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LABORATORY LOCATION:
(PERMANENT LABORATORY)

SANICHEM RESOURCES SDN. BHD.
NO. 7 & 7A, JALAN TIMUR 6/1A
MERCATO@ENSTEK
71760 BANDAR ENSTEK
NEGERI SEMBILAN
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
Sterilized medical devices	Ethylene oxide sterilization residuals a) Ethylene Oxide b) Ethylene Chlorohydrin c) Ethylene Glycol	In-house Method [TM-001] based on ISO 10993-7 (2008) : Amd.1 (2019)
Aqueous solution	Ethylene Oxide	In-house Method [TM-002] based on ISO 10993-7 (2008) : Amd.1 (2019)
	Ethylene Chlorohydrin	In-house Method [TM-003] based on ISO 10993-7 (2008) : Amd.1 (2019)
	Ethylene Glycol	
Ethylene oxide gas	Relative % purity of gas	In-house Method [TM-005] based on US-EPA Method 8000C: Determinative Chromatographic Separations (2003)
Non-halogenated organics Residual solvents Hydrocarbons containing 5-12 carbons	Relative % purity of solvent	In-house Method [TM-004] based on US-EPA Method 8015D (2003), US-EPA Method 8000C (2003) USP Method <467> 2007

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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 Wastewater, Potable Water, Ground water, Surface water,	Colour	In-house method, TM-011 based on Macherey-Nagel Colour test (Pt-Co) APHA 2120 F (ADMI) (2017)
	Aluminium	In-house method, TM-012 based on Macherey-Nagel test 102
	Chromium (III), Chromium (VI), Chromium (Total)	In-house Method, TM-013 & TM-014 based on Macherey-Nagel test 125
	Iron	In-house method, TM-015 based on Macherey-Nagel test 136 APHA 3111 B (2017)
	Zinc	In-house method, TM-016 based on Macherey-Nagel test 195
	Free Chlorine	In-house method, TM-017 based on Macherey-Nagel test 720
	Free Chlorine (on-site & in-house)	HACH 8021 Low Range HACH 10069 High Range
	Cyanide	In-house method, TM-018 based on Macherey-Nagel test 130
	Fluoride	In-house method, TM-019 based on Macherey-Nagel test 142
	Ammonia as N	In-house method, TM-020 based on Macherey-Nagel test 105
	Sulphide	In-house method, TM-021 based on Macherey-Nagel test 188
	Formaldehyde	In-house method, TM-022 based on Macherey-Nagel test 046
	Tin	In-house method, TM-023 based on Macherey-Nagel test 097
	Manganese	In-house method, TM-024 based on Macherey-Nagel test 160
	Nickel	In-house method, TM-025 based on Macherey-Nagel test 162
	Phenol	In-house method, TM-026 based on Macherey-Nagel test 175
Biochemical Oxygen Demand (5-days) at 20° C	In-house method, TM-027 based on Macherey-Nagel test 822 APHA 5210 B (2017)	

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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 Wastewater, Potable Water, Ground water, Surface water	Turbidity	In-house method, TM-028 based on Macherey-Nagel test 906 APHA 2130 B (2017)
	Oil and Grease	APHA 5520 B (2017)
	Chemical Oxygen Demand	APHA 5220 D (2017)
	Temperature (on-site & in-house)	APHA 2550 B (2017)
	Total Alkalinity	APHA 2320 B (2017)
Wastewater, Potable Water, Ground water, Surface water	Chloride	APHA 4500-Cl-B (2017)
	Biochemical Oxygen Demand (3-days)	DOE Revised Standard Method for Rubber and POME
	pH (on-site & in-house)	APHA 4500-H+ (2017)
	Total Dissolved Solid	APHA 2540 C (2017)
	Total Suspended Solid	APHA 2540 D (2017)
	Hardness	APHA 2340 B (2017)
	Mercury	APHA 3112 B (2017)
	Arsenic	APHA 3114 C (2017)
	Calcium	APHA 3111 B (2017)
	Magnesium	
	Copper	
	Cadmium	
Lead		

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SCOPE OF TESTING: CHEMICAL

Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Foods Fermented food products Sushi Tapai Suspected food products	Ethanol content	In-house Method [TM-008] based on papers in Journal of Chromatographic Science, vol. 47, pg. 272-278 (2009) and Amer. J. Enol. Viticult., vol 25 (4), pg 202-207 (1974)
Drinks Fermented drinks Energy and health drinks Alcoholic beverages Carbonated drinks Canned and bottled drinks		

Signatory:

- | | |
|------------------------------|-------------------------|
| 1. Nor Diyana bt. Md. Sani | IKM No.: M/4927/8110/18 |
| 2. Nurul Nadiyah binti Rosly | IKM No.: L/3044/9037/21 |

Notes:

ISO – International Organization for Standardization
 US EPA – United States Environmental Protection Agency
 USP – United States Pharmacopeia
 ADM – American Dye Manufacturer Institute
 APHA – American Public Health Association
 DOE – Department of Environment
 Pt-C – Platinum – Cobalt
 POME – Palm Oil Mill Effluent
 TM – Test 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
Medical Devices	Sterility	In-house Method [TM-500] Sterility Test-Direct Immersion based on ISO 11737-2:2019
		USP 43-NF 38 Microbiological Test: Sterility Test-Direct Inoculation, 2020
	Bioburden	In-house Method [TM-505] based on ISO 11737-1:2018 + USP <61> and USP <62>
	Bacteriostasis and Fungistasis	In-house Method [TM-504] based on ISO 11737-2:2019
		USP 43-NF 38 Microbiological Test / <71> Sterility test, 2019
Endotoxin (Kinetic Turbidimetric Method)	In-house Method [TM-508] based on USP Chapter <85> Bacterial Endotoxins Test and USP Chapter <161> Transfusion and Infusion Assemblies and Similar Medical Devices, 2012	
Biological Indicator	Sterility	In-house Method [TM-501] based on ISO 11138-1:2017
	Population Counts	In-house method [TM-506] based on ETIGAM Technical Data Sheet :2015
		In-house method [TM-507] based on 3M Technical Bulletin-05-000003:2008
Foods: Meat and meat products Poultry and poultry products Edible fats and oils Dairy products Confectionary Animal Feeds Beverages Herbs and spices Cereal Products Others: Edible bird's nest	Aerobic Plate Count	FDA-BAM: Chapter 3 - Aerobic Plate Count
	Coliform and <i>Escherichia coli</i>	FDA-BAM: Chapter 4 - Enumeration of <i>E. coli</i> and Coliform Bacteria

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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 sample: Air (Total plate count, aerobic bacteria and yeast & mold)	Active sampling	In-house method [TM-800] based on ISO 14698-1:2003 and USP<1116>
	Passive sampling	In-house method [TM-801] based on ISO 14698-1:2003 and USP<1116>
Surface (Total plate count, aerobic bacteria and yeast & mold)	Contact plate	In-house method [TM-804] based on ISO 14698-1:2003 and USP<1116>
	Hand Swab	In-house method [TM-802] based on Public Health England. Detection and Enumeration of Bacteria in Swabs and other Environmental Samples. Microbiology Services. Food, Water & Environmental Microbiology Standard Method E1; Version 2.(2014)
	Sponge Swab	In-house method [TM-803] based on ISO 14698-1:2003
Water: <u>Non-Potable</u> Ground Water Surface Water Industrial Effluent Swimming Pool Water Waste Water <u>Potable</u> Tap Water Drinking water Mineral Water	Total Plate Count	APHA 9215 B, 23 rd Edition: 2017 (Pour Plate Method)
		APHA 9215 D, 23 rd Edition: 2017 (Membrane Filtration Technique)
Water: <u>Non-Potable</u> Ground Water Surface Water <u>Potable</u> Tap Water Drinking water Mineral Water	<i>Escherichia coli</i>	MS ISO 9308-1:2011 (Membrane Filtration Technique)

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SCOPE OF TESTING: MICROBIOLOGY

Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
<u>Potable</u> Drinking water Mineral Water Tap Water	<i>Total Coliform</i>	MS ISO 9308-1:2011
Water: <u>Non-Potable</u> Ground Water Surface Water Industrial Effluent Swimming Pool Water Waste Water	Total Coliform Count <i>Escherichia coli</i> <i>Fecal coliform</i>	In-house method [TM-701] based on APHA 9221 B,C,E,F, 23 rd Edition: 2017 (MPN method)

Signatories:

1. **Nurul Amirah bt. Mohd Zin**
2. **Muhammad Ameer Danish bin Mohd Ikram**
3. **Mohamad Syamil Bin Mohammad Padzil**
4. **Nur Sufia Bt Md Sani**

Notes:

ISO – International Organization for Standardization
 USP – United States Pharmacopeia
 NF – National Formulary
 APHA – American Public Health Association
 MS ISO – Management Standards international Organization for Standardization
 TM – Test Method
 MPN – Most Probable Number