

NO: SAMM 877

(Issue 2, 10 January 2022 replacement of SAMM 877 dated 13 April 2021)

LABORATORY LOCATION:
(PERMANENT LABORATORY)



BIO SYNERGY LABORATORIES SDN. BHD.
NO. 7, JALAN MUTIARA EMAS 6/1A
TAMAN MOUNT AUSTIN
81100 JOHOR BAHRU, JOHOR
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
Food: <ul style="list-style-type: none"> • Beverages • Flour & Confectionery • Grain, Beans & Cereal Products • Food Additives • Frozen Food • Seafood • Fruit & Vegetables & derived products, etc 	Energy/Calories Total Carbohydrate Protein Total Fat Ash Moisture	Method of Analysis for Nutrition Labeling, 1993 & Food Regulation 1985 Method of Analysis for Nutrition Labeling, 1993 & Food Regulation 1985 In-House Method, WI/JC-LAB/037, Based on AOAC 2001.11 In-House Method, WI/JC-LAB/038, Based on Pearson’s Chemical Analysis of Foods, 8th Ed, 1990. Pg. 22 In-House Method, WI/JC-LAB/039, Based on MS ISO 5984:1996 (Confirmed 2003) In-House Method, WI/JC-LAB/040, Based on MS ISO 6496:2003 (Confirmed 2011)

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Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Food: <ul style="list-style-type: none"> • Beverages • Flour & Confectionery • Edible Fats & Oils • Food Additives • Frozen Food • Seafood • Fruit & Vegetables & derived products 	Metals/Minerals <ul style="list-style-type: none"> • Antimony • Arsenic • Cadmium • Copper • Lead • Tin Mercury	In-house Method, WI/JC-LAB/041, Based on AOAC 999.11 In-house Method, WI/JC-LAB/042, Based on AOAC 971.21, Using Flow Injection Mercury System (FIMS)
Food: <ul style="list-style-type: none"> • Frozen Food • Edible Oils, Fats & Their Products • Flour & Confectionery • Sauces 	Benzoic Acid Sorbic Acid	In-house Method WI/JC-LAB/043 based on Journal of Chromatography A, 1073, 2005. Page 393-397
Food <ul style="list-style-type: none"> • Dairy Products • Frozen Food • Flour & Confectionery • Nuts, Fruit & Vegetables & Derived Products • Sauces 	Total Dietary Fiber Total Sugar Salt (as Sodium Chloride) Total Nitrogen	In-house Method WI/JC-LAB/029 based on AOAC 985.29 In-house Method WI/JC-LAB/035 based on AOAC 923.09 & 968.28 (page 2) MS 1120:2004 In house Method WI/JC-LAB/030 based on MS 1120: 2004

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Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Food: <ul style="list-style-type: none"> • Dairy Products • Edible Oils, Fats & Their Products • Egg & Egg Products • Essential Nutrients • Fish & Fish Products • Frozen Food • Flour & Confectionery • Food Additives & Supplements • Meat, Poultry & Derived Products • Nuts, Fruits & Vegetables & Derived Products • Sauces, Herbs, Spices & Condiments • Sugar & Sugar Products 	Metals/Minerals <ul style="list-style-type: none"> • Calcium • Magnesium • Iron • Chromium • Manganese • Zinc • Sodium • Potassium • Nickel 	In-House Method WI/JC-LAB/033 based on AOAC 999.11 and APHA 3120 B
<ul style="list-style-type: none"> • Dairy Products • Edible oils/Fats & their Products • Egg & Egg Products • Fish & Fish Products • Flour & Confectionery • Honey & Honey Products • Meat, poultry & Derived Product 	Fatty Acid (Saturated Fat, Unsaturated Fat, Trans Fat)	In-House method WI/JC-LAB/046 based on AOAC 996.06

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Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Pharmaceutical Products (Traditional Medicine), <ul style="list-style-type: none"> • Tablet • Powder • Soft Capsule • Hard Capsule 	Mercury	BP 2019, Vol. V Appendix VII & IID (FIMS)
	Lead Cadmium Copper Arsenic Nickel	BP 2019, Vol. V Appendix VII & IID (AAS)
Palm Oil & Palm Oil Products	Moisture & Volatile Matter	MPOB p2.1 Part 1:2004
	Impurities	MPOB p2.2:2004
	Peroxide Value	MPOB p2.3:2004
	Acidity/FFA	MPOB p2.5:2004
	Iodine Value	MPOB p3.2:2004
	Colour Lovibond	MPOB p4.1 Part 1:2004
	Slip Melting Point	MPOB p4.2:2004
	Anisidine value	MPOB p2.4:2004

Signatories:

- | | | |
|----|--|---|
| 1. | ChM. Siti Nabihah Binti Shamsudin | IKM No.: L/2594/7705/17 |
| 2. | Junaitun Alfarahim Binti Jaafar | MJMM0158 |
| 3. | ChM. Khoo Hwa Chuan | IKM No.: M/2212/4433/03/05 (Non-Resident) |
| 4. | ChM. Amni Bari'ah Binti Mat Shah | IKM No.: M/5467/8083/18/20 (Metals in Food) |
| 5. | Choo Xin Jia | MJMM 0852 (Benzoic Acid & Sorbic Acid in Food, Metals in Food) |

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SCOPE OF TESTING: CHEMICAL

Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Feed	Energy/Calories	Method of Analysis for Nutrition Labeling, 1993 & Food Regulation 1985
	Total Carbohydrate	Method of Analysis for Nutrition Labeling, 1993 & Food Regulation 1985
	Protein	AOAC 2001.11
	Crude Fat	MS 1416:1997
	Crude Ash	MS ISO 5984:1996 (Confirmed 2003)
	Moisture	MS ISO 6496:2003 (Confirmed 2011)
	Crude Fiber	AOAC 962.09
	Metals/Minerals • Antimony • Arsenic • Cadmium • Copper • Lead • Tin	In-house Method, WI/JC-LAB/044, Based on AOAC 999.11
Mercury	In-house Method, WI/JC-LAB/045, Based on AOAC 971.21, Using Flow Injection Mercury System (FIMS)	

Scan this QR Code or visit www.ism.gov.my/cab-directories for the current scope of accreditation**Signatories:**

1. **ChM. Siti Nabihah Binti Shamsudin** IKM No.: L/2594/7705/17
2. **ChM. Khoo Hwa Chuan** IKM No.: M/2212/4433/03/05 (Non-Resident)

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Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Water <ul style="list-style-type: none"> • Potable & Domestic • Industrial Water • Distilled Demineralized • Reverse Osmosis • Ultrapure Water • Swimming Pool Water • Cooling Tower Water • Boiler Water • Surface Water • Mineral Water • Industrial Effluent, etc 	pH Total Suspended Solid Oil and grease Color Chemical Oxygen Demand Biochemical Oxygen Demand Color Pt-Co Total Dissolved Solid Total Solid Temperature Chromium hexavalent Fluoride Formaldehyde Free chlorine Sulphide Ammoniacal nitrogen Chloride Cyanide Nitrate Nitrite Phenol	APHA 4500 H ⁺ B APHA 2540 D APHA 5520 B APHA 2120 F APHA 5220 D APHA 5210 B & 4500 O G APHA 2120 C, 22 nd edition APHA 2540 C, 22 nd edition APHA 2540 B, 22 nd edition APHA 2550 B, 22 nd edition APHA 3500 Cr B, 22 nd edition HACH Spectrophotometer 10225 9 th edition HACH Spectrophotometer 8110, 8 th edition HACH Spectrophotometer 8021, 9 th edition HACH Spectrophotometer 8131, 10 th edition In-House Method WI/JC-LAB/014 based on APHA 4500-NH ³ B&C, 22 nd edition HACH Spectrophotometer Method 8225, 8 th edition HACH Spectrophotometer Method 8027, 9 th edition APHA 4500 NO ₃ -B APHA 4500 NO ₂ -B In-House Method WI/JC-LAB/002 based on HACH Spectrophotometer Method 8047, 8 th edition

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Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Water (Continue) <ul style="list-style-type: none"> • Potable & Domestic • Industrial Water • Distilled Demineralized • Reverse Osmosis • Ultrapure Water • Swimming Pool Water • Cooling Tower Water • Boiler Water • Surface Water • Mineral Water • Industrial Effluent, etc 	Sulfate	HACH Spectrophotometer Method 8051, 10 th edition
	Turbidity	APHA 2130 B
	Hardness	APHA 2340 B
	Metals/Minerals <ul style="list-style-type: none"> • Aluminium • Arsenic • Barium • Boron • Cadmium • Chromium • Copper • Iron • Lead • Magnesium • Manganese • Calcium • Nickel • Selenium • Silver • Zinc 	APHA 3120 B & 3030 F
	Tin	In-House Method WI/JC-LAB/036 based on APHA 3120 B and APHA 3030 F, 22 nd Edition
Chromium Trivalent	In-House Method WI/JC-LAB/022 based on APHA 3500 Cr B and APHA 3120 B, 22 nd Edition	
Mercury	In-House Method WI/JC-LAB/025 based on APHA 3112B, using FIMS	

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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 (Continue) <ul style="list-style-type: none"> • Potable & Domestic • Industrial Water • Distilled Demineralized • Reverse Osmosis • Ultrapure Water • Swimming Pool Water • Cooling Tower Water • Boiler Water • Surface Water • Mineral Water 	Phosphate	HACH Spectrophotometer Method 8048, 10 Edition
	Nitrate Nitrogen	HACH Spectrophotometer Method 8192, 10 Edition
Environmental Monitoring <ul style="list-style-type: none"> • Industrial Effluent 	Phosphate	HACH Spectrophotometer Method 8048, 10 Edition

Signatories:

- | | | |
|----|---|---|
| 1. | ChM. Siti Nabihah Binti Shamsudin | IKM No.: L/2594/7705/17 |
| 2. | ChM. Nurul Shafika Binti Ahmad Ihsan | IKM No.: L/2721/8069/18 |
| 3. | ChM. Khoo Hwa Chuan | IKM No.: M/2212/4433/03/05 (Non-Resident) |
| 4. | ChM. Amni Bari'ah Binti Mat Shah | IKM No.: M/5467/8083/18/20 (Metals in Water) |

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Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Petroleum Product	Standard Test Method for Oxidation Stability of Steam Turbine Oils by Rotating Pressure Vessels	ASTM D 2272-11
	Standard Test Method for Acid Number of Petroleum Products by Potentiometric Titration	ASTM D 664-07
	Standard Test Method for Determination of Water in Petroleum Products, Lubricating Oils and Additives by Coulometric Karl Fischer Titration	ASTM D 6304-04a
	Standard Test Method for Kinematic Viscosity of Transparent and Opaque Liquids at 40 °C	ASTM D 445-15a
	Standard Test Method for Kinematic Viscosity of Transparent and Opaque Liquids at 100 °C	ASTM D 445-15a
	Standard Test Method for Calculating Viscosity Index from Kinematic Viscosity at 40 °C and 100 °C	ASTM D 2270-04
	Standard Test Method for Flash Point by Pensky-Martens Closed Cup Tester	ASTM D 93-02a
	Standard Test Method for Distillation of Petroleum Products at Atmospheric Pressure	ASTM D 86-09
	Standard Test Method for Total Base Number of Petroleum Products by Potentiometric Titration	ASTM D 2896-15
Standard Test Method for Pour Point of Petroleum Products	ASTM D 97-06	

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SCOPE OF TESTING: CHEMICAL

Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Petroleum Product	Cloud Point Color Density, Relative Density or API Gravity Condition Monitoring for: <ul style="list-style-type: none"> • Water • Nitration • Sulfate • Oxidation • Soot • Glycol • Diesel Additive Elements, Wear Metals and Contaminants <ul style="list-style-type: none"> • Aluminium • Barium • Boron • Cadmium • Calcium • Chromium • Copper • Iron • Lead • Magnesium • Manganese • Molybdenum • Nickel • Phosphorus • Potassium • Silicon • Silver • Sodium • Sulfur • Tin • Titanium • Vanadium • Zinc 	ASTM D2500-09 ASTM D1500-12 ASTM D1298-12b ASTM E 2412-10 ASTM D 5185-09

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1. **ChM. Amni Bari'ah Binti Mat Shah** **IKM No.: M/5467/8083/18/20 (Petroleum Product)**
2. **ChM. Khoo Hwa Chuan** **IKM No.: M/2212/4433/03/05 (Non-Resident)**

Schedule

Issue date: 10 January 2022
Valid until: 21 May 2024



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APHA: American Public Health Association, Standard Method for Examination of Water and Wastewater, 22nd Edition, 2012.

ASTM: American Society for Testing and Material

AOAC: Association of Official Analytical Chemists

MS: Malaysian Standard

MPOB: Malaysian Palm Oil Board

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SCOPE OF TESTING: MICROBIOLOGY

Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
<p>Food Products/Feed</p> <ul style="list-style-type: none"> • Beverages • Edible Fats & Oils • Frozen Food • Seafood • Sauces • Fruit Drink & Juice • Flour & Confectionery • Dairy Products • Food Additives • Animal Feed 	<p>Aerobic Plate Counts (cfu/g)</p> <p>Yeast and Mould Counts (cfu/g)</p> <p><i>E. coli</i> / Coliform Count (cfu/g)</p> <p><i>Staphylococcus aureus</i> (cfu/g)</p> <p><i>Salmonella</i> (Detection)</p> <p><i>Salmonella</i> (Detection) (GDS)</p> <p><i>Cronobacter (Enterobacter sakazakii)</i> (Detection) (GDS)</p> <p>Enterobacteriaceae</p> <p><i>Vibrio parahaemolyticus</i> (Detection)</p> <p><i>Vibrio cholerae</i> (Detection)</p> <p><i>Listeria monocytogenes</i></p> <p><i>Clostridium perfringens</i></p> <p><i>Clostridium botulinum</i></p> <p><i>Bacillus cereus</i></p>	<p>AOAC 990.12 / FDA-BAM, Chapter 3</p> <p>AOAC 2014.05 / FDA-BAM, Chapter 18</p> <p>AOAC 998.08 & 991.14 / FDA-BAM, Chapter 4</p> <p>AOAC 2003.11 / FDA-BAM, Chapter 12</p> <p>AOAC 2014.01 / FDA-BAM, Chapter 5</p> <p>AOAC 2009.03</p> <p>In-house Method, MJ/FD/001, Based on FDA-BAM Chapter 29, Using Genetic Detection System (GDS)</p> <p>AOAC 2003.01</p> <p>ISO/TS 21872-1:2007 (E)</p> <p>ISO/TS 21872-1:2007 (E)</p> <p>ISO 11290-1:1996/Amd 1:2004 (E)</p> <p>FDA-BAM, Chapter 16</p> <p>FDA-BAM, Chapter 17</p> <p>FDA-BAM, Chapter 14</p>

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Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Effluent, Water	Heterotropic Plate Count - Pour Plate (cfu/ml) - Membrane Filtration (cfu/100ml)	APHA 9215 B APHA 9215 D
	Coliform (cfu/100ml)	APHA 9222 B
	Coliform (MPN/100ml)	APHA 9221 B
	E. coli (cfu/100ml)	APHA 9222 G
	E. coli (MPN/100ml)	APHA 9221 F
	Enumeration of Spore of Sulphite Reducing Anaerobes (Clostridia) including C. perfringens	AS/NZS 4276 17.1:2000
	Fecal Coliform (CFU/100ml)	APHA 9222 D
	Fecal Coliform (MPN/100ml)	APHA 9221 E
	Fecal Streptococci/ Enterococci (CFU/100ml)	APHA 9230 C
	Fecal Streptococci/ Enterococci (MPN/100ml)	APHA 9230 B
	Pseudomonas aeruginosa (CFU/100ml)	APHA 9213 E
	Yeast & Mould (Pour Plate CFU/ml)	APHA 9610 B
	Yeast & Mould (Membrane Filtration CFU/100ml)	APHA 9610 D
	Salmonella (CFU/100ml)	APHA 9260 B
Staphylococcus aureus (CFU/100ml)	APHA 9213 B	

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Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Pharmaceutical Products, Food Supplement (Traditional Medicine), Cosmetic Products	Total Microbial Aerobic Count	BP 2013, Appendix XVI B
	Total Combined Yeast & Mould Count	BP 2013, Appendix XVI B
	Bile tolerant Gram Negative Bacteria	BP 2013, Appendix XVI B
	<i>Escherichia coli</i>	BP 2013, Appendix XVI B
	Salmonella	BP 2013, Appendix XVI B
	<i>Staphylococcus aureus</i>	BP 2013, Appendix XVI B
	<i>Pseudomonas aeruginosa</i>	BP 2013, Appendix XVI B
	<i>Clostridia spp</i>	BP 2013, Appendix XVI B
	<i>C. albicans</i>	BP 2013, Appendix XVI B
	Bile tolerant Gram Negative Bacteria	BP 2013, Appendix XVI F
	Escherichia coli	BP 2013, Appendix XVI F
Salmonella	BP 2013, Appendix XVI F	
	<i>Burkholderia cepacia</i>	In-house Method MJ/FD/002, Based on BP2013, Vol. V, Appendix XVI B & HiMedia Manual
Air (Environment Air Sampling)	Settle Plate Test	Compendium of Methods for Microbiological Examination of Foods, Chapter 3, 4 th Ed. (2001)
Surface, Equipment & Personnel Hand	Swab Test	Compendium of Methods for Microbiological Examination of Foods, Chapter 3, 4 th Ed. (2001)

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SCOPE OF TESTING: MICROBIOLOGY**SITE: CATEGORY I**

Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Air (Environment Air Sampling)	Settle Plate Test	Compendium of Methods for Microbiological Examination of Foods, Chapter 3, 4 th Ed. (2001)
Surface, Equipment & Personnel Hand	Swab Test	Compendium of Methods for Microbiological Examination of Foods, Chapter 3, 4 th Ed. (2001)

APHA: American Public Health Association, Standard Method for Examination of Water and Wastewater, 22nd Edition, 2012.

BP: British Pharmacopeia, 2013 Vol. V.

ISO/TS: International Organization of Standardization/Technical Specification

FDA-BAM: Food & Drug Administration-Bacteriological Analytical Manual

AOAC: Association of Official Analytical Chemists

Signatories:

- | | | |
|-----------|----------------------------|-----------------|
| 1. | Agnes Gan See Theng | MJMM0516 |
| 2. | Lim Jun Han | MJMM0517 |