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| **Laboratory** | **Regional Food Laboratory, University Road, Rajkot, Gujarat** | | |
| **Accreditation Standard** | **ISO/IEC 17025: 2005** | | |
| **Certificate Number** | **TC-5421** ***(In lieu of T-3460)*** | **Page 1 of 8** | |
| **Validity** | **01.06.2017 to 31.05.2019** | **Last Amended on --** | |

| Sl. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | | **CHEMICAL TESTING** | | |
| **I.** | **FOOD AND AGRICULTURAL PRODUCTS** | | | |
| **1.** | **Edible Oil and Fats** | Refractive Index at 40 ºC and 50 ºC | IS 548(Part I)-1964 (RA 2010) Method 10 | 1.4440 to 1.4740 RI |
| | | B.R.Reading at 40 ºC and 50 ºC | IS 548(Part I)-1964 (RA 2010) Method 10 | 28.3 to 72.7 BR |
| | | Saponification value | IS 548(Part I)-1964 (RA 2010) Method 15 | 160 to 270 |
| | | Iodine Value | IS 548(Part I)-1964 (RA 2010) Method 14 | 05 to 150 |
| | | Acid value | FSSAI Manual of Methods of Analysis of Foods(Oils & Fats) 2016 Method 11 | 0.03 to 15.0 |
| | | Free Fatty Acid as Oleic Acid | FSSAI Manual of Methods of Analysis of Foods(Oils & Fats) 2016 Method 11 | 0.015 % to 5 % by Weight |
| | | Polenske Value | IS 548(Part I)-1964 (RA 2010) Method 19 | 3 to 20 |
| | | Reichert Value | IS 548(Part I)-1964 (RA 2010) Method 18 | 0.1 to 35 |
| | | Bellier Test (Turbidity Temperature) Acetic Acid Method | IS 548(Part II)-1976 (RA 2010) Method 13 | 15 ºC to 41 ºC |
| | | Melting Point | IS 548(Part I)-1964 (RA 2010) Method 9 | 30 ºC to 50 ºC |
| | | Presence of Mineral Oil | IS 548(Part I)-1976 (RA 2010) Method 12 | Qualitative (Present/Absent) |
| | | Presence of Sesame Oil (Modified Baudouin test) | IS 548(Part II)-1976 (RA 2010) Method 6 | Qualitative (Present/Absent) |
| | | Presence of Cottonseed Oil (Halphen test) | IS 548(Part II)-1976 (RA 2010) Method 7 | Qualitative (Present/Absent) |

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**Program Director**

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|---|---|---|---|---|
| | | Presence of Castor oil | IS 548(Part II)-1976 (RA 2010) Method 15 | Qualitative (Present/Absent) |
| **2.** | **Food Grains (Whole)** | Presence of Argemone Oil | FSSAI Manual of Methods of Analysis of Foods (Oils & Fats) 2016 Method 30.0 | Qualitative (Present/Absent) |
| | | Moisture | FSSAI Manual of Methods of Analysis of Foods (Cereal & Cereal Products) 2016 Method 2.0 | 0.5–20% by Weight |
| | | Foreign matter | FSSAI Manual of Methods of Analysis of Foods (Cereal & Cereal Products) 2016 Method 1.2 | Up to 20% by Weight |
| | | Damaged grains | FSSAI Manual of Methods of Analysis of Foods (Cereal & Cereal Products) 2016 Method 1.4 | Up to 20% by Weight |
| | | Weevilled grains | FSSAI Manual of Methods of Analysis of Foods (Cereal & Cereal Products) 2016 Method 1.4 | Up to 80% by Count |
| | | Other edible grains | FSSAI Manual of Methods of Analysis of Foods (Cereal & Cereal Products) 2016 Method 1.4 | Up to 20% by Weight |
| | | Uric acid | FSSAI Manual of Methods of Analysis of Foods (Cereal & Cereal Products) 2016 Method 3.0 IS:4333(Part V)-1970 (RA 2005) | 5 mg/kg to 600 mg/kg |
| **3.** | **Cereal & Cereal Products** | Rodent excreta & Hair | FSSAI Manual of Methods of Analysis of Foods (Cereal & Cereal Products) 2016 Method 1.5 | Qualitative (Present/Absent) |

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|---|---|---|---|---|
| | | Moisture | FSSAI Manual of Methods of Analysis of Foods (Cereal & Cereal Products) 2016 Method 8.1 | 0.5 % to 20 % |
| | | Total ash (on dry basis) | FSSAI Manual of Methods of Analysis of Foods (Cereal & Cereal Products) 2016 Method 8.2 | 0.05 % to 8 % |
| | | Ash insoluble in HCl (on dry basis) | FSSAI Manual of Methods of Analysis of Foods (Cereal & Cereal Products) 2016 Method 8.3 | 0.005 % to 0.5 % |
| | | Alcoholic Acidity as $H_2SO_4$(on dry basis) | FSSAI Manual of Methods of Analysis of Foods (Cereal & Cereal Products) 2016 Method 8.5 | 0.05 % to 0.5 % |
| | | Protein (on dry basis) | FSSAI Manual of Methods of Analysis of Foods (Cereal & Cereal Products) 2016 Method 8.7 | 1 % to 60 % |
| | | Gluten (on dry basis) | FSSAI Manual of Methods of Analysis of Foods (Cereal & Cereal Products) 2016 Method 8.4 | 2 % to 15 % |
| | | Food Colours | FSSAI Manual of Methods of Analysis of Foods (Food Additives) 2016 Method 4.0 | Qualitative (Present/Absent ) |
| **4.** | **Raw and Processed Fruits & Vegetables** | Total ash(m/m) | FSSAI Manual of Methods of Analysis of Foods (Fruit and Vegetable Products)2016 Method 11.3 | 0.5 % to 15 % |
| | | Acid insoluble ash (m/m) | FSSAI Manual of Methods of Analysis of Foods (Fruit and Vegetable Products) 2016Method 11.4 | 0.05 % to 3.0 % |

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| | | Soluble solids as $^{o}$ brix | FSSAI Manual of Methods of Analysis of Foods (Fruit and Vegetable Products)2016Method 1.6 | 5 % to 75 % |
| | | Acidity as Acetic Acid | FSSAI Manual of Methods of Analysis of Foods (Fruit and Vegetable Products) 2016 Method 2.4 | 0.5 % to 5.0 % |
| | | Food Colours | FSSAI Manual of Methods of Analysis of Foods (Food Additives) 2016 Method 4.0 | Qualitative (Present/Absent) |
| **5.** | **Tea** | Total ash (on dry weight basis) | DGHS Lab Manual 4:2005 (Beverages) Method 5.3 | 0.5 % to 9.0 % |
| | | Acid insoluble ash (on dry weight basis) | DGHS Lab Manual 4:2005 (Beverages) Method 5.5 | 0.05 % to 3.0 % |
| | | Water Soluble ash (on dry weight basis) | DGHS Lab Manual 4:2005 (Beverages) Method 5.4 | 35 % to 70 % |
| | | Alkalinity of Water Soluble ash (on dry weight basis) | DGHS Lab Manual 4:2005 (Beverages) Method 5.7 | 0.2 % to 5.0 % |
| | | Water extract (on dry weight basis) | DGHS Lab Manual 4:2005 (Beverages) Method 5.6 | 25 % to 50 % |
| | | Food Colours | FSSAI Manual of Methods of Analysis of Foods (Food Additives) 2016 Method 4.0 | Qualitative (Present/Absent) |
| **6.** | **Spices and Condiments Whole and Powder** | Extraneous matter | FSSAI Manual of Methods of Analysis of Foods (Spices and Condiments) 2016 Method 2.0 | Qualitative (Present/Absent) |
| | **Turmeric Chillies Cumin Ginger** | Live and Dead Insects | FSSAI Manual of Methods of Analysis of Foods (Spices and Condiments) 2016 Method 2.0 | Qualitative (Present/Absent) |
| | **Mix Spice Powder** | Food Colours | FSSAI Manual of Methods of Analysis of Foods (Food Additives) 2016 Method 4.0 | Qualitative (Present/Absent) |

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|---|---|---|---|---|
| | | Moisture (by weight) | FSSAI Manual of Methods of Analysis of Foods (Spices and Condiments) 2016 Method 3.0 | 1 % to15 % |
| | | Total ash by weight (on dry basis) | FSSAI Manual of Methods of Analysis of Foods (Spices and Condiments) 2016 Method 4.0 | 0.05 % to10 % |
| | | Acid insoluble ashby weight(on dry basis) | FSSAI Manual of Methods of Analysis of Foods (Spices and Condiments) 2016 Method 5.0 | 0.05 % to 2 % |
| | | Non volatile Ether Extract by weight (on dry basis) | FSSAI Manual of Methods of Analysis of Foods (Spices and Condiments) 2016 Method 9.0 | 0.5 % to 30 % |
| | | Volatile oil (on dry basis) | FSSAI Manual of Methods of Analysis of Foods (Spices and Condiments) 2016 Method 10 | 0.1 v/w to 20 v/w |
| **7.** | **Turmeric Whole & Powder** | Presence of Chromate | FSSAI Manual of Methods of Analysis of Foods (Spices and Condiments) 2016 Method 16.6 | Qualitative (Present/Absent ) |
| | | Total Starch by weight | FSSAI Manual of Methods of Analysis of Foods (Spices and Condiments) 2016 Method 16.5 | 5 % to70 % |
| | | Curcumin content by weight | FSSAI Manual of Methods of Analysis of Foods (Spices and Condiments) 2016 Method 16.4 | 1 % to 5 % |
| **8.** | **Ginger Powder** | Cold Water Soluble Extract by weight (on dry basis) | FSSAI Manual of Methods of Analysis of Foods (Spices and Condiments) 2016 Method 6.0 | 10 % to 15 % |

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| **9.** | **Asafoetida** | Alcohol Soluble Extract by weight (on dry basis) | FSSAI Manual of Methods of Analysis of Foods (Spices and Condiments) 2016 Method 7.0 | 1 % to 50 % |
| **10.** | **Sugar Boiled Confectionary** | Sulphated Ash by weight (Salt free Basis) | DGHS Lab Manual 4:2005 (Confectionary Products) Method 13.2 | 0.05 % to 5 % |
| | | Total Protein by mass | DGHS Lab Manual 4:2005 (Confectionary Products) Method 13.4 | 2 % to 5 % |
| | | Fat (on dry weight basis) | DGHS Lab Manual 4:2005 (Confectionary Products) Method 13.5 | 3 % to 6 % |
| **11.** | **Honey** | Fructose / Glucose Ratio | DGHS Lab Manual 4:2005 (Confectionary Products) Method 6.5 | 0.8 % to 1.6 % |
| | | Total Reducing sugars | DGHS Lab Manual 4:2005 (Confectionary Products) Method 6.4 | 30 % to 80 % |
| **12.** | **Gur** | Moisture | DGHS Lab Manual 4:2005 (Confectionary Products) Method 9.1 | 3 % to 25 % |
| | | Total Sugars expressed as Sucrose (on dry weight basis) | DGHS Lab Manual 4:2005 (Confectionary Products) Method 8.2 | 55 % to 90 % |
| | | Total ash (on dry weight basis) | DGHS Lab Manual 4:2005 (Confectionary Products) Method 9.3 | 1.5 % to 9.0 % |
| | | Ash insoluble in dil. HCl (on dry weight basis) | DGHS Lab Manual 4:2005 (Confectionary Products) Method 13.3 | 0.005 % to 5 % |
| | | Extraneous matter insoluble in water (on dry weight basis) | DGHS Lab Manual 4:2005 (Confectionary Products) Method 9.2 | 0.1 % to 5 % |
| **13.** | **Milk & Milk Products** | Total Solids | FSSAI Manual of Methods of Analysis of Foods (Milk & Milk Products) 2016 | 5 % to 20 % |

| Sl. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | | | Method 1.3.3 | |
| | | Milk Fat | FSSAI Manual of Methods of Analysis of Foods (Milk & Milk Products) 2016 Method 1.3.4.1 | 0.1 % w/w to 10 % w/w |
| | | Starch in Milk | FSSAI Manual of Methods of Analysis of Foods (Milk & Milk Products) 2016 Method 1.2.2.1 | Qualitative (Present/Absent ) |
| | | Cane Sugar in Milk | FSSAI Manual of Methods of Analysis of Foods (Milk & Milk Products) 2016 Method 1.2.1.1 | Qualitative (Present/Absent) |
| | | Added Glucose in Milk | FSSAI Manual of Methods of Analysis of Foods (Milk & Milk Products) 2016 Method 1.2.7 | Qualitative (Present/Absent ) |
| | | Neutralizers | FSSAI Manual of Methods of Analysis of Foods (Milk & Milk Products) 2016 Method 1.2.11 | Qualitative ( Present/Absent ) |
| | | Added Urea in Milk | FSSAI Manual of Methods of Analysis of Foods (Milk & Milk Products) 2016 Method 1.2.4 | Qualitative (Present/Absent ) |
| | | Cellulose in Milk | FSSAI Manual of Methods of Analysis of Foods (Milk & Milk Products) 2016 Method 1.2.3 | Qualitative (Present/Absent ) |
| | | Detergent Containing Alkyl Benzene Sulphonic Acid(ABS) | FSSAI Manual of Methods of Analysis of Foods (Milk & Milk Products) 2016 Method 1.2.14 | Qualitative (Present/Absent ) |
| **14.** | **Paneer** | Fat (on dry basis) | FSSAI Manual of Methods of Analysis of Foods (Milk & Milk Products) 2016 Method 5.3 | 12 % to 60 % of dry matter |

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| **15.** | **Skimmed Milk Powder** | Moisture | FSSAI Manual of Methods of Analysis of Foods (Milk & Milk Products) 2016 Method 10.2 | 0.5 % w/w to 6 % w/w |
| | | Total ash | FSSAI Manual of Methods of Analysis of Foods (Milk & Milk Products) 2016 Method 10.7 | 0.5 % w/w to 12 % w/w |
| | | Acid insoluble ash | FSSAI Manual of Methods of Analysis of Foods (Milk & Milk Products) 2016 Method 10.8 | 0.1 % w/w to 1.5 % w/w |
| **16.** | **Ice Cream** | Protein (N X 6.38) | FSSAI Manual of Methods of Analysis of Foods (Milk & Milk Products) 2016 Method 7.5 | 2 % to 6 % |
| **17.** | **Iodised Salt** | Moisture Content by mass | IS : 7224 : 2006 Annex A | 0.1 % to 2.0 % |
| | | Matter insoluble in Water by mass (on dry basis) | IS : 7224 : 2006 Annex C | 0.1 % to 2.0 % |
| | | Chloride as NaCl by mass (on dry basis) | IS : 7224 : 2006 Annex D | 90 % to 99.6 % |
| | | Matter soluble in water other than NaCl by mass (on dry basis) | IS : 7224 : 2006 Annex E | 0.1 % to 5 % |
| | | Iodine Content (on dry basis) | IS : 7224 : 2006 Annex H | 5 PPM to 100 PPM |