (O2) Carbon Dioxide	USEPA 40 CFR 60, App.A,
	(CO2)	Method No.3A
	Hydrogen Halide (HCI, HBr, HF)	USEPA 40 CFR 60, App.A,
	Halogen (Cl2, Br2, F2)	Method No. 26A
	Nitrogen Oxide, Nitrogen Dioxide	USEPA 40 CFR 60, App.A,
		Method No. 7E
	Sulfur Dioxide, Sulfuric Acid	USEPA 40 CFR 60, App.A,
		Method No. 8
	Sulfur Dioxide	USEPA 40 CFR 60, App.A,
		Method No. 6C
	Particulate Matter	MS 1596:2003
	Particulate Matter	USEPA 40 CFR 60, App.A,
		Method No. 5
	Metals: (Sb, As, Ba, Be, Cd, Cr,	USEPA 40 CFR 60, App.A,
	Co, Cu, Pb, Mn, Hg, Ni, P, Se, Ag,	Method No. 29
	TI. Zn. Al. Fe)	

#### **SCOPE OF TESTING: MICROBIOLOGY**

Material / Product Tested	, ,,	Standard Test Methods / Equipment / Techniques
	Measurement	

#### **SCOPE OF TESTING: MECHANICAL**

Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques
Noise	Boundary Sound Pressure Level	Guidelines for Environmental Noise Limit 2019 (Annex B)

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