

Schedule

Issue date: 17 March 2020
Valid until: 11 April 2023



MS ISO/IEC 17025

NO: SAMM 822

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LABORATORY LOCATION:
(PERMANENT LABORATORY)



BIO SYNERGY LABORATORIES SDN. BHD.
NO. 24, JALAN KELISA EMAS
SEBERANG JAYA
13700 PULAU PINANG
MALAYSIA

FIELDS OF TESTING:

CHEMICAL & 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).

SCOPE OF TESTING: CHEMICAL

Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Edible Oils, Fats & Their Products	Moisture & Volatile Matter	MPOB p2.1 Part 1 : 2004
	Impurities	MPOB p2.2: 2004
	Peroxide Value	MPOB p2.3: 2004
	Acidity/Free Fatty Acid	MPOB p2.5: 2004
	DOBI	MPOB p2.9: 2004
	Iodine Value	MPOB p3.2: 2004
	Colour Lovibond	MPOB p4.1: 2004
	Slip Melting Point	MPOB p4.2: 2004
	Mineral Oil (Qualitative)	AOAC 945.102

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SCOPE OF TESTING: CHEMICAL

Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Food Products: <ul style="list-style-type: none"> • Dairy Products • Edible oils, fats and their products • Eggs and egg products • Fish and fish products • Flour and confectionery • Meat, poultry and derived products • Nuts, fruits and vegetables and derived products • Sauces, herbs, spices and condiments • Other specified foods 	Metals/ Minerals <ul style="list-style-type: none"> • Lead • Cadmium • Tin • Calcium • Magnesium • Iron • Zinc • Copper • Sodium • Potassium • Antimony • Chromium 	In-house Method PCL-HMF-01 Based On AOAC 999.11 (Sample Preparation) and using MP-AES
	<ul style="list-style-type: none"> • Mercury 	In-house Method PCL-HMF-02 Based On AOAC 971.21 (Sample Preparation) and using MP-AES
	<ul style="list-style-type: none"> • Arsenic 	In-house Method PCL-HMF-03 Based On AOAC 986.15 (Sample Preparation) and using MP-AES
	Crude Ash	In-house Method PCL-FCA-01 Based On MS ISO 5984 : 2003
	Moisture	In-house Method PCL-FMC-01 Based On MS ISO 6496 : 2003
	Energy Content as Calories	Method of Analysis for Nutrition Labeling, AOAC (1993)
	Total Carbohydrate	Methods of Analysis for Nutrition Labeling, AOAC (1993)
	Total Fat	In-house Method PCL-FTF-01 Based On Pearson's Chemical Analysis of Food's, Page 22, 8 th Edition, 1990
	Protein Content	ISO 1871 : 2009(E)

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SCOPE OF TESTING: CHEMICAL

Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Environmental Monitoring <ul style="list-style-type: none"> Industrial Effluent Mineral water Potable and domestic Reverse osmosis water Ultrapure water Others 	Metals Aluminium as Al Antimony as Sb Barium as Ba Beryllium as Be Boron as B Cadmium as Cd Calcium as Ca Chromium as Cr Copper as Cu Iron as Fe Lead as Pb Magnesium as Mg Manganese as Mn Molybdenum s Mo Nickel as Ni Potassium as K Silver as Ag Sodium as Na Tin as Sn Zinc as Zn	In-house Method PCL-HMW-01 Based On APHA 3120 B using MP-AES instrument
	Arsenic as As Selenium as Se	In-house Method PCL-HMW-03 using MP-AES Instrument
	Mercury as Hg	In-house Method PCL-HMW-02 using MP-AES Instrument
<ul style="list-style-type: none"> Industrial Effluent 	pH	APHA 4500- H ⁺ B
	BOD	APHA 5210 B & 4500-O G
	COD	APHA 5220 D
	Total Suspended Solid	APHA 2540 D
	Oil & Grease	APHA 5520 B
	Ammoniacal Nitrogen	APHA 4500- NH ₃ B & F
	Colour	APHA 2120 F
Water <ul style="list-style-type: none"> Ultrapure Water Drinking Water Treated Water 	Total Organic Carbon	APHA 5310 C

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SCOPE OF TESTING: CHEMICAL

Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
<ul style="list-style-type: none"> • Industrial Effluent • Drinking water • Mineral water • Package drinking water • Surface water 	<p>Metals by ICP</p> <ul style="list-style-type: none"> • Aluminium as Al • Antimony as Sb • Arsenic as As • Barium as Ba • Beryllium as Be • Bismuth as Bi • Boron as B • Cadmium as Cd • Calcium as Ca • Chromium as Cr • Cobalt as Co • Copper as Cu • Gold as Au • Iron as Fe • Lead as Pb • Lithium as Li • Magnesium as Mg • Manganese as Mn • Molybdenum as Mo • Nickel as Ni • Platinum as Pt • Potassium as K • Selenium as Se • Silicon as SiO₂ • Silver as Ag • Sodium as Na • Strontium as Sr • Sulphur as S • Thallium as Tl • Tin as Sn • Titanium as Ti • Vanadium as V • Zinc as Zn <p>• Mercury as Hg</p> <p>Sample Pre-Treatment for Metal Analysis</p>	<p>APHA 3120 B</p> <p>APHA 3112 B</p> <p>APHA 3030 E</p>

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SCOPE OF TESTING: CHEMICAL

Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Animal Feed	Crude Fat	MS 1416 : 1997
	Protein Content	AOAC Official Method 2001.11
	Moisture	MS ISO 6496:2003
	Crude Ash	MS ISO 5984:2003
	Crude Fiber	In-house method PCL-FCF-02 based on AOAC 962-09:1986 (2002)
	Energy content as calories	In-house method PCL-FEC-02 based on Method of Analysis for Nutrition Labeling AOAC (1993)
	Total carbohydrate	In-house method PCL-FTC-02 based on Method of Analysis for Nutrition Labeling AOAC (1993)
Food Products: <ul style="list-style-type: none"> • Sugar • Dairy products • Fish and fish products • Flour and confectionery • Sauces, spices and condiments • Beverages 	pH	In-house method PCL-FPH-01 based on AOAC 981.12 & 970.21
<ul style="list-style-type: none"> • Coffee and coffee products • Teas and tea products • Beverages 	Caffeine	GB 5009.139-2014

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SCOPE OF TESTING: CHEMICAL

Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Water: <ul style="list-style-type: none"> Industrial Effluent Mineral Water Potable and domestic Reverse osmosis water Ultrapure water Others 	Temperature Chromium Hexavalent Chromium Trivalent Cyanide Fluoride Formaldehyde Phenol Free Chlorine Sulphide	APHA 2550 B APHA 3500-Cr B In-house Method PCL-CTV-01 Based On APHA 3120 B & 3500 Cr B APHA 4500-CN C & E APHA 4500 F D US EPA 8315A APHA 5530 B & C APHA 4500 Cl G APHA 4500 S2-D
Water: <ul style="list-style-type: none"> Industrial Effluent 	MLSS, MLVSS	In-house Method Based on APHA 2540 D & E

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SCOPE OF TESTING: CHEMICAL**SITE TESTING: CATEGORY I & II**

Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Air Emission from Stationary Sources	Particulate Matter	USEPA 40 CFR60 App A, Method 5
	Sulphuric Acids & Sulphur Dioxide	USEPA 40 CFR60 App A, Method 8
	HCl, HBr, HI, H ₂ S & Halogen (Cl ⁻ , Br ⁻ , F ⁻ , S ²⁻)	USEPA 40 CFR60 App A, Method 26A
	Nitrogen Oxide	USEPA 40 CFR60 App A, Method 7A
	Metals (Sb, As, Ba, Be, Cd Cr, Co, Cu, Pb, Mn, Hg, Ni, P, Se, Ag, Ti, Zn)	USEPA 40 CFR60 App A, Method 29
	Particulate Matter	MS 1596:2003

Signatories:

- | | |
|---------------------------|---|
| 1. *Khou Hwa Chuan | IKM No.: M/2212/4433/03/05 |
| 2. Zaida Zainol | IKM No.: L/1345/4312/02 |
| 3. Zuraidah Ngah Abdullah | IKM No.: L/2148/7300/16 |
| 4. Rawiah Abdul Razak | IKM No.: M/4209/7037/15 |
| 5. Ruzaini Aryadiy Sahlan | IKM No.: L/2538/7567/16 |
| 6. Siti Khadijah Ishak | IKM No.: L/2074/7051/15 (Heavy metals related to water, effluent and food testing) |
| 7. Lee Yin Ling | IKM No.: L/2874/8494/19 (HPLC analysis related to accredited food testing) |

*indicates non-resident signatory

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SCOPE OF TESTING: MICROBIOLOGY

Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Food Products: <ul style="list-style-type: none"> • Cereal Products • Dairy products • Meat and meat products • Fish, crustaceans and molluscs • Poultry and poultry products • Vegetable and vegetable products • Fruit, jams and other fruit products • Sugar products, honey and confectionery • Beverages • Mixes foods • Additives to foods • Herbs and spices • Other food products Animal Feeds	Aerobic Plate Counts	ISO 4833-1:2013 (Pour Plate Technique) AOAC Official Method 990.12 (3M Petrifilm)
	Yeast & Mould Counts	ISO 21527-1:2008(E) & ISO 21527-2:2008(E) (Spread Plate Technique) AOAC Official Method 2014.05 (3M Petrifilm)
	Coliform Count	ISO 4832:2006 (Pour Plate Technique) ISO 4831:2006 (E) (MPN Technique) AOAC Official Method 998.08 & 991.14 (3M Petrifilm)
	<i>Escherichia coli</i> Count	ISO 16649-2:2001(E) (Pour Plate Technique) ISO 16649-3:2015 (MPN Technique) AOAC Official Method 998.08 & 991.14 (3M Petrifilm)
	Enterobacteriaceae Count	ISO 21528-2:2004 (Pour Plate Technique) ISO 21528-1:2004 (MPN Technique)
	<i>Staphylococcus aureus</i> Count	ISO 6888-2:1999 + A1:2003 (E) (Pour Plate Technique) ISO 6888-3:2003 (MPN Technique) AOAC Official Method 2003.07, 2003.08, 2003.11 (3M Petrifilm)
	<i>Salmonella spp</i> (Detection)	ISO 6579:2002/Amd. 1:2007(E) AOAC Official Method 2014.01 (3M Petrifilm)
	<i>Vibrio parahaemolyticus</i> & <i>Vibrio cholerae</i> (Detection)	ISO/TS 21872-1:2007(E)
	<i>Listeria monocytogenes</i> (Detection)	ISO 11290-1:1996/Amd. 1:2004(E)

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SCOPE OF TESTING: MICROBIOLOGY

Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Environmental testing <ul style="list-style-type: none"> Enumeration of Microbial Count in the Air Using an Open Plate 	<ul style="list-style-type: none"> Total Plate Count Yeast Count Mould Count 	Compendium of Methods for the Microbiological Examination of Foods, Chapter 3, 4th Edition (2001) (Sedimentation method)
<ul style="list-style-type: none"> Enumeration/Detection of Microbial count on Surface Area, Equipment and Hand 	<ul style="list-style-type: none"> Aerobic Plate Count Yeast Count Mould Count Coliform Count <i>E. Coli</i> Count <i>Staphylococcus aureus</i> Count Salmonella Detection Bacillus cereus Count Listeria spp. Detection Enterobacteriaceae Count 	Compendium of Methods for the Microbiological Examination of Foods, Chapter 3, 4th Edition (2001) (Swab Contact Method)

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SCOPE OF TESTING: MICROBIOLOGY

Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Water <ul style="list-style-type: none"> • Potable and Domestic water • Industrial water • Distilled Demineralized water • Reverse Osmosis water • Ultrapure water • Swimming Pool water • Cooling Tower water • Boiler water • Surface water • Mineral water • Industrial effluent • Treated water 	Heterotropic plate count	APHA 9215 B (Pour Plate Technique) APHA 9215 D (Membrane Filtration Technique)
	Coliform Count	APHA 9222 B (Membrane Filtration Technique) APHA 9221 B (MPN Technique)
	<i>Escherichia coli</i>	APHA 9222 G (Membrane Filtration Technique) APHA 9221 F (MPN Technique)
	Fecal coliform	APHA 9222 D (Membrane Filtration Technique) APHA 9221 E (MPN Technique)
	Fecal Streptococci	APHA 9230 C (Membrane Filtration Technique) APHA 9230 B (MPN Technique)
	<i>Pseudomonas aeruginosa</i>	APHA 9213 E (Membrane Filtration Technique)
	<i>Salmonella</i>	APHA 9260 B
	<i>Staphylococcus aureus</i>	APHA 9213 B
	<i>Vibrio</i> spp	APHA 9260 H
	Yeast & Mold	APHA 9610 B (Pour Plate Method) APHA 9610 D ((Membrane Filtration Technique)
	Sulphite Reducing Anaerobes (Clostridia) including <i>Clostridium perfringens</i>	AS/NZS 4276.17.1:2000 (Membrane Filtration Technique)
<i>Listeria</i> spp	FDA-BAM, Chapter 10	

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Signatories:

- | | | |
|----|-------------------------|-----------|
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