**Issue date: 06 April 2025**
**Valid Until: -**

**NO: SAMM 557**



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| **LABORATORY LOCATION/ CENTRAL OFFICE:** | JABATAN KIMIA MALAYSIA NEGERI KEDAH<br>JALAN SUKA MENANTI , 05150,<br>KEDAH<br>MALAYSIA |
| **ACCREDITED SINCE :** | 06 APRIL 2025 |
| **FIELD(S) OF TESTING:** | CHEMICAL<br>MICROBIOLOGICAL |

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).

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| **CENTRAL LOCATION:** | JABATAN KIMIA MALAYSIA NEGERI KEDAH<br>JALAN SUKA MENANTI , 05150,<br>Kedah |
| **FIELD(S) OF TESTING :** | CHEMICAL, MICROBIOLOGICAL |

**SCOPE OF TESTING : CHEMICAL**

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| Material / Product Tested | Type Of Test / Properties Measured / Range Of Measurement | Standard Test Methods / Equipment / Techniques |
|---|---|---|
| **Water**<br>- Potable Water<br>- Surface Water<br>- Underground Water | pH value<br>Conductivity<br>Alkalinity<br>Colour<br>Silica<br>Oil and Grease<br>Hardness (EDTA)<br>Calcium/Calcium Hardness<br>Magnesium<br>Biochemical Oxygen Demand (BOD-5 days at 20°C)<br>Chemical Oxygen Demand<br>Nitrogen (Ammonia) | JKM E0101 (APHA 4500-H+ B)<br>JKM E0102 (APHA 2510 B)<br>JKM E0107 (APHA 2320 B)<br>JKM E0108 (APHA 2120 B)<br>JKM E0110 (APHA 4500 SiO2 C)<br>JKM E0113 (APHA 5520 B)<br>JKM E0114 (APHA 2340 C)<br>JKM E0115 (APHA 3500-Ca B)<br>JKM E0116 (APHA 3500-Mg B)<br>JKM E0118 (APHA 5210 B; APHA 4500-O C; APHA 4500-O G)<br>JKM E0119 (APHA 5220 B)<br>JKM E0124 (APHA 4500-NH3 B, APHA 4500-NH3 C) |
| | Chloride<br>Phosphate<br>Sulphate<br>Metals by AAS (Cadmium, Zinc, Lead, Manganese, Iron)<br>Total Solids<br>Total Suspended Solids<br>Total Dissolved Solids | JKM E0125 (APHA 4500-Cl- B)<br>JKM E0126 (APHA 4500-P E)<br>JKM E0127 (APHA 4500-SO4 2- E)<br>JKM E0401 (APHA 3111 B)<br>JKM E0103 (APHA 2540 B)<br>JKM E0104 (APHA 2540 D)<br>JKM E0105 (Gravimetric) |
| **Environmental Monitoring**<br>- Sewage<br>- Industrial Effluent<br>- Waste Water | Total Solids<br>Total Suspended Solids<br>Total Dissolved Solids<br>Chromium Hexavalent<br>Phenols<br>Oil and Grease<br>Biochemical Oxygen Demand (BOD-5 days at 20°C)<br>Chemical Oxygen Demand<br>Nitrogen (Ammonia) | JKM E0103 (APHA 2540 B)<br>JKM E0104 (APHA 2540 D)<br>JKM E0105 (Gravimetric)<br>JKM E0111 (APHA 3500-Cr B) (Colorimetric Method)<br>JKM E0112 (APHA 5530 B, APHA 5530 C)<br>JKM E0113 (APHA 5520 B)<br>JKM E0118 (APHA 5210 B; APHA 4500-O C; APHA 4500-O G)<br>JKM E0119 (APHA 5220 B)<br>JKM E0124 (APHA 4500-NH3 B, APHA 4500-NH3 C) |
| | Metals by AAS<br>• Cadmium<br>• Zinc<br>• Lead<br>• Manganese<br>• Iron | JKM E0401 (APHA 3111 B) |

| **Material / Product Tested** | **Type Of Test / Properties Measured / Range Of Measurement** | **Standard Test Methods / Equipment / Techniques** |
|---|---|---|
| | Arsenic<br>Mercury<br>Total Nitrogen | JKM E0402 (APHA 3114C) - by Hydride Generation AAS<br>JKM E0403 (APHA 3112B) - by Cold<br>Vapour AAS<br>JKM E0203 (DOE- Reference Method) |
| **Industrial Chemical**<br>- Denatured Alcohol | Methyl Alcohol in Denatured Alcohol<br>Bitrex in Denatured Alcohol (Qualitative Determination)<br>Brucine Sulphate in Denatured Alcohol<br>Detection of Chloroform<br>Determination of Diethyl Phthalate<br>Detection of Isopropyl Alcohol<br>Detection of Menthol<br>Detection of Tert-Butyl Alcohol<br>Determination Percentage of Vinegar (as Acetic Acid) in Denatured Alcohol | JKMPP K3<br>JKMPP K4<br>JKM(PP) 35/98-KAS9<br>JKMAS K1<br>JKMAS K2<br>JKMAS K4<br>JKMAS K5<br>JKMAS K7<br>In-house Method JKMAS K9 based<br>on book The Chemical Analysis by David Pearson, 7th Edition (page 358), Titration |
| **Foods**<br>- Alcoholic Beverage | Percent Proof Spirit and Percent Alcohol by Volume<br><br>Gas Chromatographic Determination of Ethanol in Alcoholic Beverages using Capillary Column | JKMAS K3 based on Sike's Table;<br>Tables of Corresponding Percentage<br>of Proof Spirit; Specific Gravity Spirit<br>Tables and AOAC Official Methods<br>of Analysis (1984)<br><br>JKM K0106 |
| **Foods**<br>- Edible Oils<br>- Palm Oil Products | Determination of Acidity<br>Determination of Iodine Value (Wijs Method) | MPOB p2.5:2004<br>MPOB p3.2:2004 |
| **Petroleum & Petroleum Products**<br>- Fuels | Identification of Petrol, Kerosene and Diesel | JKMAS K8 by GC-FID |
| **Others**<br>Cigarettes, Tobacco Leaves And Cloves | Morphological Examination & Detection of Nicotine, Eugenol and Menthol | JKM I03/42 |

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| Material / Product Tested | Type Of Test / Properties Measured / Range Of Measurement | Standard Test Methods / Equipment / Techniques |
|---|---|---|
| **Water**<br>- Potable Water & Drinking Water | Detection and Identification of coliform and Escherichia coli | JKM M 2032 - by Membrane filter method |
| **Water**<br>- Water | Detection and enumeration of Enterococci | JKM M 2036- Water Quality: Detection and enumeration of intestinal enterococci. Part 2: Membrane filtration method [ISO 7899-2:2000 (E)] |
| | Colony count at 220C and at 36°C | JKM M 2038- Water Quality: Enumeration of culturable microorganisms. Colony count by inoculation in a nutrient agar culture medium [(ISO 6222:1999 (E)] |
| **Water**<br>- Raw Water | Coliform and Escherichia coli | JKM M 2040<br>APHA 9221 A, B & C<br>APHA 9223 A & B<br>Most Probable Number (MPN), 21st Edition 2005 |