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| | |
|---|---|
| LABORATORY LOCATION/ CENTRAL OFFICE: | IOI Acidchem Sdn. Bhd. 2411, Lorong Perusahaan Satu Prai Industrial Complex 13600 Prai, Pulau Pinang , 13600, PULAU PINANG MALAYSIA |
|  | |
| ACCREDITED SINCE : | 26 MARCH 2025 |
| FIELD(S) OF TESTING: | CHEMICAL |

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: | IOI Acidchem Sdn. Bhd. 2411, Lorong Perusahaan Satu Prai Industrial Complex 13600 Prai, Pulau Pinang , 13600, Pulau Pinang |
| FIELD(S) OF TESTING : | CHEMICAL, |

SCOPE OF TESTING : CHEMICAL

| Material / Product Tested | Type Of Test / Properties Measured / Range Of Measurement | Standard Test Methods / Equipment / Techniques |
|-------------------------------------|---|---|
| (bleached) | None | None |
| (bleached) Fatty Esters And Related | (Detection) Pseudomonas aeruginosa | None |
| Acid And Related | None | Petrifilm) |
| Fatty Acid And Related E | Acid value | LTM-QC-002 (FA) |
| Fatty Acid And Related E Product | Total combined molds and | USP 38 (Method 61) Pour plate |
| | Fatty acids composition by GC (or chain distribution) | LTM-QC-027 (FA) In-house method based on AOCS Ce-1e-91, 5th Edition |
| | Saponification value | AOCS TI 1a-64, 5 th Edition |
| | Titer | AOCS Tr 1a-64, 5 th Edition |
| | Cloud point | AOCS Cc 6-25, Edition |
| | Peroxide value | AOCS Cd 8-53, Edition |

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| Material / Product Tested | Type Of Test / Properties Measured / Range Of Measurement | Standard Test Methods / Equipment / Techniques |
|-------------------------------------|---|---|
| | Water | USP 38 (Method 921 - 1a) |
| | Free fatty acid % | AOCS Ca 5a-40, Edition |
| | Fatty acids composition by GC (DB Fast FAME column) | LTM-QC-040 (FA) In-house method based on AOCS Ce 1e-91. Edition |
| Fatty Esters And E Related Products | Refractive index | USP 38 (Method 831) |
| | Specific gravity | USP 38 (Method 841) |
| | Residue on ignition | USP 38 (Method 281) |
| | palmitate / Isopropyl myristate content | LTM-QC-016 (FE) In-house method based on USP 38 |
| | Cloud point | AOCS Cc 6-25, Edition |
| | Colour of clear liquids (Pt-co scale) | LTM-QC-029 (FA, FE) In-house method based on ASTM D 1209-93 |
| | Water | USP 38 (Method 921 - 1a) |
| | Iodine value | USP 38 (Method 401 - II) |
| | Acid value | USP 38 (Method 401 - I) |
| Fatty Products | Saponification value | USP 38 (Method 401) |
| | Yeast & Mould Counts | AOAC Official Method 2014.05 (3M) |
| Finished Products Only | None | None |
| | None | None |
| | Total aerobic microbial count | None |
| | Aerobic plate Counts | AOAC Official Method 990.12 (3M) |
| Glycerin / Glycerol | None | None |
| Glycerin / Glycerol E (bleached) | Acidity or alkalinity | EP 2014 / BP 2011 |
| | Refractive index | EP 2014 / BP 2011 |
| | Aldehydes | EP 2014 / BP 2011 |
| | Esters | EP 2014 / BP 2011 |
| | Impurity A and related substances | EP 2014 / BP 2011 |
| | Halogenated compounds | EP 2014 / BP 2011 |
| | Sugars | EP 2014 / BP 2011 |
| | Chlorides | EP 2014 / BP 2011 |
| | Heavy metals | EP 2014 / BP 2011 |
| | Water | EP 2014 / BP 2011 |
| | Sulphated ash | EP 2014 / BP 2011 |
| | Glycerine content / assay | EP 2014 / BP 2011 |
| | Specific gravity | USP 38 (Method 841) |
| | Residue on ignition | USP 38 (Method 281) |
| | Water (Karl Fischer) | USP 38 (Method 921 - 1a) |
| | Chlorides | USP 38 (Method 221) |
| | Sulphate | USP 38 (Method 221) |
| | Heavy metals | USP 38 (Method 231) |
| | Limit on chlorinated compounds | None |
| | Fatty acids and esters | None |
| Colour | None | |
| Glycerin content / assay | None | |

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| Material / Product Tested | Type Of Test / Properties Measured / Range Of Measurement | Standard Test Methods / Equipment / Techniques |
|------------------------------|---|--|
| Product | None | In-house method based on AOCS Te |
| | None | None |
| | None | None |
| | None | None |
| | None | Traceable to: |
| | None | Food Microwave Digestion |
| | Furaltadone (AMAZ) | None |
| | None | None |
| | Boron | None |
| | Nitrite | based on AOAC 973.31, 17" Edition |
| | None | None |
| | Detection | Method |
| | Fatigue Test | MS 146:2014 Clause 7.3.4 |
| | c) X, Y, Z Direction | None |
| Products | (Detection) | USP 38 (Method 62) |
| | Salmonella (Detection) | USP 38 (Method 62) |
| | Escherichia coli (Detection) | USP 38 (Method 62) |
| | Bile - tolerant Gram Negative | USP 38 (Method 62) |
| | None | ASTM A 370: 2020 Clause 18 |
| | Dimethyl Phthalate (DMP) | 003 with reference to IEC 62321- |
| | Enumeration of | AOAC Official Method 2003.07 |
| | Aureus | None |
| | None | None |
| | None | None |
| | None | Detection) |
| | None | Labeling, Chapter 1, 1993 |
| | None | None |
| | None | None |
| | None | None |
| | Maltose & Sucrose | Labeling Method No. 980.13 |
| | None | 6590EN & LCTECH SOP, using GC- |
| | Deoxinevalenol, Fumonisin B1, | Analytical Toxicology, 5:2, 2014, Pg. |
| | None | AS 5013.4-2009 (Pour Plate Method) |
| | None | None |
| | None | PBPK/BAC 02 |
| | Dose | None |
| | None | D5865-10a |
| | None | None |
| | None | None |
| | None | None |
| | None | None |
| None | None | |
| Disturbance power from cable | CISPR 16-2-2:2010 | |

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| Material / Product Tested | Type Of Test / Properties Measured / Range Of Measurement | Standard Test Methods / Equipment / Techniques |
|---------------------------|---|--|
| | Nickel | None |
| | None | None |
| | None | None |
| | None | None |
| | None | None |
| | None | None |
| | None | None |
| | None | None |
| | None | None |
| | None | None |
| | None | None |
| | campylobacter jejuni and C. coli) | None |
| | None | EN 61000-4-2:2009 |
| | Electrical Fast Transient | IEC 61000-4-4:2012 |
| | electromagnetic field immunity | EN IEC 61000-4-3:2020 |
| | None | Based on Rapid Porcine Meat (Raw) |
| | None | Based on Gerhardt Dumatherm |
| | Gelatin/Collagen | HV/TM/BCLAB/005 |
| | Fat/Oil | HV/TM/BCLAB/003 |
| | None | and Analysis of Foods; 9' Edition, |
| | real-time PCR | In-house Method IHRAM-TM-101 |
| | None | 994.10 & AOAC 976.26, 17" Edition, |
| | None | 950.35 17 Edition, 2000 |
| | None | None |
| | Density | BP: Appendix V-A246 G. Density |
| | None | Determination of pH |
| | Weight per mL at 20-25 °C | BP Appendix V G Determination of |
| | Limit and method of measurements | ANSI C63.4:2014 |
| | None | None |
| | Carbohydrate | In-House Method CLWI-TEC-F022 |
| | None | Agrobot, Cluj 38 (1) 2010, 44-48 |
| | None | None |
| | None | None |
| | None | None |
| | None | None |
| | None | None |
| | Copper | None |
| | Electronic Apparatus -" Safety Requirements | Except: |
| | Total Carbohydrate | Method of Analysis for Nutrition |
| | None | 2005.Page 393-397 |
| | None | None |
| | e | None |
| | None | None |
| | None | None |
| | None | None |

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| Material / Product Tested | Type Of Test / Properties Measured / Range Of Measurement | Standard Test Methods / Equipment / Techniques |
|---------------------------|---|--|
| | None | None |
| | 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 |
| | None | Specimen Clause 6.2 -" Rigid Tubes |
| | API Gravity of Crude Oils by | ASTM D5002 |
| | Density, Relative Density of API | ASTM D4052 |
| | Yield Strength | ASTM A370-21 (Section 7 to 14) |
| | None | on AOAC 925.45B |
| | None | None |
| | Butyric acid (C4:0) | None |
| | (cis) | None |
| | None | None |
| | None | None |
| | None | None |
| | None | None |
| | None | None |
| | None | None |
| | None | on Mettler Toledo Ti-Note EasyPlus |
| | None | C (2008) |
| | None | None |
| | None | None |
| | Yeast & Mould | FDA-BAM Chapter 18 (Plate Count) |
| | None | None |
| | None | None |
| | None | None |
| | None | None |
| | Fat (Acid Hydrolysis) | n House Method TM/F-014 Based on |
| | Moisture | n House Method TM/F-004 Based on |
| | None | Examination of Foods, 4th Edition |
| | Vibrio parahaemolyticus | None |
| | None | None |
| | None | None |
| | None | None |
| | None | None |
| | None | None |
| | None | None |
| | None | None |
| | Coliform | FDA-BAM Chapter 4 (2020) |
| | Fecal Coliform | FDA-BAM Chapter 4 (2020) |

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| Material / Product Tested | Type Of Test / Properties Measured / Range Of Measurement | Standard Test Methods / Equipment / Techniques |
|---------------------------|--|--|
| | None | None |
| | None | AOAC 991.14 (3M Petrifilm) (2002) |
| | None | None |
| | Clostridium perfringens Count | FDA-BAM Chapter 16 (2001) |
| | None | None |
| | Dynamic Viscosity and Density and Fire Points by Cleveland | None |
| | Moisture Karl Fischer Reagent | ISO 8534 (M) / KF Volumeter (E) / |
| | Flash Point (Cleveland Open | ASTM D 92-90 |
| | None | Gel-Clot Method |
| | None | None |
| | Test for absence of I | None |
| | None | None |
| | None | L03-004, Based on VICAM Zearala |
| | None | Spectrometry (WDXRF) |
| | in Fruit Juices and Related | onBrause et al., Journal of AOAC |
| | None | Lovibond Colour in Palm Oil and Palm |
| | None | (CTAB Protocol) based on |
| | None | Conventional Polymerase Chain |
| | None | (HPLC) |
| | None | None |
| | Violet | In-House No.FH 38 |
| | None | None |
| | None | None |
| | Refer Appendix III | 2007.01 (GCMSMS) |
| | None | None |
| | None | None |
| | -35S Promoter | Detection Using Real Time PCR |
| | None | None |
| | None | None |
| | None | 968.28 |
| | None | None |
| | None | None |
| | None | None |
| | Mercury | In-house Method SOP-0217-1018, |
| | None | UHPLC |
| | None | UHPLC |
| | Ash | In-house Method 0510 based on |
| | None | AOAC 964.21 |
| | None | None |
| | None | Edition, 1978 |
| | None | None |
| | None | None |
| | None | 2:2009 |
| | Bioburden Estimation | ISO 11737-1:2006 |

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| Material / Product Tested | Type Of Test / Properties Measured / Range Of Measurement | Standard Test Methods / Equipment / Techniques |
|---------------------------|---|--|
| | Sterility Test | ISO 11737-2:2009 |
| | Endotoxin in Medical Devices | USP 29' Edition (LAL Gel Clot |
| | None | None |
| | None | None |
| | None | None |
| | None | None |
| | None | None |
| | None | None |
| | None | None |
| | None | None |
| | None | None |
| | None | None |
| | None | None |
| | Bend Performance | Clause 7.2.4 e |
| | Lithium, Li Vanadium,V | 001 with reference to USP 39 and USP 40 |
| | None | nicotinic acid and nicotinamide in |
| | None | None |
| | phthalate, DIBP | None |
| | Dibutyl phthalate, DBP | 006, with reference to ISO 8124- |
| | None | None |
| | None | None |
| | None | L03-007-Determination of Aflatoxin |
| | None | G03-123(1)-Detection of Maize in |
| | None | G03-143(1)-Detection of Event-Specific |
| | None | G03-143(2)-Detection of Event-Specific |
| | None | G03-143(3)-Detection of Event-Specific |
| | None | G03-143(5)-Detection of Event-Specific |
| | None | G03-143(4)-Detection of Event-Specific |
| | NoneNone | None |
| | None | None |
| | None | None |
| | Ultimate Tensile Strength e | (ref no: QA/METAL/05) |
| | None | None |
| | Monosodium Glutamate | F024 by HPLC Fluorescence |
| | None | None |
| | None | None |
| | None | None |
| | None | None |
| | None | None |
| | None | None |

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| Material / Product Tested | Type Of Test / Properties Measured / Range Of Measurement | Standard Test Methods / Equipment / Techniques |
|---------------------------|---|--|
| | Aerobic Plate Count | None |
| | Total Coliform Count | FDA-BAM, Ed, Chap 4 |
| | Fecal Coliform | None |
| | Salmonella spp. | FDA-BAM, Ed, Chap 5 |
| | - Sulphate | BS 1377, 1990-Part 3 Section 5 |
| | - pH Value | BS 1377, 1990-Part 3 Section 9 |
| | - Loss on Ignition | BS 1377, 1990-Part 3 Section 4 |
| | Average Grain Size Measurement | Method) |
| | - Rockwell Method | ASTM E18: 20 |
| | Break Test (Filled Weld) | None |
| | Properties Measured / | Method/ |
| | Total Plate Count | Plating |
| | Coliform | Determination of Coliform & E.coli |
| | Escherichia Coli | (Pour Plate Method) - AOAC |
| | Escherichia Coli | performance tested. Certificate no. |
| | Escherichia Coli | 020902 |
| | Coliform | AOAC 998.08. Edition, |
| | Escherichia Coli (Petrifilm) | 2019/Petrifilm |
| | Staphylococcus Aureus (Petrifilm) | AOAC 2003.11. 21% Edition, |
| | Staphylococcus Aureus (Petrifilm) | 2019/Petrifilm |
| | Salmonella (Petrifilm) | AOAC 2014.01. 21% Edition, |
| | Salmonella | 2019/Petrifilm |
| | (Alpha Tocopherol, Alpha Tocotrienol, | FDA BAM Chapter 5. 2020; |
| | Beta Tocotrienol, Gamma Tocotrienol, | 70, No. 12, December 1993/HPLC |
| | Delta Tocotrienol) | None |
| | Phytosterols Content | None |
| | (Sitosterol, Stigmasterol) | EvTM_0008/HPLC |
| | Plant Squalene | None |
| | Solvent Residue | EvTM_0007/HPLC |
| | (Hexane, Ethyl Acetate, Methanol, | EvTM_0005/GC Headspace |
| | Isopropanol, Dichloromethane, | None |
| | Ethanol) | None |
| | Benzo A Pyrene | None |
| | Benzo A Pyrene | EvTM_0004, Based on AOCS Cd |
| | Moisture | 21 - 91, 5" Edition (2003) |
| | Moisture | AOCS Ca 2e - 84, Edition |
| | Mixed Carotene | (2003) |
| | Mixed Carotene | None |
| | Solvent Residue | EvTM_0150/HPLC |
| | (Hexane, Ethyl Acetate, Methanol, | EvTM_0151/GC-HS |
| | Isopropanol, Dichloromethane, | None |
| | Ethanol) | None |
| | Moisture | None |
| | Moisture | AOCS Ca 2e - 84, Edition |
| | None | (2003) |
| | | None |

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| Material / Product Tested | Type Of Test / Properties Measured / Range Of Measurement | Standard Test Methods / Equipment / Techniques |
|---------------------------|--|---|
| | 2,6-Di-Tert-Butyl Hydroxytoluene | EvTM_0049/GC |
| | Tocotrienol, Beta Tocotrienol, Gamma Tocotrienol, Delta Tocotrienol) | 1993/HPLC None None |
| | Benzo A Pyrene | EvTM_0114, Based on AOCS Cd 21-91, 5th Edition (2003) |
| | Mixed Carotene | EvTM_0115/HPLC |
| | Mixed Carotene | EvTM_0116/UV-VIS |
| | Lycopene Content | EvTM_0118/UV-VIS |
| | Plant Squalene | EvTM_0124/HPLC |
| | Phytosterols Content (Sitosterol, Stigmasterol) | EvTM_0125/HPLC |
| | Solvent Residue (Hexane, Ethyl Acetate, Methanol, Isopropanol, Dichloromethane, Ethanol) | EvTM_0126/GC HS None None |
| | Moisture | AOCS Ca 2e - 84, Edition (2003) |
| | Moisture | (2003) |
| | Total Aerobic Microbial Count | XVI B |
| | Total Combined Yeasts/ Moulds Count | BP 2020/Volume XVI B |
| | Coliform Count | FDA BAM Chapter 4, 2020 |
| | Bile-Tolerant Gram-Negative Bacteria | BP 2020/Volume XVI B |
| | Detection of Specific Microorganism | BP 2020/Volume |
| | Pseudomonas aeruginosa | IV/Appendix XVI B |
| | Staphylococcus aureus | None |
| | Escherichia coli | None |
| | Salmonella spp | None |
| | Total Aerobic Microbial Count | XVI B |
| | Total Combined Yeasts/ Moulds Count | BP 2020/Volume XVI B |
| | Coliform Count | FDA BAM Chapter 4, 2020 |
| | Bile-Tolerant Gram-Negative Bacteria | BP 2020/Volume XVI B |
| | Detection of Specific Microorganism | BP 2020/Volume |
| | Pseudomonas aeruginosa | XVI B |
| | Staphylococcus aureus | None |
| | Escherichia coli | None |
| | Salmonella spp | None |
| | None | spp. by Real-Time PCR (qPCR) -" SYBR |
| | None | None |
| | None | in Soybean by real-Time PCR (qPCR) |

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| Material / Product Tested | Type Of Test / Properties Measured / Range Of Measurement | Standard Test Methods / Equipment / Techniques |
|---------------------------|---|--|
| | None | DNA (Universal Plant) by Real-Time |
| | Free Fatty Acids | None |
| | Moisture and Volatile Matter Hot Plate Method | AOCS Ca 2b-38 (1997) |
| | Insoluble Impurities | None |
| | Iodine Value of Fats and Oils | AOCS Ca 3a-46 (1997) |
| | Cyclohexane-Acetic Acid Method | None |
| | Slip Melting Point | None |
| | AOCS Standard Open Tube Melting Point | AOCS Cc 3-25 (1997) |
| | Color | None |
| | | AOCS Cc (1997) |
| | Products Glycerin / Glycerol | yeasts count |
| Staphylococcus aureus | | None |

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