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|---|---|---|---|
| **Laboratory** | **Ashwamedh Engineers & Consultants Co-op. Soc. Ltd., Laboratory Services Division, Survey No. 102, Plot No. 26, Wadala Pathardi Road, Indira Nagar, Nashik, Maharashtra** | | |
| **Accreditation Standard** | **ISO/IEC 17025: 2005** | | |
| **Discipline** | **Chemical Testing** | **Issue Date** | **02.12.2014** |
| **Certificate Number** | **T-1188** | **Valid Until** | **01.12.2016** |
| **Last Amended on** | **19.12.2014** | **Page** | **1 of 134** |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| **I.** | **AIR, GASES & ATMOSPHERE** | | | |
| **1.** | **Ambient Air Quality Monitoring, Fugitive Emission Monitoring, Workroom Environment Ambient Air Quality Monitoring** | Suspended Particulate Matter | IS 5182 (Part 4): 1999, (RA 2005) (High Volume Method ) | 10 - 1000 $\mu g/m^3$ |
| | | Particulate Matter (Size less than 10 µm) or PM10 | IS 5182 (Part 23): 2006<br>CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I,36/2012-13, Page no.11<br>WI/SAP-AA/5/1,<br>Issue no.: 03 Issue date: 01.04.2014<br>(Gravimetric Method) | 2 - 1000 $\mu g/m^3$ |
| | | Particulate Matter (Size less than 2.5 µm) or $PM_{2.5}$ | CPCB Guidelines, 36/2012-13, Page no. 15 and Instrument Manufacturer Operating Manual<br>WI/SAP-AA/5/1,<br>Issue no.: 03 Issue date: 01.04.2014<br>(Gravimetric Method) | 0.4- 1000 $\mu g/m^3$ |
| | | Sulphur Dioxide | IS 5182 (Part 2): 2001(RA 2006)<br>CPCB Guidelines, 36/2012-13, Page no.1<br>WI/SAP-AA/5/2,<br>Issue no.: 03 Issue date: 01.04.2014<br>(Improved West & Gaeke Method) | 4 -1000 $\mu g/m^3$ |
| | | Nitrogen Dioxide | IS 5182 (Part 6): 2006<br>CPCB Guidelines, 36/2012-13, Page no.7<br>WI/SAP-AA/5/3,<br>Issue no.: 03 Issue date: 01.04.2014<br>(Modified Jacob & Hochheiser Sodium Arsenite Method) | 3 - 1000 $\mu g/m^3$ |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Ambient Air Quality Monitoring, Fugitive Emission Monitoring, Workroom Environment Ambient Air Quality Monitoring** | Ozone | CPCB Guidelines,36/2012-13, Page no.31 WI/SAP-AA/5/10, Issue no.: 03 Issue date: 01.04.2014 Methods of Air Sampling and Analysis (AWMA),3rd Ed., Method 411, Page no. 403,1988 (Chemical Method) | 19.6-200 μg/m$^3$ |
| | | Ammonia | CPCB Guidelines,36/2012-13, Page no.35 WI/SAP-AA/5/7, Issue no.: 03 Issue date: 01.04.2014 | 40 - 400 μg/m$^3$ |
| | | | Methods of Air Sampling and Analysis (AWMA),3rd Ed, Method 401, Page no.35,1988 (Indophenol Blue Method) | 4.0-400 μg/m$^3$ |
| | | Benzene | IS 5182 (Part 11) : 2006 (RA 2009) (Adsorption and Desorption followed by GC analysis) | 1 - 100 μg/m$^3$ |
| | | Benzo (a) pyrene (BaP) Particulate Phase only | IS 5182 (Part 12): 2004, (RA2009) CPCB Guidelines,36/2012-13, Page no.40 WI/SAP-AAS/5/56, Issue no.: 03 Issue date: 01.04.2014 (Solvent extraction followed by GC analysis) | 0.2 - 100 ng/m$^3$ |
| | | Carbon Monoxide | CPCB Guidelines, 37/2012-13, Page no.16 WI/SAP-AAS/5/17, Issue no.: 03 Issue date: 01.04.2014 (Non Dispersive Infra Red (NDIR)Spectroscopy Method) | 0.5-20 mg/m$^3$ |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Ambient Air Quality Monitoring, Fugitive Emission Monitoring, Workroom Environment** | Chlorine | IS 5182 (Part XIX): 1982, (RA 2006 (Colorimetric Method)) | 1 - 200 μg/m$^3$ |
| | | Hydrogen Sulphide | IS 5182 (Part VII): 1973, (RA 2009,Amds.1 (Colorimetric Method) | 6 - 400 μg/m$^3$ |
| | **Ambient Air Quality Monitoring** | Lead | IS 5182 (Part 22): 2004, (RA 2009) CPCB Guidelines,36/2012-13, Page no. 48 WI/SAP-AAS/5/17, Issue no.: 03 Issue date: 01.04.2014 Methods of Air Sampling and Analysis (AWMA),3rd Ed, Method 822, Page no. 608,1988 EPA/625/R-96/010 a Compendium Method IO-3.1 & 3.2, Jun 1999 (AAS Method) | 0.02 - 500 μg/m$^3$ |
| | | Nickel | CPCB Guidelines,36/2012-13, Page no. 48 WI/SAP-AAS/5/17, Issue no.: 03 Issue date: 01.04.2014 Methods of Air Sampling and Analysis (AWMA),3rd Ed, Method 822, Page no. 608,1988 EPA/625/R-96/010 a Compendium Method IO-3.1 & 3.2, Jun 1999 (AAS Method) | 3- 500 μg/m$^3$ |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Ambient Air Quality Monitoring, Fugitive Emission Monitoring, Workroom Environment Ambient Air Quality Monitoring** | Arsenic | CPCB Guidelines,36/2012-13, Page no. 48<br>WI/SAP-AAS/5/17,<br>Issue no.: 03 Issue date: 01.04.2014<br>EPA/625/R-96/010 a Compendium Method IO-3.1 & 3.2, Jun 1999<br>(AAS Method) | 0.3 - 500 ng/$m^3$ |
| | | Iron | EPA/625/R-96/010 a Compendium Method IO-3.1 & 3.2, Jun 1999<br>Methods of Air Sampling and Analysis (AWMA),3rd Ed, Method 822, Page no. 608,1988<br>(AAS Method) | 0.02 - 500 µg/$m^3$ |
| | | Chromium | EPA/625/R-96/010 a Compendium Method IO-3.1 & 3.2, Jun 1999<br>Methods of Air Sampling and Analysis (AWMA),3rd Ed, Method 822, Page no. 608,1988<br>(AAS Method) | 0.02 - 500µg/$m^3$ |
| | | Cadmium | EPA/625/R-96/010 a Compendium Method IO-3.1 & 3.2, Jun 1999<br>Methods of Air Sampling and Analysis (AWMA),3rd Ed, Method 822, Page no. 608,1988 (AAS Method) | 0.02 - 500µg/$m^3$ |
| | | Copper | EPA/625/R-96/010 a Compendium Method IO-3.1 & 3.2, Jun 1999<br>Methods of Air Sampling and Analysis (AWMA),3rd Ed, Method 822, Page no. 608,1988 (AAS Method) | 0.02 - 500µg/$m^3$ |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Ambient Air Quality Monitoring, Fugitive Emission Monitoring, Workroom Environment** | Zinc | EPA/625/R-96/010 aCompendium Method IO-3.1 & 3.2, Jun 1999 Methods of Air Sampling and Analysis (AWMA),3rd Ed, Method 822, Page no. 608,1988 (AAS Method) | 0.02 - 500µg/m$^3$ |
| | **Ambient Air Quality Monitoring** | Mercury | EPA/625/R-96/010 a Compendium Method IO-3.4 (ICP Method),Jun 1999 Sampling & Analysis for Atmosphere Mercury, Ministry, of Environment,Japan,Mar 2004 (Cold Vapour AAS Method) | 0.06- 50 µg/m$^3$ |
| **2.** | **Stack Emission Monitoring** | Particulate Matter | IS 11255 (Part 1): 1985, (RA 2003) CPCB, Emission Regulations, Part 3,1985 (Gravimetric Method) WI/SAP-SA/5/13, Issue no.: 03 Issue date: 01.04.2014 | 10 -1000 mg/Nm$^3$ |
| | | Sulphur Dioxide | IS 11255 (Part 2): 1985, (RA 2003) CPCB, Emission Regulations, Part 3,1985 (Titrimetric IPA thorine Method) WI/SAP-SA/5/15, Issue no.: 03 Issue date: 01.04.2014 | 5 - 500 mg/Nm$^3$<br>> 2 ppm<br>> 0.02 kg/day |
| | | Oxides of Nitrogen | IS 11255 (Part 7): 2005 (PDSA Colorimetric Method ) | 10 - 500 mg/Nm$^3$ |
| | | Carbon Dioxide | IS 13270:1992, (RA 2009 (ORSAT Method) | 0.2 – 15 % |
| | | Carbon Monoxide | IS 13270:1992, (RA 2009 (ORSAT Method) | 0.2 – 6 % |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Stack Emission Monitoring** | Oxygen | IS 13270:1992, (RA 2009) (ORSAT Method) | 1 – 21 % |
| | | Mercury | US EPA Method no.29, Feb 2014 CPCB Guidelines on Methodologies for source emission monitoring Laboratory Analytical Techniques WI/S/5/39 Series: LATS/80/2013-2014 (Cold Vapour AAS Method) | 0.06-50mg/Nm3 |
| **3.** | **Noise Level Measurement** | Ambient Noise level Measurement ($L_d$,$L_n$,$L_{dn}$,$L_{min}$,$L_{max}$,$L_{50}$,$L_{90}$, $L_{10}$) | IS 9876:1981 & Manufacturer Manual,WI/S/5/35 & 36, Issue no.3, Issue date 01.04.2014 | 30 – 130 dB (A) |
| **II.** | **POLLUTION & ENVIRONMENT** | | | |
| **1.** | **Liquid Effluents and Waste Water** | Ammonical Nitrogen | APHA,22nd Ed.,2012, 4500 $NH_3$, B & C, 4 -110, 4-112 (Titrimetric Method) | 5 - 1000 mg/L |
| | | | APHA,22nd Ed., 2012, 4500 $NH_3$, F, 4 -115 (Colorimetric Method) | 0.1- 50 mg/L |
| | | Arsenic | APHA,22nd Ed.,2012, 3114-C, 3-38 IS 3025 (Part 37):1988, (RA 2009) (Continuous Hydride AAS Method) | 0.01 - 100 mg/L |
| | | | APHA, 22nd Ed., 2012,3120B,3-39 IS 3025 (Part 2): 2004 / ISO 11885:1996 (ICP Method) | 0.005- 100 mg/L |
| | | Biochemical Oxygen Demand | APHA,22nd Ed.,2012, 5210-B, 5-5 (5 days, 20 $^oC$) (Iodometric Method) | 1 - 50000 mg/L |
| | | | IS 3025 (Part 44): 1993,(RA 2009,Amds.1 (3 days, 27 $^oC$) (Iodometric Method) | 1 - 50000 mg/L |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Liquid Effluents and Waste Water** | Cadmium | APHA,22 nd Ed.,2012, 3111-B, 3-18<br>IS 3025 (Part 41):1992, (RA 2009)<br>(AAS Method) | 0.1 - 100 mg/L |
| | | | APHA,22 nd Ed.,2012,3120B,3-40<br>IS 3025 (Part 2): 2004 /<br>ISO 11885:1996 (ICP Method) | 0.002- 100 mg/L |
| | | Calcium | APHA,22 nd Ed.,2012, 3500-B, 3-65<br>IS 3025 (Part 40): 1991, (RA 2009)<br>Ed.2.1 (2004-02), Amds.1<br>(EDTA Titrimetric Method) | 0.4 - 10000 mg/L |
| | | | IS 3025(Part 2): 2004 /<br>ISO 11885:1996 (ICP Method) | 0.5- 10000 mg/L |
| | | Chemical Oxygen Demand | APHA,22 nd Ed.,2012,5220-B, 5-17<br>IS 3025 (Part 58) : 2006<br>(Open Reflux Method) | 5 - 100000 mg/L |
| | | Chloride | APHA,22 nd Ed.,2012, 4500-Cl, B,4-72<br>IS 3025 (Part 32):1988, (RA2009)<br>(Argentometric Method) | 0.25 – 10000mg/L |
| | | Chromium (Hexa) | APHA,22 nd Ed.,2012,3500-Cr, B, 3-69<br>IS 3025 (Part 52): 2003, (RA 2009)<br>(Colorimetric Method) | 0.02 - 100 mg/L |
| | | Chromium (Total) | APHA,22 nd Ed.,2012,3111 B,3-18<br>IS 3025 (Part 52): 2003, (RA 2009)<br>(AAS Method) | 0.1 - 1000 mg/L |
| | | | APHA,22 nd Ed.,2012,3120 B,3-40<br>IS 3025 (Part 2): 2004 / ISO 11885:1996<br>(ICP Method) | 0.02 - 1000 mg/L |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Liquid Effluents and Waste Water** | Colour (Co- Pt) | APHA,22 nd Ed.,2012,2120-B,2-6<br>IS 3025 (Part 4): 1983, (RA 2006)<br>(Visible Comparison Method) | 1- 700 Hazen units |
| | | Copper | APHA,22 nd Ed.,2012,3111-B, 3-18<br>IS 3025 (Part 42): 1992, (RA 2009)<br>Amds.1 (AAS Method) | 0.04 - 1000 mg/L |
| | | | APHA,22 nd Ed.,2012,3120B,3-40<br>IS 3025 (Part 2): 2004 /<br>ISO 11885:1996<br>(ICP Method) | 0.02-1000 mg/L |
| | | Cyanide | APHA,22 nd Ed.,2012, 4500-CN, C & E, 4-41 & 4-44<br>IS 3025 (Part 27):1986, (RA 2009)<br>Ed. 2.1,Amds.1(Colorimetric Method) | 0.001 - 100 mg/L |
| | | | APHA,22 nd Ed.,2012,<br>4500-CN, C & D, 4-41 & 4-43<br>(Titrimetric Method) | 1-100 mg/L |
| | | Dissolved Oxygen | APHA,22 nd Ed.,2012, 4500-O,B & C,4-137 & 4-139<br>IS 3025 (Part 38): 1989, (RA 2009)<br>(Iodometric Method-Azide modification) | 0.05 - 15 mg/L |
| | | Iron | APHA,22 nd Ed.,2012, 3111-B, 3-18<br>IS 3025 (Part 53):2003, (RA 2009)<br>(AAS Method) | 0.08 - 1000 mg/L |
| | | | APHA,22 nd Ed.,2012,3120B,3-40<br>IS 3025 (Part 2): 2004 / ISO 11885:1996 (ICP Method) | 0.06 - 1000 mg/L |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Liquid Effluents and Waste Water** | Lead | APHA,22 nd Ed.,2012,3111-B, 3-18<br>IS 3025 (Part 47):1994, (RA 2009) Amds. 2 (AAS Method) | 0.1- 100 mg/L |
| | | | APHA,22 nd Ed.,2012,3120B,3-40<br>IS 3025 (Part 2): 2004 /<br>ISO 11885:1996 (ICP Method) | 0.008 - 100 mg/L |
| | | Manganese | APHA,22 nd Ed.,2012, 3111-B, 3-18 (AAS Method) | 0.05 - 100 mg/L |
| | | | APHA,22 nd Ed.,2012,3120B,3-40<br>IS 3025 (Part 2): 2004 /<br>ISO 11885:1996 (ICP Method) | 0.02 – 100mg/L |
| | | Mercury | APHA,22 nd Ed.,2012,3112-B, 3-23<br>IS 3025 (Part 48): 1994 (RA 2009) Amds.1 &<br>Instrument Manufacturer manual (Flameless (cold vapour) AAS Method) | 0.005-100 mg/L |
| | | | IS 3025 (Part 2): 2004 /<br>ISO 11885:1996 (ICP Method) | 0.0008 – 100 mg/L |
| | | Molybdenum | APHA,22 ndEd.,2012,3120B,3-40<br>IS 3025 (Part 2): 2004 /<br>ISO 11885:1996 (ICP Method) | 0.002–100 mg/L |
| | | Nickel | APHA,22 nd Ed.,2012,3111 B,3-18<br>IS 3025 (Part 54):2009 (AAS Method) | 0.06-100 mg/L |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Liquid Effluents and Waste Water** | | APHA,22 nd Ed.,2012,3120B,3-40<br>IS 3025 (Part 2): 2004 /<br>ISO 11885:1996 (ICP Method) | 0.01 – 100 mg/L |
| | | Nitrate | APHA,22 nd Ed.,2012,<br>4500-$NO_3$ B-4-122<br>(UV-Spectrophotometric Screening Method) | 0.2 – 1000 mg $NO_3$/L |
| | | | US EPA Method no.352.1,1971<br>(Brucine Colorimetric Method) | 0.1 – 1000 mg $NO_3$/L |
| | | pH | APHA,22 nd Ed., 2012 ,<br>4500-$H^+$ -B, 4-92<br>IS 3025 (Part 11):1983, (RA 2006)<br>(By pH Meter) | 1-14 |
| | | Oil & Grease | APHA,22 nd Ed.,2012,5520-B, 5-40<br>IS 3025 (Part 39):1991, (RA 2009) Amds.1<br>(Liquid -liquid Partition- Gravimetric Method) | 1 - 1000 mg/L |
| | | Potassium | APHA,22 nd Ed.,2012,3500-K, B, 3-87<br>IS 3025 (Part 45): 1993, (RA 2009) Amds.1<br>(AAS Method (In emission mode)<br>(Flame Photometer Method) | 0.06 – 1000 mg/L |
| | | | APHA,22 nd Ed.,2012,<br>3120B,3-39<br>IS 3025 (Part 2): 2004 / ISO 11885:1996 (ICP Method) | 0.5 - 1000 mg/L |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Liquid Effluents and Waste Water** | Phenol | APHA,22 nd Ed.,2012, 5530- B & C,5-47<br>IS 3025 (Part 43):1992 ,(RA 2009) Ed.2.2 (2003-03)<br>(Chloroform Extraction Method) | 0.001 - 100 mg/L |
| | | Phosphate (Total, Ortho & Dissolved) | APHA,22 nd Ed.,2012, 4500 P,E, 4-155<br>(Ascorbic Acid Method) | 0.1 - 500 mg/L |
| | | Sodium | APHA,22 nd Ed.,2012, 3500-Na, B, 3-97<br>IS 3025 (Part 45): 1993, (RA 2009) Amds.1<br>(AAS Method (In emission mode)<br>(Flame Photometer Method) | 0.2 - 1000 mg/L |
| | | | APHA,22 ndEd.,2012,3120B,3-40<br>IS 3025 (Part 2): 2004/ ISO 11885:1996 (ICP Method) | 0.5 - 1000 mg/L |
| | | Sodium Absorption Ratio | IS11624 :1986,(RA 2006)<br>By Calculation | 0.3 - 30 |
| | | Sulphide | APHA,22 nd Ed.,2012, 4500 $-S^2$ , C-4-175, F-4-178<br>IS 3025 (Part 29):1986, (RA 2009)<br>(Iodometric Method) | 0.08 - 50 mg/L |
| | | Sulphate | APHA,22 nd Ed.,2012, 4500- $SO_4$, E,4-190<br>IS 3025 (Part 24): 1986, (RA 2009)<br>(Turbidimetric Method) | 2 - 10000 mg/L |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Liquid Effluents and Waste Water** | Total Kjeldahl Nitrogen | APHA,22 nd Ed.,2012, 4500 $NH_3$, B & C, 4 -110, 4-112 or F, 4 -115 & 4500 $N_{Org.}$, B, 4-135 (Kjeldahl method) | 0.1 - 10000 mg/L |
| | | Total Dissolved Solids | APHA,22 nd Ed.,2012 , 2540 C,2-65<br>IS 3025 (Part 16):1984,(RA 2006) Amds.1, Ed.2.1(1999-12) (Filtration/ Gravimetric Method) | 5 - 10000 mg/L |
| | | Total Solids | APHA,22 nd Ed.,2012,2540-B,2-64<br>IS 3025 (Part 15):1984, (RA 2009) Amds.1 (Gravimetric Method) | 5 - 10000 mg/L |
| | | Total Suspended Solids | APHA,22 ndEd.,2012, 2540-D,2-66<br>IS 3025 (Part 17):1984,(RA 2006) Amds.1 (Filtration /Gravimetric Method) | 5 - 10000 mg/L |
| | | Total Volatile Solids | APHA,22 nd Ed.,2012,2540-E,2-67<br>IS 3025 (Part 18): 1984, (RA 2006, Amds.1 (Ignition/ Gravimetric Method) | 5 - 10000 mg/L |
| | | Zinc | APHA,22 nd Ed.,2012, 3111-B, 3-18<br>IS 3025 (Part 49): 1994, (RA 2009) Amds.1(AAS Method)<br>APHA,22 nd Ed.,2012,3120B,3-40<br>IS 3025 (Part 2): 2004 / ISO 11885:1996 (ICP Method) | 0.01 - 1000 mg/L<br>0.05 - 1000 mg/L |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Liquid Effluents and Waste Water** | Boron | APHA,22nd Ed.,2012, 4500-B -C,4-27 (Carmine Method) | 1-100 mg/L |
| | | | APHA, 22nd Ed.,2012, 4500-B -B,4-25 Annex H of IS 13428:2005 ,Amds.4 IS 3025 (Part 57):2003, (RA 2009) (Curcumin Method) | 0.1 - 100 mg/L |
| | | | APHA, 22 ndEd., 2012,3120B,3-40 IS 3025(Part 2): 2004 / ISO 11885:1996 (ICP Method) | 0.1 - 100 mg/L |
| **2.** | **Solid Waste, Hazardous Waste, Toxic Waste, Municipal Solid Waste & Incinerator Ash** | pH | CPCB Manual LATS/16/2003-2004,Ch. 7,7.4,Page no.167 WI/SAP-HW/5/02, Issue no.3, Issue date: 01.04.2014 IS 10158:1982, (RA 2003) USEPA/SW 846 /9045 D, Rev 4,Nov 2004 (pH Meter) | 1 -14 |
| | | Electrical Conductivity | USEPA Method no.120.1,1982 (Conductivity Meter) | 1-20 mS/cm |
| | | Solids | CPCB Manual LATS/16/2003-2004, Ch.4, 4.7.1,Page no.34 WI/SAP-HW/5/04, Issue no.3, Issue date: 01.04.2014 (Gravimetric Method) | 1 -100 % by mass |
| | | Water content | CPCB Manual LATS/16/2003-2004, Ch.4, 4.7.3,Page no.35 WI/SAP-HW/5/05, Issue no.3, Issue date: 01.04.2014 (Karl Fischer Method) | 0.1 - 50 % by mass |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Solid Waste, Hazardous Waste, Toxic Waste, Municipal Solid Waste & Incinerator Ash** | Loss on Drying/Dry Substances/ Moisture | CPCB Manual LATS/16/2003-2004,Ch. 4, 4.7.2,Page no. 34<br>WI/SAP-HW/5/06,<br>Issue no.3, Issue date: 01.04.2014<br>IS 9235:1979,(RA 2003<br>Ed. 1.1,Amds.1<br>(Gravimetric Method) | 1 - 100 % by mass |
| | | Loss on Ignition /Total Organic Matter/ Volatile Substances/ Organic Content | IS 10158:1982, (RA 2003)<br>(Gravimetric Method) | 1 - 90 % by mass |
| | | Non Volatile Substances | IS 10158:1982, (RA 2003)<br>(Gravimetric Method) | 0.1 - 90 % by mass |
| | | Kjeldhal Nitrogen | IS 10158: 1982, (RA 2003)<br>(Kjeldahl Method) | 50-5000 mg/kg<br>0.5-5 % by mass |
| | | Potassium | IS 10158: 1982, (RA 2003)<br>(Flame Photometer Method) | 10-1000 mg/kg |
| | | Chloride | USEPA/SW 846/ 9253,Rev0,Sept 1994<br>(Titrimetric Method) | 50-5000 mg/kg |
| | | Phosphorous | IS 10158: 1982, (RA 2003)<br>(Titrimetric Method) | 10-1000 mg/kg |
| | | Calorific Value (Gross Calorific Value ) | IS 10158: 1982, (RA 2003)<br>IS 1350(Part II):1970<br>(Bomb Calorimeter Method) | 200-5000 kcal/kg |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Solid Waste, Hazardous Waste, Toxic Waste, Municipal Solid Waste & Incinerator Ash** | Flash Point / Ignitability | CPCB Manual LATS/16/2003-2004,Ch.7, 7.2,Page no.166<br>WI/SAP-HW/5/14, Issue no.3, Issue date: 01.04.2014<br>(Flash Point Apparatus) | Ignitable / Non- ignitable<br>25 °C to 250°C |
| | | Sulphate | USEPA/SW 846/ 9038, Rev 0,Sept 1986<br>(Turbidimetric Method) | 50-5000 mg/kg |
| | | Oil & Grease<br>(Hexane Extractable Matter) | USEPA/SW 846/ 9071B, Rev2 Apr 1998<br>(Soxhlet Extraction, Gravimetric Method) | 1 - 1000 mg/kg |
| | | **Metal Total** | | |
| | | Aluminum | USEPA/SW 846/ 6010 C,Rev 3,Feb 2007<br>(ICP Method) | 1-2000 mg/kg |
| | | Antimony | USEPA/SW846/7062,Rev 0,Sept 1994 & 7000B ,Rev2,Feb 2007<br>(AAS Method) | 0.2-100 mg/kg |
| | | | USEPA /SW 846/ 6010 C, Rev 3,Feb 2007 (ICP Method) | 0.1-100 mg/kg |
| | | Arsenic | CPCB Manual LATS/16/2003-2004,Ch.5,5.6,Page no. 56<br>WI/SAP-AAS/5/30,<br>Issue no.3, Issue date: 01.04.2014<br>USEPA/SW846/7062, Rev 0,Sept 1994 & 7000B,Rev2,Feb 2007<br>(AAS Method) | 0.1-500 mg/kg |
| | | | USEPA Method no.200.7, Rev.4.4,1994<br>USEPA/SW 846/ 6010 C, Rev 3,Feb 2007 (ICP Method) | 0.01-500 mg/kg |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Solid Waste, Hazardous Waste, Toxic Waste, Municipal Solid Waste & Incinerator Ash** | **Metal Total** | | |
| | | Barium | USEPA/SW 846/ 6010 C, Rev 3,Feb 2007 (ICP Method) | 10-25000 mg/kg |
| | | Boron | USEPA/SW 846/ 6010 C, Rev 3,Feb 2007 (ICP Method) | 5-5000 mg/kg |
| | | Cadmium | CPCB Manual LATS/16/2003-2004,Ch.5,5.4,Page no. 42<br>WI/SAP-AAS/5/33, Issue no.3, Issue date: 01.04.2014<br>USEPA/SW846/7000B, Rev2,Feb 2007 (AAS Method) | 5-500 mg/kg |
| | | | USEPA, Method no. 200.7, Rev.4.4,1994<br>USEPA/SW 846/ 6010 C, Rev 3,Feb 2007 (ICP Method) | 0.1-500 mg/kg |
| | | Calcium | USEPA, Method no. 200.7, Rev.4.4,1994 (ICP Method) | 10-5000 mg/kg |
| | | Chromium | CPCB Manual LATS/16/2003-2004, Ch.5,5.4,Page no. 42<br>WI/SAP-AAS/5/33, Issue no.3, Issue date: 01.04.2014<br>USEPA/SW846/7000B, Rev2,Feb 2007 (AAS, Method) | 5-500 mg/kg |
| | | | USEPA Method no. 200.7, Rev.4.4,1994<br>USEPA/SW 846/ 6010 C, Rev3,Feb 2007 (ICP Method) | 1-500 mg/kg |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Solid Waste, Hazardous Waste, Toxic Waste, Municipal Solid Waste & Incinerator Ash** | **Metal Total** | | |
| | | Chromium (Hexavalent) | USEPA/SW 846/7196 A, Rev1,Jul 1992 (Spectrophotometer Method) | 10- 500 mg/kg |
| | | Cobalt | USEPA/SW 846/ 6010 C, Rev 3,Feb 2007 (ICP Method) | 0.5-10000 mg/kg |
| | | Copper | CPCB Manual LATS/16/2003-2004, Ch.5,5.4,Page no. 42<br>WI/SAP-AAS/5/33, Issue no.3, Issue date: 01.04.2014<br>USEPA/SW846/7000B, Rev2, Feb 2007 (AAS Method)<br>USEPA, Method no. 200.7, Rev.4.4,1994<br>USEPA/SW 846/6010 C, Rev 3,Feb 2007 (ICP Method) | 2-10000 mg/kg<br>1.0 - 10000 mg/kg |
| | | Iron | CPCB Manual LATS/16/2003-2004, Ch.5,5.4,Page no. 42<br>WI/SAP-AAS/5/33, Issue no.3, Issue date: 01.04.2014<br>USEPA/SW846/7000B , Rev2,Feb 2007 (AAS Method)<br>USEPA, Method no.200.7, Rev.4.4,1994<br>USEPA/SW 846/6010 C, Rev 3,Feb 2007 (ICP Method) | 3.0-10000 mg/kg<br>1.0- 10000 mg/kg |
| | | Lead | CPCB Manual LATS/16/2003-2004, Ch.5,5.4,Page no. 42<br>WI/SAP-AAS/5/33, Issue no.3, Issue date: 01.04.2014<br>USEPA/SW846/7000B,Rev2, Feb 2007 (AAS Method) | 1.0-10000 mg/kg |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Solid Waste, Hazardous Waste, Toxic Waste, Municipal Solid Waste & Incinerator Ash** | **Metal Total** | USEPA, Method no. 200.7, Rev.4.4,1994<br>USEPA /SW 846/ 6010 C, Rev 3,Feb 2007 (ICP Method) | 0.5-10000 mg/kg |
| | | Magnesium | USEPA, Method no. 200.7, Rev.4.4,1994 (ICP Method) | 10-5000 mg/kg |
| | | Manganese | USEPA, Method no. 200.7, Rev.4.4,1994<br>USEPA/SW 846/ 6010 C, Rev 3,Feb 2007 (ICP Method) | 1 -10000 mg/kg |
| | | Mercury | CPCB Manual LATS/16/2003-2004, Ch.5,5.7,Page no. 62<br>WI/SAP-AAS/5/32, Issue no.3, Issue date: 01.04.2014<br>USEPA/SW846/7471 A , Feb 2007 (AAS Method)<br>USEPA, Method no. 200.7, Rev.4.4,1994<br>USEPA/SW 846/ 6010 C, Rev 3,Feb 2007 (ICP Method) | 0.04-1000 mg/kg<br>0.01-1000 mg/kg |
| | | Molybdenum | USEPA/SW 846/ 6010 C, Rev 3,Feb 2007 (ICP Method) | 1.0-10000 mg/kg |
| | | Nickel | CPCB Manual LATS/16/2003-2004, Ch.5,5.4,Page no. 42<br>WI/SAP-AAS/5/32, Issue no.3, Issue date: 01.04.2014<br>USEPA/SW/846/7000B, Rev2,Feb 2007 (AAS Method) | 3 -10000 mg/kg |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Solid Waste, Hazardous Waste, Toxic Waste, Municipal Solid Waste & Incinerator Ash** | **Metal Total** | USEPA, Method no. 200.7, Rev.4.4,1994<br>USEPA/SW 846/6010 C, Rev 3,Feb 2007 (ICP Method) | 2.5-10000 mg/kg |
| | | Potassium | USEPA/SW846/7000B, Rev2,Feb 2007 (AAS Method) | 3-1000 mg/kg |
| | | | USEPA, Method no. 200.7, Rev.4.4,1994<br>USEPA/SW 846/6010 C, Rev 3,Feb 2007 (ICP Method) | 3-1000 mg/kg |
| | | Selenium | CPCB Manual LATS/16/2003-2004,Ch.5,5.6,Page no. 56<br>WI/SAP-AAS/5/57, Issue no.3, Issue date: 01.04.2014<br>USEPA/SW846/7742,Rev0Sept 1994 & 7000B ,Rev2,Feb 2007 (AAS Method) | 2-100 mg/kg |
| | | | USEPA,Method no. 200.7, Rev.4.4,1994<br>USEPA/SW 846/6010 C, Rev 3,Feb 2007 (ICP Method) | 0.5-100 mg/kg |
| | | Silver | CPCB Manual LATS/16/2003-2004, Ch.5,5.4,Page no. 42<br>WI/SAP-AAS/5/32, Issue no.3, Issue date: 01.04.2014<br>USEPA/SW846/7000B,Rev2,Feb 2007 (AAS Method) | 2 -10000 mg/kg |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Solid Waste, Hazardous Waste, Toxic Waste, Municipal Solid Waste & Incinerator Ash** | **Metal Total** | USEPA,Method no. 200.7, Rev.4.4,1994<br>USEPA/SW 846/6010 C, Rev 3,Feb 2007 (ICP Method) | 0.5-10000 mg/kg |
| | | Sodium | USEPA/SW846/7000B, Rev2,Feb 2007 (AAS Method) | 3-10000 mg/kg |
| | | | USEPA,Method no. 200.7, Rev.4.4,1994<br>USEPA/SW 846/6010 C, Rev 3,Feb 2007 (ICP Method) | 3-10000 mg/kg |
| | | Tin | USEPA/SW 846/6010 C, Rev 3,Feb 2007 (ICP Method) | 1-1000 mg/kg |
| | | Vanadium | USEPA/SW 846/6010 C, Rev 3,Feb 2007 (ICP Method) | 1-10000 mg/kg |
| | | Zinc | CPCB Manual LATS/16/2003-2004,Ch.5,5.4,Page no.42<br>WI/SAP-AAS/5/32, Issue no.3, Issue date: 01.04.2014<br>USEPA/SW846/7000B, Rev2,Feb 2007(AAS Method) | 2.5-1000 mg/kg |
| | | | USEPA,Method no.200.7, Rev.4.4,1994<br>USEPA/SW 846/6010 C, Rev 3,Feb 2007 (ICP Method) | 2.5-1000 mg/kg |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Solid Waste, Hazardous Waste, Toxic Waste, Municipal Solid Waste & Incinerator Ash** | **TCLP (Toxicity Characteristic Leaching Procedure), Metals in Leachate** | | |
| | | Arsenic | CPCB Manual LATS/16/2003-2004,Ch.5,5.6,Page no. 56 & 170<br>WI/SAP-AAS/5/34, Issue no.3, Issue date: 01.04.2014<br>USEPA/SW846/1311,Rev 0,July 1992 & 7062 Rev0,Sept 1994 & 7000B ,Rev2,Feb 2007 (AAS Method) | 0.1- 100 mg/L |
| | | | USEPA,Method no. 200.7 Rev.4.4,1994<br>& 1311, Rev0,July 1992<br>USEPA /SW 846/6010 C, Rev 3,Feb 2007 & 1311, Rev0,July 1992<br>(ICP Method) | 0.1-100 mg/L |
| | | Cadmium | CPCB Manual LATS/16/2003-2004,Ch.5,5.4,Page no. 42 & 170<br>WI/SAP-AAS/5/34, Issue no.3, Issue date: 01.04.2014<br>USEPA/SW 846/1311,Rev 0,July 1992 &7000B ,Rev2,Feb 2007<br>(AAS Method) | 0.1- 200 mg/L |
| | | | USEPA,Method no. 200.7, Rev.4.4,1994<br>& 1311, Rev0,July 1992<br>USEPA/SW 846/ 6010 C,Rev 3, Feb 2007 & 1311,Rev 0,July 1992<br>(ICP Method) | 0.1-200 mg/L |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Solid Waste, Hazardous Waste, Toxic Waste, Municipal Solid Waste & Incinerator Ash** | **TCLP (Toxicity Characteristic Leaching Procedure), Metals in Leachate** Total Chromium | CPCB Manual LATS/16/2003-2004,Ch.5,5.4,Page no. 42 &170 WI/SAP-AAS/5/34, Issue no.3, Issue date: 01.04.2014 USEPA/SW 846/1311,Rev0,July 1992 & 7000B ,Rev2,Feb 2007 (AAS Method) | 0.1- 1000 mg/L |
| | | | USEPA, Method no. 200.7, Rev.4.4,1994 & 1311,Rev0,July 1992 USEPA/SW 846/6010 C, Rev 3,Feb 2007 & 1311, Rev0,July 1992 (ICP Method) | 0.1-1000mg/L |
| | | Chromium (Hexavalent) | USEPA/SW 846/7196 A, Rev1,Jul 1992 (Spectrophotometer Method) | 0.2- 1000 mg/L |
| | | Iron | CPCB Manual LATS/16/2003-2004,Ch.5,5.4,Page no. 42 & 170 WI/SAP-AAS/5/34, Issue no.3, Issue date: 01.04.2014 USEPA/SW 846/1311,Rev 0,July 1992 &7000B,Rev2,Feb 2007 (AAS Method) | 0.5- 1000 mg/L |
| | | | USEPA, Method no. 200.7, Rev.4.4,1994 & 1311,Rev0,July 1992 USEPA/SW 846/ 6010 C,Rev 3, Feb 2007 &1311,Rev0,July 1992 (ICP Method) | 0.1-1000mg/L |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Solid Waste, Hazardous Waste, Toxic Waste, Municipal Solid Waste & Incinerator Ash** | **TCLP (Toxicity Characteristic Leaching Procedure), Metals in Leachate** | CPCB Manual LATS/16/2003-2004,Ch.5,5.4,Page no. 42 &170<br>WI/SAP-AAS/5/34,<br>Issue no.3, Issue date: 01.04.2014 | 0.1- 100 mg/L |
| | | Lead | USEPA/SW 846/1311,Rev0,July 1992 & 7000B,Rev2,Feb 2007 (AAS Method) | |
| | | | USEPA, Method no. 200.7, Rev.4.4,1994 & 1311, Rev0,July 1992<br>USEPA/SW 846/ 6010 C,Rev 3, Feb 2007 & 1311,Rev0,July 1992 (ICP Method) | 0.1-1000mg/L |
| | | Nickel | CPCB Manual LATS/16/2003-2004,Ch.5,5.4,Page no.42 &170<br>WI/SAP-AAS/5/34,<br>Issue no.3, Issue date: 01.04.2014<br>USEPA/SW 846/1311,Rev0,July 1992 &7000B ,Rev2,Feb 2007 (AAS Method) | 1 - 1000 mg/L |
| | | | USEPA, Method no. . 200.7, Rev.4.4,1994 & 1311,Rev0,July 1992<br>USEPA/SW 846/ 6010 C,Rev 3, Feb 2007 & 1311 Rev0,July 1992 (ICP Method) | 0.1-1000mg/L |
| | | Selenium | CPCB Manual LATS/16/2003-2004,Ch.5,5.6,Page no.56 &170<br>WI/SAP-AAS/5/34,<br>Issue no.3, Issue date: 01.04.2014<br>USEPA/SW 846/1311,Rev0,July 1992 &7742,Rev0,Sept 1994 (AAS Method) | 0.1-100mg/L |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Solid Waste, Hazardous Waste, Toxic Waste, Municipal Solid Waste & Incinerator Ash** | **TCLP (Toxicity Characteristic Leaching Procedure), Metals in Leachate** | USEPA, Method no. . 200.7, Rev.4.4,1994 & 1311, Rev0,July 1992 USEPA/SW 846/ 6010 C,Rev 3,Feb 2007 &1311,Rev0,July 1992 (ICP Method) | 0.1-100mg/L |
| | | Silver | CPCB Manual LATS/16/2003-2004,Ch.5,5.4,Page no. 42 & 170 WI/SAP-AAS/5/34, Issue no.3, Issue date: 01.04.2014 USEPA/SW 846/1311,Rev0,July 1992 &7000B ,Rev2,Feb 2007 (AAS Method) | 0.5-500mg/L |
| | | | USEPA, Method no. . 200.7, Rev.4.4,1994 & 1311, Rev0,July 1992 USEPA/SW 846/ 6010 C,Rev 3,Feb 2007 & 1311,Rev0,July 1992 (ICP Method) | 0.1-500 mg/L |
| | | Barium | USEPA, Method no. . 200.7, Rev.4.4,1994 & 1311, Rev0,July 1992 USEPA/SW 846/6010 C,Rev 3,Feb 2007 /200.8 & 1311,Rev0,July 1992 (ICP Method) | 10-1000 mg/L |
| | | Mercury | CPCB Manual LATS/16/2003-2004,Ch.5,5.7,Page no. 62 WI/SAP-AAS/5/34 Issue no.3, Issue date: 01.04.2014 USEPA/SW846/1311,Rev0,July 1992 &7471 B,Rev2, Feb 2007 (AAS Method) | 0.04-50 mg/L |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Solid Waste, Hazardous Waste, Toxic Waste, Municipal Solid Waste & Incinerator Ash** | **TCLP (Toxicity Characteristic Leaching Procedure), Metals in Leachate** | USEPA, Method no. . 200.7, Rev.4.4,1994 & 1311, Rev0,July 1992 USEPA/SW 846/ 6010 C,Rev 3,Feb 2007 & 1311,Rev0,July 1992 (ICP Method) | 0.01-50 mg/L |
| | | Zinc | CPCB Manual LATS/16/2003-2004,Ch.5,5.4,Page no. 42 & 170 WI/SAP-AAS/5/34, Issue no.3, Issue date: 01.04.2014 USEPA/SW 846/1311,Rev0,July 1992 &7000B ,Rev2,Feb 2007 (AAS Method) | 1 - 1000 mg/L |
| | | | USEPA, Method no. . 200.7, Rev.4.4,1994 & 1311, Rev0,July 1992 USEPA/SW 846/6010 C,Rev 3,Feb 2007 &1311,Rev0,July 1992 (ICP Method) | 0.1-1000mg/L |
| **3.** | **Used / Waste Oil** | Sediments | IS 1866 (Annexure A):2000 (Gravimetric Method) | 0.1-40 % |
| | | Lead | CPCB Manual LATS/16/2003-2004,Ch.5,5.4,Page no.42 WI/SAP-AAS/5/35, Issue no.3, Issue date: 01.04.2014 USEPA/SW 846/7000B ,Rev2, Feb 2007 (AAS Method) | 0.5-200 ppm |
| | | | USEPA, Method no. 200.7, Rev.4.4,1994 USEPA/SW 846/6010 C, Rev 3,Feb 2007(ICP Method) | 0.1-200 ppm |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Used / Waste Oil** | Arsenic | CPCB Manual LATS/16/2003-2004,Ch.5,5.6,Page no.56<br>WI/SAP-AAS/5/35, Issue no.3, Issue date: 01.04.2014<br>USEPA/SW846/7062,Rev0,Sept 1994 & 7000B , Jul 1992 (AAS Method) | 0.5-100 ppm |
| | | | USEPA, Method no. 200.7, Rev.4.4,1994<br>USEPA/SW 846/ 6010 C,Rev 3, Feb 2007 (ICP Method) | 0.1-100 ppm |
| | | Cadmium | CPCB Manual LATS/16/2003-2004,Ch.5,5.4,Page no. 42<br>WI/SAP-AAS/5/35, Issue no.3, Issue date: 01.04.2014<br>USEPA/SW 846/ 7000B ,Rev2, Feb 2007 (AAS Method) | 0.5-1000 ppm |
| | | | USEPA, Method no. 200.7, Rev.4.4,1994<br>USEPA/SW 846/ 6010 C,Rev 3, Feb 2007 (ICP Method) | 0.1-1000 ppm |
| | | Chromium | CPCB Manual LATS/16/2003-2004, Ch.5,5.4,Page no. 42<br>WI/SAP-AAS/5/35, Issue no.3, Issue date: 01.04.2014<br>USEPA/SW 846/7000B ,Rev2, Feb 2007 (AAS Method) | 0.5-1000 ppm |
| | | | USEPA, Method no. 200.7, Rev.4.4,1994<br>USEPA/SW 846/6010 C, Rev 3,Feb 2007 (ICP Method) | 0.1-1000 ppm |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Used / Waste Oil** | Nickel | CPCB Manual LATS/16/2003-2004, Ch.5,5.4,Page no. 42<br>WI/SAP-AAS/5/35, Issue no.3, Issue date: 01.04.2014<br>USEPA/SW 846/7000B ,Rev2, Feb 2007(AAS Method)<br>USEPA, Method no. 200.7, Rev.4.4,1994<br>USEPA/SW 846/6010 C,Rev 3, Feb 2007(ICP Method) | 0.5-1000 ppm<br><br>0.1-1000 ppm |
| | | Poly aromatic Hydrocarbons | USEPA/SW 846/ 8100,Sept 1986 (Gas Chromatography Method) | 0.2 mg/kg – 7 % |
| | | Total Halogens | USEPA/SW 846/ 9253,Sept 1994 /5050,Sept 1994 (Titrimetric Method) | 50 - 50000 ppm |
| | | Polychlorinated Biphenyls | USEPA/SW 846/8082,Feb 2007 (Gas Chromatography Method) | 1.0-100 ppm |
| | | Sulphur | IS 1448 (Part 33) :1991,(RA 2008) (Bomb Calorimeter Method) | 50 mg/kg-5% |
| | | Water Content | IS 1448 (Part 40) :1987, (RA 2006 ) (Dean & Stark Method) | 0.1 -10% |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| **4.** | **Work Place Environment/ Indoor Air Quality Monitoring** | Oil Mist | NIOSH-5026, May 1996 (FTIR Method) | 1 – 200 mg/ $m^3$ |
| | | Benzene | NIOSH – 1501, Mar 2003 (Gas Chromatography Method) | 0.1-100 mg/$m^3$ |
| | | Toluene | NIOSH – 1501, Mar 2003 (Gas Chromatography Method) | 0.1-100 mg/ $m^3$ |
| | | Xylene | NIOSH – 1501, Mar 2003 (Gas Chromatography Method) | 0.1-100 mg/ $m^3$ |
| | | Particulates Total | NIOSH – 0500, Aug 1994 (Gravimetric Method) | 0.1-100 mg/ $m^3$ |
| | | Cadmium | NIOSH – 7303, Mar 2003 (ICP Method) | 0.01-100 mg/ $m^3$ |
| | | Chromium | NIOSH – 7303, Mar 2003 (ICP Method) | 0.01-100 mg/ $m^3$ |
| | | Copper | NIOSH – 7303, Mar 2003 (ICP Method) | 0.01-100 mg/ $m^3$ |
| | | Iron | NIOSH – 7303, Mar 2003 (ICP Method) | 0.01-100 mg/ $m^3$ |
| | | Lead | NIOSH – 7303, Mar 2003 (ICP Method) | 0.01-100 mg/ $m^3$ |
| | | Nickel | NIOSH – 7303, Mar 2003 (ICP Method) | 0.01-100 mg/ $m^3$ |
| | | Arsenic | NIOSH – 7303, Mar 2003 (ICP Method) | 0.01-100mg/ $m^3$ |
| | | Zinc | NIOSH – 7303, Mar 2003 (ICP Method) | 0.01-100mg/ $m^3$ |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| **5.** | **Soil** | pH | FAO 1976, Sec. III, 1, Page no.65 (By pH Meter) | 1-14 |
| | | Particle Size Distribution | WI/SAP-Soil/5/03, Issue no. 03, Issue date: 01.04.2014, based on Ref. WLII 1997, Sec. B4, Page no.7 (Hydrometer Method) | 1 to 100 % |
| | | Moisture Content | WI/SAP-Soil/5/02, Issue no. 03, Issue date: 01.04.2014, based on Ref. WLII 1997, Sec. B2, Page no.6 (Gravimetric Method) | 0.5 -50 % |
| | | Organic Carbon | FAO 1976, Sec. III,3, Page no.73 (Titrimetric Method) | 0.025 -50 % |
| | | Total Nitrogen | FAO 1976, Sec. III,4, Page no.78 (Kjeldahl Method) | 20-20000 mg/kg |
| | | Calcium Carbonate | FAO 1976, Sec. III,2-2, Page no.71 (Titrimetric Method) | 5–10000 mg/kg |
| | | Available Nitrogen | FAO 1976, Sec. III,11, Page no.145 (Titrimetric Method) | 20 -10000mg/kg<br>50-25000 kg/ha |
| | | Available Phosphorous | FAO 1976, Sec. III,12-1, Page no.157 (Spectrophotometer Method) | 5 – 5000 mg/kg<br>10-500 kg/ha |
| | | Exchangeable (Available) Potassium | FAO 1976, Sec. III,8-1, Page no.115 (By Flame Photometer) | 1 – 10000 mg/kg<br>20-2000 kg/ha |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Soil** | Exchangeable (Available) Magnesium | FAO 1976, Sec. III,8-1, Page no.115 (Titrimetric Method) | 10 -10000mg/kg |
| | | Exchangeable (Available) Calcium | FAO 1976, Sec. III,8-1, Page no.115 (Titrimetric Method) | 10-10000mg/kg |
| | | Exchangeable (Available) Sodium | FAO 1976, Sec. III,8-1, Page no.115 (By Flame Photometer) | 1 - 10000 mg/kg |
| | | Electrical Conductivity | FAO 1976, Sec. III,5, Page no.85 (Conductivity Meter Method) | 0.05- 10 mmhos/cm |
| | | Available Zinc | WI/SAP-AAS/05/42A, Issue no: 03, Issue date: 01.04.2014, based on Ref. WLII 1997, Sec. B12, Page no.22 (AAS Method) | 0.2 – 1000mg/kg |
| | | Available Iron | WI/SAP-AAS/05/42A, Issue no: 03, Issue date: 01.04.2014, based on Ref. WLII 1997, Sec. B12, Page no.22 (AAS Method) | 0.2 – 1000mg/kg |
| | | Available Copper | WI/SAP-AAS/05/42A, Issue no: 03, Issue date: 01.04.2014, based on Ref. WLII 1997, Sec. B12, Page no.22 (AAS Method) | 0.2 – 1000mg/kg |
| | | Available Manganese | WI/SAP-AAS/05/42A, Issue no: 03, Issue date: 01.04.2014, based on Ref. WLII 1997, Sec. B12, Page no.22 (AAS Method) | 0.2–1000 mg/kg |
| | | Exchangeable Sodium Percentage | ISRIC 2006, Page No.13-58/59 | 1-50 % |
| | | Sodium Absorption Ratio | ISRIC 2006, Page No.13-58/59 | 1-60 |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Soil** | Cation Exchange Capacity | FAO 1976, Sec. III,7-2, Page no.104 (Sodium Acetate Method) (By Flame Photometer) | 1.0-80 meq/ 100 g |
| | | Aluminium | USEPA/SW 846/6010 C, Rev 3,Feb 2007 (ICP Method) | 1.0 -100 mg/kg |
| | | Boron | USEPA/SW 846/6010 C, Rev 3,Feb 2007 (ICP Method) | 5-100 mg/kg |
| | | Cadmium | USEPA/SW 846/7000B , Rev2,Feb 2007(AAS Method)<br>USEPA, Method no. 200.7, Rev.4.4,1994<br>USEPA/SW 846/6010 C, Rev 3,Feb 2007 (ICP Method) | 5-500 mg/kg<br>0.1-500 mg/kg |
| | | Chromium | USEPA/SW 846/7000B,Rev2, Feb 2007(AAS Method)<br>USEPA, Method no. 200.7,Rev.4.4,1994<br>USEPA/SW 846/6010 C, Rev 3,Feb 2007 (ICP Method) | 5-500 mg/kg<br>1.0-500 mg/kg |
| | | Copper | USEPA/SW 846/7000B,Rev2 ,Feb 2007(AAS Method)<br>USEPA, Method no. 200.7, Rev.4.4,1994<br>USEPA/SW 846/ 6010 C, Rev 3,Feb 2007 (ICP Method) | 2-5000 mg/kg<br>1- 5000 mg/kg |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Soil** | Iron | USEPA/SW 846/7000B, Rev2,Feb 2007 (AAS Method) | 3-10000 mg/kg |
| | | | USEPA, Method no. 200.7 Rev.4.4,1994 | 1- 10000 mg/kg |
| | | | USEPA/SW 846/ 6010 C, Rev 3,Feb 2007 (ICP Method) | |
| | | Lead | USEPA/SW 846/7000B , Rev2,Feb 2007(AAS Method) | 1- 1000 mg/kg |
| | | | USEPA, Method no. 200.7, Rev.4.4,1994 | 0.5-1000 mg/kg |
| | | | USEPA/SW 846/6010 C, Rev 3,Feb 2007 (ICP Method) | |
| | | Manganese | USEPA/SW 846/7000B, Rev2,Feb 2007 (AAS Method) | 2.5-1000 mg/kg |
| | | | USEPA, Method no. 200.7, Rev.4.4,1994 | 1 - 1000 mg/kg |
| | | | USEPA/SW 846/6010 C, Rev 3,Feb 2007 (ICP Method) | |
| | | Nickel | USEPA/SW 846/ 7000B, Rev2,Feb 2007 (AAS Method) | 3- 5000 mg/kg |
| | | | USEPA, Method no. 200.7, Rev.4.4,1994 | 2.5-5000 mg/kg |
| | | | USEPA/SW 846/ 6010 C, Rev 3,Feb 2007(ICP Method) | |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Soil** | Potassium | USEPA/SW 846/7000B, Rev2,Feb 2007(AAS Method)<br>USEPA, Method no. 200.7, Rev.4.4,1994<br>USEPA/SW 846/6010 C, Rev 3,Feb 2007(ICP Method) | 3 -1000 mg/kg<br>3-1000 mg/kg |
| | | Sodium | USEPA/SW 846/7000B, Rev2,Feb 2007(AAS Method)<br>USEPA, Method no. 200.7, Rev.4.4,1994<br>USEPA/SW 846/6010 C, Rev 3,Feb 2007 (ICP Method) | 3 -10000 mg/kg<br>3-10000 mg/kg |
| | | Zinc | USEPA/SW 846/ 7000B, Rev2,Feb 2007(AAS Method)<br>USEPA, Method no. 200.7, Rev.4.4,1994<br>USEPA/SW 846/ 6010 C, Rev 3,Feb 2007 (ICP Method) | 2.5 -10000 mg/kg<br>2.5-10000 mg/kg |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| **III** | **WATER** | | | |
| **1.** | **Potable and domestic water, Ground water, Surface water (Rivers, Lakes, Sea )/ Industrial water (Processed Food Industry) Specification/ Irrigation water / Cooling purpose water/ Water for Steam raising/ Distilled/ demineralized waterSpecification / Water for Swimming Pools/ Water for Construction Purpose/ Water for Ice Manufacture/ Primary Water Quality Criteria by CPCB/ Medicinal purpose/ Water for Fermentation industry** | Acidity | APHA, 22 nd Ed., 2012, 2310-B,2-31<br>IS 3025 (Part 22):1986, (RA 2009)<br>(Titration Method) | 0.5 -500 mg/L |
| | | Alkalinity<br>(Total, Phenolphthalein & Methyl orange)<br>(as $CaCO_3$) | APHA, 22 nd Ed., 2012, 2320-B, 2-34<br>IS 3025(Part 23):1986, (RA 2009)<br>Amds.1 (Titration Method) | 0.5 -5000 mg /L |
| | | Volume of 0.02 N NaOH required to neutralize 100 ml water sample using Phenolphthalein indicator | IS 456 : 2000, (RA 2012)<br>IS 3025 (Part 22):1986<br>(Titration Method) | 0.1 - 100 ml |
| | | Volume of 0.02 N $H_2SO_4$ required to neutralize 100 ml water sample using Mixed indicator | IS 456 : 2000, (RA 2012<br>IS 3025 (Part 23):1986<br>(Titration Method) | 0.1 -100 ml |
| | | Aluminium (as Al) | APHA, 22 nd Ed., 2012, 3500-Al-B,3-61<br>IS 3025(Part 55): 2003, (RA 2009)<br>(Eriochrome Cyanine R Method) | 0.025 - 100 mg/L |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Potable and Potable and domestic water, Ground water, Surface water (Rivers, Lakes, Sea )/ Industrial water (Processed Food Industry) Specification/ Irrigation water / Cooling purpose water/ Water for Steam raising/ Distilled/ demineralized waterSpecification / Water for Swimming Pools/ Water for Construction Purpose/ Water for Ice Manufacture/ Primary Water Quality Criteria by CPCB/ Medicinal purpose/ Water for Fermentation industry** | | APHA, 22 nd Ed., 2012,3120B,3-40<br>IS 3025(Part 2): 2004/<br>ISO 11885:1996 (ICP Method) | 0.01- 100 mg/L |
| | | Ammonical Nitrogen/Ammonia (as total ammonia –N) | APHA, 22 nd Ed., 2012 ,<br>4500 $NH_3$, B & C, 4 -110, 4-112,<br>IS 3025 (Part 34) : 1988, (RA 2009)<br>(Titrimetric Method) | 5 - 1000 mg/L |
| | | | APHA, 22 nd Ed.,2012 ,<br>4500 $NH_3$, F, 4 -115,<br>IS 3025 (Part 34) : 1988, (RA 2009)<br>(Colorimetric Method) | 0.1-50 mg/L |
| | | Anionic detergents (as MBAS) | APHA, 22 nd Ed.,2012,<br>5540-B&C,5-51& 5-53<br>Annexure K of IS 13428 : 2005<br>(Methylene Blue extraction method) | 0.1-50 mg/L |
| | | Antimony (as Sb) | USEPA/SW 846/7062,<br>Sept 1994 & Manufacturer manual<br>(Continuous Hydride AAS Method) | 0.005 - 100 mg/L |
| | | | APHA, 22 nd Ed.,2012,3120B,3-40<br>IS 3025 (Part 2): 2004 / ISO 11885:1996<br>(ICP Method) | 0.003- 100 mg/L |
| | | Arsenic (as As) | APHA, 22 nd Ed.,2012, 3114-C, 3-38<br>IS 3025 (Part 37):1988, (RA 2009<br>(Continuous Hydride AAS Method) | 0.01 - 100 mg/L |
| | | | APHA, 22 nd Ed., 2012,3120B,3-40<br>IS 3025(Part 2): 2004 /<br>ISO 11885:1996<br>(ICP Method) | 0.005 mg/L<br>1-100 mg/L |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Potable and domestic water, Ground water, Surface water (Rivers, Lakes, Sea )/ Industrial water (Processed Food Industry) Specification/ Irrigation water / Cooling purpose water/ Water for Steam raising/ Distilled/ demineralized waterSpecification / Water for Swimming Pools/ Water for Construction Purpose/ Water for Ice Manufacture/ Primary Water Quality Criteria by CPCB/ Medicinal purpose/ Water for Fermentation industry** | Bicarbonate | APHA, 22 nd Ed., 2012, 2320-B, 2-34 , 5 -3 & 4500-$CO_2$-D,4-36<br>IS 3025 (Part 51):2001, (RA 2006)<br>(By calculation) | 0.5 - 5000 mg/L |
| | | Biochemical Oxygen Demand | APHA, 22 nd Ed., 2012 , 5210-B, 5-5 (5 days , 20 $^oC$)<br>(Iodometric Method) | 1- 10000 mg/L |
| | | | IS 3025(Part 44): 1993, (RA 2009) Amds.1 (3 days , 27 $^oC$)<br>(Iodometric Method) | 1- 10000 mg/L |
| | | Boron (as B) | APHA, 22 nd Ed., 2012, 4500-B -C,4-27(Carmine Method) | 1-100 mg/L |
| | | | APHA, 22 nd Ed., 2012, 4500-B -B,4-25<br>Annex H of IS 13428:2005, Amds.4<br>IS 3025 (Part 57):2003, (RA 2009)<br>(Curcumin Method) | 0.1 –100 mg/L |
| | | | APHA,22 nd Ed., 2012,3120B,3-40<br>IS 3025(Part 2): 2004 /<br>ISO 11885:1996 (ICP Method) | 0.1 - 100 mg/L |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Potable and domestic water, Ground water, Surface water (Rivers, Lakes, Sea )/ Industrial water (Processed Food Industry) Specification/ Irrigation water / Cooling purpose water/ Water for Steam raising/ Distilled/ demineralized waterSpecification / Water for Swimming Pools/ Water for Construction Purpose/ Water for Ice Manufacture/ Primary Water Quality Criteria by CPCB/ Medicinal purpose/ Water for Fermentation industry** | Cadmium (as Cd) | APHA,22 nd Ed., 2012 , 3111-B, 3-18<br>IS 3025, Part 41,1992 , (RA 2009) (AAS Method) | 0.1 - 100 mg/L |
| | | | APHA,22 nd Ed., 2012,3120B,3-40<br>IS 3025 (Part 2): 2004 / ISO 11885:1996 (ICP Method) | 0.002– 100mg/L |
| | | Calcium (as Ca) | APHA,22 nd Ed.,2012,3500-B, 3-67<br>IS 3025 (Part 40):1991, (RA 2009) Ed.1(2004-02) (EDTA Titrimetric Method) | 0.4 - 1000 mg/L |
| | | | APHA,22 nd Ed.,2012,3120B,3-40<br>IS 3025(Part 2):2004 / ISO 11885:1996 (ICP Method) | 0.5 - 1000 mg/L |
| | | Carbonate | APHA,22 nd Ed.,2012 ,2320-B, 2-34 , 5 -1 & 4500-$CO_2$-D,4-36<br>IS 3025 (Part 51):2001, (RA 2006) (By calculation) | 0 - 5000 mg/L |
| | | Carbon dioxide (free) | APHA,22 nd Ed.,2012, 4500- $CO_2$ C,4-31<br>IS 3025 (Part 61):2008 (Titrimetric Method) | 0.5-200 mg/L |
| | | Chemical Oxygen Demand | APHA,22 nd Ed.,2012,5220-B, 5-17<br>IS 3025 (Part 58):2006 (Open Reflux Method) | 5 -10000 mg/L |
| | | Colour | APHA,22 nd Ed.,2012 ,2120-B, 2-26<br>IS 3025 (Part 4):1983, (RA 2006) (Visible Comparison Method) | 1- 500 Hazen units |
| | | Colour retention of $KMnO_4$ | IS 1070:1992, (RA 2003) Annexure A (Visual Method) | Passes/Does not pass |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Potable and domestic water, Ground water, Surface water (Rivers, Lakes, Sea )/ Industrial water (Processed Food Industry) Specification/ Irrigation water / Cooling purpose water/ Water for Steam raising/ Distilled/ demineralized waterSpecification / Water for Swimming Pools/ Water for Construction Purpose/ Water for Ice Manufacture/ Primary Water Quality Criteria by CPCB/ Medicinal purpose/ Water for Fermentation industry** | Chloride (as Cl) | APHA,22 nd Ed.,2012,4500-Cl, B,4-72<br>IS 3025 (Part 32):1988, (RA 2009) (Argentometric Method) | 0.25 - 20000 mg/L |
| | | Free Residual Chlorine | APHA,22 nd Ed.,2012,4500-Cl-B,4-60<br>IS 3025 (Part 26):1986, (RA 2009) Ed. 2.1(2004-02)(Iodometric Method) | 0.1 –100 mg/L |
| | | | APHA,22 nd Ed., 2012,4500-Cl-G,4-69 (Spectrophotometric Method) | 0.05 – 1mg/L |
| | | Chloramines (as $Cl_2$) | APHA,22 nd Ed.,2012,4500-Cl-G,4-69 (Spectrophotometric Method) | 0.05 – 1mg/L |
| | | Chromium (Hexa) | APHA,22 nd Ed.,2012,3500-Cr,B,3-69<br>IS 3025 (Part 52):2003, (RA 2009) (Colorimetric Method) | 0.02 - 100 mg/L |
| | | Chromium (Total) (as Cr) | APHA,22 nd Ed.,2012,3111 B,3-18<br>IS 3025 (Part 52): 2003, (RA 2009) (AAS Method) | 0.1 - 100 mg/L |
| | | | APHA,22 nd Ed.,2012,3120B,3-40<br>IS 3025 (Part 2): 2004 /<br>ISO 11885:1996 (ICP Method) | 0.02 - 100 mg/L |
| | | Copper (as Cu) | APHA,22 nd Ed.,2012 , 3111-B, 3-18<br>IS 3025 (Part 42): 1992, (RA 2009) Amds. 1 (AAS Method) | 0.04 -100 mg/L |
| | | | APHA,22 nd Ed.,2012,3120B,3-40<br>IS 3025 (Part 2): 2004 /<br>ISO 11885:1996 (ICP Method) | 0.02 -100 mg/L |
| | | Cyanide (as CN) | APHA, 22 nd Ed., 2012, 4500-CN, C & E, 4-41 & 4-44<br>IS 3025 (Part 27):1986, (Clause 2 ) (RA 2009) Ed. 2.1, Amds.1 (Colorimetric Method) | 0.001 - 1 mg/L |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Potable and domestic water, Ground water, Surface water (Rivers, Lakes, Sea )/ Industrial water (Processed Food Industry) Specification/ Irrigation water / Cooling purpose water/ Water for Steam raising/ Distilled/ demineralized waterSpecification / Water for Swimming Pools/ Water for Construction Purpose/ Water for Ice Manufacture/ Primary Water Quality Criteria by CPCB/ Medicinal purpose/ Water for Fermentation industry** | | APHA, 22 nd Ed., 2012, 4500-CN, C & D, 4-41 & 4-43 (Titrimetric Method) | 1-100 mg/L |
| | | Dissolved Oxygen | APHA,22 nd Ed.,2012, 4500-O,B & C,4-132 & 4-139<br>IS 3025 (Part 38):1989, (RA 2009) (Iodometric Method-Azide modification) | 0.05 - 20 mg/L |
| | | Electrical Conductivity | APHA, 22 nd Ed., 2012, 2510- B, 2-54<br>IS 3025( Part 14): 1984 , (RA 2006) (By Conductivity Meter) | 0.1 µmho/cm – 20000 µmho/cm |
| | | Fluoride (as F) | APHA, 22 nd Ed., 2012, 4500-$F^-$, D, 4-87<br>SPADNS Method<br>IS 3025 (Part 60):2008 (Colour Comparison Visual Method) | 0.05 - 20 mg/L |
| | | Total Hardness (as $CaCO_3$) | APHA, 22 nd Ed., 2012, 2340 C, 2-44<br>IS 3025 (Part 21): 1983, (RA 2009) (EDTA Titrimetric Method) | 0.5 - 10000 mg /L |
| | | Inorganic Solids | APHA, 22 nd Ed., 2012, 2540-E,2-67<br>IS 3025 (Part 18): 1984, (RA 2006) Amds.1 (Ignition/ Gravimetric Method) | 5 - 10000 mg/L |
| | | Iron (as Fe) | IS 3025 (Part 53):2003, (RA 2009) (AAS Method) | 0.08 - 100 mg/L |
| | | | APHA, 22 nd Ed.,2012,3120B,3-40<br>IS 3025 (Part 2): 2004/ ISO 11885:1996 (ICP Method) | 0.06 - 100 mg/L |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Potable and domestic water, Ground water, Surface water (Rivers, Lakes, Sea )/ Industrial water (Processed Food Industry) Specification/ Irrigation water / Cooling purpose water/ Water for Steam raising/ Distilled/ demineralized waterSpecification / Water for Swimming Pools/ Water for Construction Purpose/ Water for Ice Manufacture/ Primary Water Quality Criteria by CPCB/ Medicinal purpose/ Water for Fermentation industry** | Lead (as Pb) | APHA, 22 nd Ed.,2012 , 3111-B,3-18<br>IS 3025 (Part 47):1994, (RA 2009) Amds.2 (AAS Method)<br>APHA, 22 nd Ed.,2012,3120B,3-40<br>IS 3025 (Part 2): 2004 /<br>ISO 11885:1996 (ICP Method) | 0.1- 100 mg/L<br><br>0.008 –100 mg/L |
| | | Magnesium (as Mg) | APHA, 22 nd Ed.,2012 , 3500-Mg, B,3-84<br>IS 3025 (Part 46):1994, (RA 2009) Amds.2 (By Calculation)<br>APHA, 22 nd Ed.,2012,3120B,3-40<br>IS 3025 (Part 2): 2004/<br>ISO 11885:1996 (ICP Method ) | 0.02 - 1500 mg/L<br><br>0.5 –1500 mg/L |
| | | Manganese (as Mn) | APHA, 22 nd Ed.,2012, 3500-Mn, B, 3-85<br>(Persulfate Method)<br>IS 3025 (Part 59 ):2006<br>(Colour Comparison Visual Method)<br>APHA, 22 nd Ed.,2012,3120B,3-40<br>IS 3025 (Part 2): 2004/<br>ISO 11885:1996 (ICP Method)<br>APHA, 22 nd Ed.,2012,3111 B,3-18<br>(AAS Method) | 0.04 - 100 mg/L<br><br>0.02 –100 mg/L<br><br>0.05 –100 mg/L |
| | | Mercury (as Hg) | APHA, 22 nd Ed., 012,3112-B, 3-23<br>IS 3025 (Part 48):1994, (RA 2009) Amds.1& Manufacturer's manual<br>(Flameless (cold vapour)<br>AAS Method) | 0.005 - 100 mg/L |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Potable and domestic water, Ground water, Surface water (Rivers, Lakes, Sea )/ Industrial water (Processed Food Industry) Specification/ Irrigation water / Cooling purpose water/ Water for Steam raising/ Distilled/ demineralized waterSpecification / Water for Swimming Pools/ Water for Construction Purpose/ Water for Ice Manufacture/ Primary Water Quality Criteria by CPCB/ Medicinal purpose/ Water for Fermentation industry** | | IS 3025 (Part 2): 2004 / ISO 11885:1996 (ICP Method) | 0.0008 –100 mg/L |
| | | Mineral Oil | APHA,22 nd Ed., 2012, 5520-B, 5-40 (Liquid -liquid , Partition- Gravimetric Method) | 1 - 100 mg/L |
| | | | IS 3025 (Part 39): 1991(Clause 6) (RA 2009) Amds.1 (FTIR Method) | 0.005 –100mg/L |
| | | Molybdenum (as Mo) | APHA,22 nd Ed.,2012,3120B,3-40 IS 3025 (Part 2):2004 / ISO 11885:1996 (ICP Method) | 0.002–100 mg/L |
| | | Nickel (as Ni) | APHA, 22 nd Ed., 2012 , 3111 B,3-18 Annex L of IS 13428:2005, Amds.4 IS 3025 (Part 54):2003, (RA 2009) (AAS Method) | 0.06-100 mg/L |
| | | | APHA,22 nd Ed.,2012,3120B,3-40 IS 3025 (Part 2):2004/ ISO 11885:1996 (ICP Method) | 0.01 –100 mg/L |
| | | Nitrate (as $NO_3$) | APHA,22 nd Ed.,2012, 4500-$NO_3$-B-4-122 (UV Spectrophotometer Screening Method) | 0.2 - 100 mg $NO_3$/L |
| | | | US EPA Method no.352.1,1971 (Brucine Colorimetric Method) | 0.1 - 100 mg $NO_3$/L |
| | | | IS 3025 (Part 34) : 1988, (RA 2009) (Cadmium Reduction Colorimetric Method) | 0.05- 100 mg $NO_3$/L |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Potable and domestic water, Ground water, Surface water (Rivers, Lakes, Sea )/ Industrial water (Processed Food Industry) Specification/ Irrigation water / Cooling purpose water/ Water for Steam raising/ Distilled/ demineralized waterSpecification / Water for Swimming Pools/ Water for Construction Purpose/ Water for Ice Manufacture/ Primary Water Quality Criteria by CPCB/ Medicinal purpose/ Water for Fermentation industry** | Nitrite (as $NO_2$) | APHA,22 nd Ed., 2012, 4500-$NO_2$-B,4-120 IS 3025 (Part 34):1988, (RA 2009) (Colorimetric Method) | 0.02 -100 mg/L |
| | | Odour | IS 3025 (Part 5): 1983, (RA 2006) (Qualitative Method) | Agreeable/ Not agreeable |
| | | Organic Solids | APHA,22 nd Ed.,2012,2540-E,2-67 IS 3025 (Part 18): 1984, (RA 2006) Amds.1 (Ignition/ Gravimetric Method) | 5 - 10000 mg/L |
| | | Oxygen absorbed in 4 hours at 37 $^oC$ | IS 3025 (Part 63):2007 (Iodometric Titration) | 0.1 - 50 mg/L |
| | | pH value | APHA,22 nd Ed.,2012, 4500-$H^+$- B, 4-92 IS 3025 (Part 11):1983, (RA 2006 ) (By pH Meter) | 1-14 |
| | | Phenolic compounds (as $C_6H_5OH$) | APHA, 22 nd Ed.,2012, 5530- B & C, 5-47 IS 3025( Part 43):1992 ,(RA 2009) Ed.2.2(2003-03) (Chloroform Extraction Method) | 0.001 - 100 mg/L |
| | | Phosphate (Total, Ortho & Dissolved) | APHA, 22 nd Ed. 2012 , 4500 P,E, 4-155 (Ascorbic Acid Method) | 0.1 - 500 mg/L |
| | | Potassium (as K) | APHA,22 nd Ed.,2012,3500-K, B, 3-87 IS 3025 (Part 45): 1993, (RA 2009) Amds.1 (AAS Method)In emission mode (Flame Photometer Method) | 0.06 - 1000 mg/L |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Potable and domestic water, Ground water, Surface water (Rivers, Lakes, Sea )/ Industrial water (Processed Food Industry) Specification/ Irrigation water / Cooling purpose water/ Water for Steam raising/ Distilled/ demineralized waterSpecification / Water for Swimming Pools/ Water for Construction Purpose/ Water for Ice Manufacture/ Primary Water Quality Criteria by CPCB/ Medicinal purpose/ Water for Fermentation industry** | | APHA,22 nd Ed.,2012,3120-B,3-40<br>IS 3025 (Part 2): 2004 /<br>ISO 11885:1996 (ICP Method) | 0.5 - 1000 mg/L |
| | | Selenium (as Se) | APHA,22 nd Ed.,2012, 3114-C, 3-38<br>IS 3025 (Part 56): 2003, (RA 2009) & Manufacturer manual<br>(Continuous Hydride AAS Method) | 0.01 - 100 mg/L |
| | | | APHA,22 nd Ed.,2012,3120-B,3-40<br>IS 3025 (Part 2): 2004 /<br>ISO 11885:1996 (ICP Method) | 0.005 - 100 mg/L |
| | | Silica (as $SiO_2$) | APHA,22 nd Ed.,2012 ,<br>4500-$SiO_2$, D,4-169<br>IS 3025 (Part 35): 1988, (RA 2009)<br>(Hetero Poly Blue Method) | 0.04 - 100mg/L |
| | | Silver (as Ag) | Annex J of IS 13428: 2012, Amds. 2<br>(AAS Method) | 0.008 - 100 mg/L |
| | | | APHA,22 nd Ed.,2012,3120-B,3-40<br>IS 3025 (Part 2): 2004/<br>ISO 11885:1996 (ICP Method) | 0.005 - 100 mg/L |
| | | Sodium (as Na) | APHA,22 nd Ed.,2012,<br>3500-Na, B, 3-97<br>IS 3025 (Part 45): 1993,<br>(RA 2009, Amds.1<br>(AAS Method) (In emission mode )<br>(Flame Photometer Method) | 0.2 - 10000 mg/L |
| | | | APHA,22 nd Ed.,2012,3120B,3-40<br>IS 3025 (Part 2): 2004 /<br>ISO 11885:1996 (ICP Method) | 0.5 - 10000 mg/L |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Potable and domestic water, Ground water, Surface water (Rivers, Lakes, Sea )/ Industrial water (Processed Food Industry) Specification/ Irrigation water / Cooling purpose water/ Water for Steam raising/ Distilled/ demineralized waterSpecification / Water for Swimming Pools/ Water for Construction Purpose/ Water for Ice Manufacture/ Primary Water Quality Criteria by CPCB/ Medicinal purpose/ Water for Fermentation industry** | Sodium absorption ratio | IS 11624:1986 (By calculation) | 0.3- 30 |
| | | Sulphate (as $SO_4$) | APHA,22nd Ed.,2012 , 4500- $SO_4$ ,E,4-190 IS 3025 (Part 24): 1986, (RA 2009) (Turbidimetric Method) | 2 - 10000 mg/L |
| | | Sulphide (as $H_2S$) | APHA, 22 nd Ed.,2012, 4500 $–S^2$ ,C-4-175, F-4-178 IS 3025 (Part 29):1986, (RA 2009) (Iodometric Method) | 0.08 - 50 mg/L |
| | | | APHA, 22 nd Ed., 2012, 4500 $–S^2$ , D-4-175, F-4-178 IS 3025 (Part 29):1986, (RA 2009) (Methylene Blue Method) | 0.025 - 50 mg/L |
| | | Taste | IS 3025 (Part 7 ):1984, (RA2002) IS 3025 (Part 8): 1984, (RA 2003) (Qualitative Method) | Agreeable/ Not Agreeable Action tendency Scale |
| | | Temperature | APHA,22 nd Ed.,2012, 2550-B, 2-69 IS 3025 (Part 9):1984, (RA 2006) (Method: By Thermometer) | 0 – 100 $^oC$ |
| | | Total Kjeldahl Nitrogen | APHA,22 nd Ed.,2012,4500 $NH_3$, B & C, 4 -110, 4-112 or F, 4 -115& 4500 $N_{Org.}$ , B, 4-132 | 0.1 - 1000 mg/L |
| | | Total Dissolved Solids | APHA,22 nd Ed.,2012,2540 C, 2-65 IS 3025 (Part 16): 1984, (RA 2006) Ed.2.1(1999-12),Amds.1 (Filtration/ Gravimetric Method) | 5 - 10000 mg/L |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Potable and domestic water, Ground water, Surface water (Rivers, Lakes, Sea )/ Industrial water (Processed Food Industry) Specification/ Irrigation water / Cooling purpose water/ Water for Steam raising/ Distilled/ demineralized waterSpecification / Water for Swimming Pools/ Water for Construction Purpose/ Water for Ice Manufacture/ Primary Water Quality Criteria by CPCB/ Medicinal purpose/ Water for Fermentation industry** | Total Solids | APHA,22 nd Ed.,2012, 2540-B,2-64<br>IS 3025 (Part 15): 1984, (RA 2009) Amds.1 (Gravimetric Method) | 5 - 10000 mg/L |
| | | Total Suspended Solids | APHA,22 nd Ed.,2012, 2540-D,2-66<br>IS 3025 (Part 17): 1984,(RA 2006) Amds.1<br>(Filtration/ Gravimetric Method) | 5 - 10000 mg/L |
| | | Turbidity | APHA,22 nd Ed.,2012, 2130-B,2-13<br>IS 3025 (Part 10):1984, (RA 2006)<br>(Nephelometric Method) | 0.1 -1000 NTU |
| | | Zinc<br>(as Zn) | APHA,22 nd Ed.,2012,<br>3111-B, 3-18<br>IS 3025 (Part 49): 1994, (RA 2009) Amds.1 (AAS Method) | 0.01 - 100 mg/L |
| | | | APHA,22 nd Ed.,2012,3120-B,3-40<br>IS 3025 (Part 2): 2004 /<br>ISO 11885:1996 (ICP Method) | 0.05 –100 mg/L |
| | | Barium<br>(as Ba) | Annex F of IS 13428:2005, Amds.4 (Titration Method) | 0.3 - 100 mg/L |
| | | | IS 3025 (Part 2): 2004 /<br>ISO 11885:1996(ICP Method ) | 0.1 – 100mg/L |
| | | Trihalomethanes<br>a. Bromoform | USEPA 551.1,Rev1,1995<br>WI/SAP-GC/5/16,<br>Issue no. 03, Issue date: 01.04.2014 | 0.01-0.2 mg/L |
| | | b.Dibromochloromethane | USEPA 551.1, Rev1,1995 WI/SAP-GC/5/16, Issue no. 03,<br>Issue date: 01.04.2014 | 0.01-0.2 mg/L |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Potable and domestic water, Ground water, Surface water (Rivers, Lakes, Sea )/ Industrial water (Processed Food Industry) Specification/ Irrigation water / Cooling purpose water/ Water for Steam raising/ Distilled/ demineralized waterSpecification / Water for Swimming Pools/ Water for Construction Purpose/ Water for Ice Manufacture/ Primary Water Quality Criteria by CPCB/ Medicinal purpose/ Water for Fermentation industry** | c.Bromodichloromethane | USEPA 551.1, Rev1,1995<br>WI/SAP-GC/5/16,<br>Issue no. 03, Issue date: 01.04.2014 | 0.01-0.2 mg/L |
| | | d.Chloroform | USEPA 551.1, Rev1,1995<br>WI/SAP-GC/5/16,<br>Issue no. 03, Issue date: 01.04.2014 | 0.01-0.2 mg/L |
| | | Polynuclear aromatic hydrocarbons (as PAH) | APHA,22 nd Ed.,2012,6440, 6-94 | 0.00007mg/L-100mg/L |
| | | Polychlorinated biphenyls (PCB) | Annex M of IS 13428:2005 ,Amds.4<br>APHA,22 nd Ed.,2012,6630C, 6128 (GC Method) | 0.00007mg/L –100 mg/L |
| | | Pesticide Residues<br>p,p DDT | US EPA 508,1995<br>(GC Method) | 0.05 µg/L-100 mg/L |
| | | | US EPA 525.2,1995<br>APHA,22 nd Ed., 2012,6410B,6-74<br>(GC-MS/MS Method) | 0.01 µg/L-100 mg/L |
| | | o,p DDT | US EPA 508,1995<br>(GC Method) | 0.05 µg/L-100 mg/L |
| | | | US EPA 525.2,1995<br>APHA, 22 nd Ed., 2012,6410B,6-74<br>(GC-MS/MS Method) | 0.01µg/L-100 mg/L |
| | | p,p DDE | US EPA 508,1995 (GC Method) | 0.05 µg/L-100 mg/L |
| | | | US EPA 525.2,1995<br>APHA, 22 nd Ed., 2012,6410B,6-74<br>(GC-MS/MS Method) | 0.01µg/L-100 mg/L |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Potable and domestic water, Ground water, Surface water (Rivers, Lakes, Sea )/ Industrial water (Processed Food Industry) Specification/ Irrigation water / Cooling purpose water/ Water for Steam raising/ Distilled/ demineralized waterSpecification / Water for Swimming Pools/ Water for Construction Purpose/ Water for Ice Manufacture/ Primary Water Quality Criteria by CPCB/ edicinal purpose/ Water for Fermentation industry** | o,p DDE | US EPA 508,1995 (GC Method)<br>US EPA 525.2,1995<br>APHA, 22 nd Ed., 2012,6410B,6-74 (GC-MS/MS Method) | 0.05 µg/L – 100 mg/L<br>0.01µg/L-100 mg/L |
| | | p,p DDD | US EPA 508,1995 (GC Method)<br>US EPA 525.2,1995<br>APHA, 22 nd Ed.,2012,6410B,6-74 (GC-MS/MS Method) | 0.05 µg/L – 100 mg/L<br>0.01µg/L-100 mg/L |
| | | o,p DDD | US EPA 508,1995 (GC Method)<br>US EPA 525.2,1995<br>APHA, 22 nd Ed., 2012,6410B,6-74 (GC-MS/MS Method) | 0.05 µg/L - 100 mg/L<br>0.01µg/L-100 mg/L |
| | | Gamma HCH (Lindane) | US EPA 508,1995 (GC Method)<br>US EPA 525.2,1995<br>APHA, 22 nd Ed., 2012,6410B,6-74 (GC-MS/MS Method) | 0.05 µg/L -100 mg/L<br>0.01µg/L - 100 mg/L |
| | | Alfa HCH | US EPA 508,1995 (GC Method)<br>US EPA 525.2,1995<br>APHA, 22 nd Ed., 2012,6410B,6-74 (GC-MS/MS Method) | 0.05 µg/L – 100 mg/L<br>0.01µg/L-100 mg/L |
| | | Beta HCH | US EPA 508,1995 (GC Method)<br>US EPA 525.2,1995<br>APHA, 22 nd Ed., 2012,6410B,6-74 (GC-MS/MS Method) | 0.025 µg/L –100 mg/L<br>0.01µg/L-100 mg/L |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Potable and domestic water, Ground water, Surface water (Rivers, Lakes, Sea )/ Industrial water (Processed Food Industry) Specification/ Irrigation water / Cooling purpose water/ Water for Steam raising/ Distilled/ demineralized waterSpecification / Water for Swimming Pools/ Water for Construction Purpose/ Water for Ice Manufacture/ Primary Water Quality Criteria by CPCB/ edicinal purpose/ Water for Fermentation industry** | Delta HCH | US EPA 508,1995 (GC Method)<br>US EPA 525.2,1995<br>APHA, 22 nd Ed., 2012,6410B,6-74 (GC-MS/MS Method) | 0.05 µg/L –100 mg/L<br>0.01µg/L-100 mg/L |
| | | Alfa Endosulfan | US EPA 508,1995 (GC Method)<br>US EPA 525.2,1995<br>APHA, 22 nd Ed., 2012,6410B,6-74 (GC-MS/MS Method) | 0.05 µg/L –100 mg/L<br>0.01µg/L-100 mg/L |
| | | Beta Endosulfan | US EPA 508,1995 (GC Method)<br>US EPA 525.2,1995<br>APHA, 22 nd Ed., 2012,6410B,6-74 (GC-MS/MS Method) | 0.05 µg/L –100 mg/L<br>0.01µg/L-100 mg/L |
| | | Endosulfan Sulphate | US EPA 508,1995 (GC Method)<br>US EPA 525.2,1995<br>APHA, 22 nd Ed., 2012,6410B,6-74 (GC-MS/MS Method) | 0.05 µg/L -100 mg/L<br>0.01µg/L-<br>100 mg/L |
| | | Monocrotophos | US EPA 8141B ,Rev2,Feb2007 (GC Method)<br>US EPA 525.2,1995<br>APHA, 22 nd Ed., 2012,6410B,6-74 (GC-MS/MS Method) | 0.07 µg/L-100 mg/L<br>0.05µg/L–<br>100 mg/L |
| | | Ethion | US EPA 8141B ,Rev2,Feb2007<br>US EPA 1657A<br>(GC Method) | 0.07 µg/L –100 mg/L |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Potable and domestic water, Ground water, Surface water (Rivers, Lakes, Sea )/ Industrial water (Processed Food Industry) Specification/ Irrigation water / Cooling purpose water/ Water for Steam raising/ Distilled/ demineralized waterSpecification / Water for Swimming Pools/ Water for Construction Purpose/ Water for Ice Manufacture/ Primary Water Quality Criteria by CPCB/ edicinal purpose/ Water for Fermentation industry** | | US EPA 525.2,1995<br>APHA, 22 nd Ed., 2012,6410B,6-74<br>(GC-MS/MS Method) | 0.05 µg/L– 1 mg/L |
| | | Chlorpyriphos | US EPA 8141B ,Rev2,Feb2007<br>(GC Method)<br>US EPA 525.2,1995<br>APHA, 22 nd Ed., 2012,6410B,6-74<br>(GC-MS/MS Method) | 0.07 µg/L –mg/L<br>100 mg/L<br>0.05 µg/L– 100mg/L |
| | | Phorate | US EPA 8141B ,Rev2,Feb2007<br>(GC Method) | 0.07 µg/L – 100 mg/L |
| | | Phorate sulphoxide | US EPA 8141B ,Rev2,Feb2007<br>(GC Method)<br>US EPA 525.2,1995<br>APHA, 22 nd Ed., 2012,6410B,6-74<br>(GC-MS/MS Method) | 0.07 µg/L – 100 mg/L<br>0.05 µg/L– 100 mg/L |
| | | Phorate sulphone | US EPA 8141B ,Rev2,Feb2007<br>(GC Method)<br>US EPA 525.2,1995<br>APHA, 22 nd Ed., 2012,6410B,6-74<br>(GC-MS/MS Method) | 0.07 µg/L – 100 mg/L<br>0.05 µg/L–100 mg/L |
| | | 2,4-D | US EPA 515.1,1995 (GC Method) | 0.07 µg/L – 100 mg/L |
| | | Butachlor | US EPA 508,1995 (GC Method)<br>US EPA 525.2,1995<br>APHA, 22 nd Ed., 2012,6410B,6-74<br>(GC-MS/MS Method) | 0.07 µg/L – 100 mg/L<br>0.01 µg/L– 100 mg/L |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Potable and domestic water, Ground water, Surface water (Rivers, Lakes, Sea )/ Industrial water (Processed Food Industry) Specification/ Irrigation water / Cooling purpose water/ Water for Steam raising/ Distilled/ demineralized waterSpecification / Water for Swimming Pools/ Water for Construction Purpose/ Water for Ice Manufacture/ Primary Water Quality Criteria by CPCB/ edicinal purpose/ Water for Fermentation industry** | Isoproturon | US EPA 532,2000 (HPLC Method) | 0.07 µg/L – 100 mg/L |
| | | Alachlor | US EPA 508,1995 (GC Method) | 0.07 µg/L - 100 mg/L |
| | | | US EPA 525.2,1995<br>APHA, 22 nd Ed.,2012,6410B,6-74<br>(GC-MS/MS Method) | 0.01 µg/L– 100 mg/L |
| | | Atrazine | US EPA 532,2000 (GC Method) | 0.07 µg/L –100 mg/L |
| | | | US EPA 525.2,1995<br>APHA, 22 nd Ed.,2012,6410B,6-74<br>(GC-MS/MS Method) | 0.01 µg/L– 100 mg/L |
| | | Methyl Parathion | US EPA 8141B ,Rev2,Feb2007 (GC Method) | 0.07 µg/L – 100 mg/L |
| | | | US EPA 525.2,1995<br>APHA, 22 nd Ed., 2012,6410B,6-74<br>(GC-MS/MS Method) | 0.05 µg/L- 100 mg/L |
| | | Methyl Paraoxon | US EPA 8141B ,Rev2,Feb2007 (GC Method)<br>US EPA 525.2,1995<br>APHA, 22 nd Ed., 2012, 6410B, 6-74<br>(GC-MS/MS Method) | 0.07 µg/L – 100 mg/L<br>0.05 µg/L–100 mg/L |
| | | Malathion | US EPA 8141B ,Rev2,Feb2007 (GC Method) | 0.07 µg/L – 100 mg/L |
| | | | US EPA 525.2,1995<br>APHA, 22 nd Ed., 2012,6410B,6-74<br>(GC-MS/MS Method) | 0.05 µg/L– 100 mg/L |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | | Malaoxon | US EPA 8141B ,Rev2,Feb2007 (GC Method)<br>US EPA 525.2,1995<br>APHA, 22 nd Ed., 2012,6410B,6-74 (GC-MS/MS Method) | 0.07 µg/L – 100 mg/L<br>0.05 µg/L–100 mg/L |
| | | Aldrin | US EPA 508,1995 (GC Method)<br>US EPA 525.2,1995<br>APHA, 22 nd Ed., 2012,6410B,6-74 (GC-MS/MS Method) | 0.025 µg/L–100 mg/L<br>0.01 µg/L– 100 mg/L |
| | | Dieldrin | US EPA 508,1995 (GC Method)<br>US EPA 525.2,1995<br>APHA, 22 nd Ed.,2012,6410B,6-74 (GC-MS/MS Method) | 0.025 µg/L - 100 mg/L<br>0.01 µg/L– 100 mg/L |
| **2.** | **Packaged Drinking Water / Packaged Natural Mineral Water** | Description | IS 14543:2004 | Qualitative |
| | | Colour (Pt-Co) | IS 3025 (Part 4):1983 (RA 2006) (Visible Comparison Method) | 1-500 Hazen units |
| | | Odour | IS 3025 (Part 5):1983, (RA 2006) (Qualitative Method) | Agreeable/ Not Agreeable |
| | | Taste | IS 3025 (Part 8):1984, (RA 2002) (Qualitative Method) | Agreeable/ Not Agreeable |
| | | Turbidity | IS 3025 (Part 10):1984, (RA 2006) (Nephelometric Method) | Action tendency scale 0.2 - 1000 NTU |
| | | Total Dissolved Solids | IS 3025 (Part 16): 1984, (RA 2006) Ed.2.1(1999-12), Amds. 1 (Filtration/Gravimetric Method) | 5 - 10000 mg/L |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Packaged Drinking Water / Packaged Natural Mineral Water** | pH value | IS 3025 (Part 11):1983, (RA 2006 (By pH Meter ) | 1-14 |
| | | Barium (as Ba) | Annex F of IS 13428:2005, Amds. 4(Titration Method) | 0.3 - 100 mg/L |
| | | | IS 3025 (Part 2): 2004 / ISO 11885:1996 (ICP Method ) | 0.3 – 100mg/L |
| | | Copper (as Cu) | IS 3025 (Part 42): 1992, (RA 2009) Amds.1 (AAS Method) | 0.04 -100 mg/L |
| | | | IS 3025 (Part 2): 2004 / ISO 11885:1996 (ICP Method) | 0.02 –100mg/L |
| | | Iron (as Fe) | IS 3025 (Part 53):2003, (RA 2009) (AAS Method) | 0.08 - 100 mg/L |
| | | | IS 3025 (Part 2): 2004 / ISO 11885:1996 (ICP Method) | 0.06 - 100mg/L |
| | | Manganese (as Mn) | IS 3025 (Part 59): 2006 (Colour Comparison Visual Method) | 0.05 - 100 mg/L |
| | | | IS 3025 (Part 2): 2004 / ISO 11885:1996 (ICP Method ) | 0.02 –100mg/L |
| | | Nitrate (as $NO_3$) | IS 3025 (Part 34): 1988, (RA 2009) (Cadmium Reduction Colorimetric Method) | 0.05– 100 mg $NO_3$ /L |
| | | Nitrite (as $NO_2$ ) | IS 3025 (Part 34): 1988, (RA 2009) (Sulphanilamide Colorimetric Method) | 0.02 -100 mg/L |
| | | Fluoride (as F) | IS 3025 (Part 60):2008 (Colour Comparison Method) | 0.05 - 20 mg/L |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Packaged Drinking Water / Packaged Natural Mineral Water** | Zinc (as Zn) | IS 3025 (Part 49):1994, (RA 2009) Amds.1 (AAS Method ) | 0.01 - 100 mg/L |
| | | | IS 3025 (Part 2): 2004 / ISO 11885:1996 (ICP Method) | 0.05 – 100 mg/L |
| | | Silver (as Ag) | Annex J of IS 13428:2005,Amds.4 (AAS Method) | 0.008 - 100 mg/L |
| | | | IS 3025 (Part 2): 2004 / ISO 11885:1996 (ICP Method) | 0.005 – 100 mg/L |
| | | Aluminium (As Al) | IS 3025 (Part 55):2003, (RA 2009) (Erichrome Cyanine R Method) | 0.025 - 100 mg/L |
| | | | IS 3025 (Part 2): 2004 / ISO 11885:1996 (ICP Method) | 0.01–100 mg/L |
| | | Chloride (as Cl) | IS 3025 (Part 32):1988, (RA 2009) (Argentometric Method) | 0.25 - 10000mg/L |
| | | Selenium (as Se) | IS 3025 (Part 56): 2003 & Instrument Manufacturer Manual (Continuous Hydride AAS Method) | 0.01 –100 mg/L |
| | | | IS 3025 (Part 2): 2004/ ISO 11885:1996 (ICP Method) | 0.005 –100 mg/L |
| | | Sulphate (as $SO_4$) | IS 3025 (Part 24): 1986, (RA 2009) (Turbidimetric Method) | 2 - 10000 mg/L |
| | | Alkalinity (as $HCO_3$) | IS 3025 (Part 23): 1986, (RA 2009) Amds. 1 (Titration Method) | 0.5 -5000 mg /L |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Packaged Drinking Water / Packaged Natural Mineral Water** | Calcium (as Ca) | IS 3025 (Part 40): 1991, (RA 2009) Ed.2.1(2004-02) (EDTA Titrimetric Method) | 0.4 - 1000 mg/L |
| | | | IS 3025 (Part 2): 2004 / ISO 11885:1996 (ICP Method) | 0.5 –100 mg/L |
| | | Magnesium (as Mg) | IS 3025 (Part 46):1994, (RA 2009) Amds.2 (By Calculation) | 0 - 1000 mg/L |
| | | | IS 3025 (Part 2): 2004 / ISO 11885:1996 (ICP Method ) | 0.5 –1000 mg/L |
| | | Sodium (as Na) | IS 3025 (Part 45): 1993,(RA 2009) Amds.1 (AAS Method) (in emission mode) | 0.2 - 500 mg/L |
| | | | IS 3025 (Part 2): 2004 / ISO 11885:1996 (ICP Method) | 0.5 - 500 mg/L |
| | | Residual free chlorine | IS 3025 (Part 26):1986 ,(RA 2009) Ed. 2.1(2004-02) (Titration Method) | 0.1 -100 mg/L |
| | | Phenolic compounds (as $C_6H_5OH$) | Clause 6 of IS 3025(Part 43):1992, (RA 2009) Ed.2.2 (2003-03) (Chloroform Extraction Method) | 0.001 - 100 mg/L |
| | | Mineral oil | IS 3025 (Part 39):1991, (RA 2009) Amds.1 (Partition Gravimetric Method) | 1 –100 mg/L |
| | | | IS: 3025 (Part 39): 1991 (Clause 6) (RA 2003) Amds.1(FTIR Method) | 0.005 –100mg/L |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Packaged Drinking Water / Packaged Natural Mineral Water** | Anionic surface active agents (as MBAS) | IS 13428 : 2005, Annexure K (Methylene Blue Extraction Method) | 0.1-50 mg/L |
| | | Sulphide (as $H_2S$) | IS 3025 (Part 29) 1986, (RA 2009) (Iodometric Method) | 0.08 - 50 mg/L |
| | | | IS 3025 (Part 29):1986, (RA 2009) (Methylene Blue Method) | 0.025 - 50 mg/L |
| | | Antimony (as Sb) | USEPA/SW846/7062, Rev 0,Sept 1994 (Continuous Hydride AAS Method) | 0.005 – 100 mg/L |
| | | | IS 3025 (Part 2): 2004 / ISO 11885:1996 (ICP Method) | 0.003–100 mg/L |
| | | | IS 13428: 2005, (RA 2009) Annex G (Spectrophotometric Method) | 0.002-100 mg/L |
| | | Borate (as B) | IS 13428:2005 ,Amds.4 ,Annex H (Colorimetric Method) | 0.1-50 mg/L |
| | | | IS 3025 (Part 2): 2004 / ISO 11885:1996 (ICP Method) | 0.1 –50 mg/L |
| | | Mercury (as Ag) | IS 3025 (Part 48): 1994, (RA 2009) Amds.1& Instrument Manufacturer Manual (Flameless (cold vapor ) (AAS Method) | 0.005 - 100 mg/L |
| | | | IS 3025 (Part 2): 2004 / ISO 11885:1996 (ICP Method) | 0.0008 –100 mg/L |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Packaged Drinking Water / Packaged Natural Mineral Water** | Cadmium (as Cd) | IS 3025 (Part 41):1992 , (RA 2009) (AAS Method) | 0.1 - 100 mg/L |
| | | | IS 3025 (Part 2): 2004 / ISO 11885:1996 (ICP Method) | 0.002– 100 mg/L |
| | | Arsenic (as As) | IS:3025 (Part 37):1988, (RA 2009) (Continuous Hydride AAS Method) | 0.01 –100 mg/L |
| | | | IS 3025 (Part 2): 2004 / ISO 11885:1996 (ICP Method) | 0.005- 100 mg/L |
| | | Cyanide (as CN) | IS 3025(Part 27):1986,(Clause 2) (RA 2009) Ed.2.1, Amds.1 (Distillation Colorimetric Method) | 0.001 – 10 mg/L |
| | | Lead (as Pb) | IS 3025 (Part 47):1994, (RA 2009) Amds.2 (AAS Method) | 0.1- 100 mg/L |
| | | | IS 3025 (Part 2):2004 / ISO 11885:1996 (ICP Method) | 0.008 –100 mg/L |
| | | Chromium (as Cr) | IS 13428:2005, Amds.4, Annex J | 0.1 - 100 mg/L |
| | | | IS 3025 (Part 52):2003, (RA 2009) (AAS Method) | |
| | | | IS 3025 (Part 2):2004 / ISO 11885:1996 (ICP Method) | 0.02 –100 mg/L |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Packaged Drinking Water / Packaged Natural Mineral Water** | Nickel (as Ni) | Annex L of IS 13428:2005 ,Amds.4<br>IS 3025 (Part 54):2003, (RA 2009) (AAS Method)<br>IS 3025 (Part 2): 2004 / ISO 11885:1996 (ICP Method) | 0.06 - 100 mg/L<br>0.01 –100 mg/L |
| | | Polychlorinated biphenyls (PCB) | Annex M of IS 13428:2005 ,Amds.4<br>APHA,22 nd Ed.,2012,6630C, 6128 (GC Method) | 0.07 µg/L–100 mg/L |
| | | Polynuclear aromatic hydrocarbons (PAH) | APHA,22 nd Ed.,2012,6440, 6-94 (GC Method) | 0.07 µg/L– 100 mg/L |
| | | Pesticide Residues | | |
| | | p,p DDT | US EPA 508,1995 (GC Method)<br>US EPA 525.2,1995 APHA,22 nd Ed.,2012,6410B,6-74 (GC- MS/MS Method) | 0.00005-100 mg/L<br>0.00001-100 mg/L |
| | | o,p DDT | US EPA 508,1995 (GC Method)<br>US EPA 525.2,1995 APHA,22 nd Ed.,2012,6410B,6-74 (GC- MS/MS Method) | 0.00005-100 mg/L<br>0.00001-100 mg/L |
| | | p,p DDE | US EPA 508,1995 (GC Method)<br>US EPA 525.2,1995 APHA,22 nd Ed.,2012,6410B,6-74 (GC- MS/MS Method) | 0.00005-100 mg/L<br>0.00001-100 mg/L |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Packaged Drinking Water / Packaged Natural Mineral Water** | o,p DDE | US EPA 508,1995 GC Method<br>US EPA 525.2,1995 APHA,22 nd Ed.,2012,6410B,6-74 (GC- MS/MS Method) | 0.00005 -100mg/L<br>0.00001-100 mg/L |
| | | p,p DDD | US EPA 508,1995 (GC Method)<br>US EPA 525.2,1995 APHA,22 nd Ed.,2012,6410B,6-74 (GC- MS/MS Method) | 0.00005-100 mg/L<br>0.00001-100 mg/L |
| | | o,p DDD | US EPA 508,1995 (GC Method)<br>US EPA 525.2,1995 APHA,22 nd Ed.,2012,6410B,6-74 (GC- MS/MS Method) | 0.00005-100 mg/L<br>0.00001-100 mg/L |
| | | γ HCH (Lindane) | US EPA 508,1995 (GC Method)<br>US EPA 525.2,1995 APHA,22 nd Ed.,2012,6410B,6-74 (GC- MS/MS Method) | 0.00005-100 mg/L<br>0.00001-100 mg/L |
| | | α HCH | US EPA 508,1995 (GC Method)<br>US EPA 525.2,1995 APHA,22 nd Ed.,2012,6410B,6-74 (GC- MS/MS Method) | 0.00005-100 mg/L<br>0.00001-100 mg/L |
| | | β HCH | US EPA 508,1995 (GC Method)<br>US EPA 525.2,1995 APHA,22 nd Ed.,2012,6410B,6-74 (GC- MS/MS Method) | 0.00005-100 mg/L<br>0.00001-100 mg/L |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Packaged Drinking Water / Packaged Natural Mineral Water** | δ HCH | US EPA 508,1995 (GC Method) | 0.00005-100 mg/L |
| | | | US EPA 525.2,1995 APHA,22 nd Ed.,2012,6410B,6-74 (GC- MS/MS Method) | 0.00001-100 mg/L |
| | | α Endosulfan | US EPA 508,1995 (GC Method) | 0.00005-100 mg/L |
| | | | US EPA 525.2,1995 APHA,22 nd Ed.,2012,6410B,6-74 (GC- MS/MS Method) | 0.00001-100 mg/L |
| | | β Endosulfan | US EPA 508,1995 (GC Method) | 0.00005-100 mg/L |
| | | | US EPA 525.2,1995 APHA,22 nd Ed.,2012,6410B,6-74 (GC- MS/MS Method) | 0.00001-100 mg/L |
| | | Endosulfan Sulphate | US EPA 508,1995 (GC Method) | 0.00005-100 mg/L |
| | | | US EPA 525.2,1995 APHA,22 nd Ed.,2012,6410B,6-74 (GC- MS/MS Method) | 0.00001-100 mg/L |
| | | Monocrotophos | US EPA 8141B ,Rev2,Feb2007 (GC Method) | 0.00007–100mg/L |
| | | | US EPA 525.2,1995 APHA,22 nd Ed.,2012,6410B,6-74 (GC- MS/MS Method) | 0.00005-100 mg/L |
| | | Ethion | US EPA 8141B ,Rev2,Feb2007 (GC Method) | 0.00007–100mg/L |
| | | | US EPA 525.2,1995 APHA,22 nd Ed.,2012,6410B,6-74 (GC- MS/MS Method) | 0.00005-100 mg/L |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Packaged Drinking Water / Packaged Natural Mineral Water** | Chlorpyrifos | US EPA 8141B ,Rev2,Feb2007 (GC Method) | 0.00007-100 mg/L |
| | | | US EPA 525.2,1995 APHA,22 nd Ed.,2012,6410B,6-74 (GC- MS/MS Method) | 0.00005-100 mg/L |
| | | Phorate | US EPA 8141B ,Rev2,Feb2007 (GC Method) | 0.00007–100mg/L |
| | | Phorate sulphoxide | US EPA 8141B ,Rev2,Feb2007 (GC Method) | 0.00007-100 mg/L |
| | | | US EPA 525.2,1995 APHA,22 nd Ed.,2012,6410B,6-74 (GC- MS/MS Method) | 0.00005-100 mg/L |
| | | Phorate sulphone | US EPA 8141B ,Rev2,Feb2007 (GC Method) | 0.00007–100mg/L |
| | | | US EPA 525.2,1995 APHA,22 nd Ed.,2012,6410B,6-74 (GC- MS/MS Method) | 0.00005-100 mg/L |
| | | 2,4-D | US EPA 515.1,1995 (GC Method) | 0.00007-100 mg/L |
| | | Butachlor | US EPA 508,1995 (GC Method) | 0.00007-100 mg/L |
| | | | US EPA 525.2,1995 APHA,22 nd Ed.,2012,6410B,6-74 (GC-MS/MS Method) | 0.00001-100 mg/L |
| | | Isoproturon | US EPA 532,2000 (GC Method) | 0.00007-100 mg/L |
| | | Alachlor | US EPA 508,1995 (GC Method) | 0.00007-100 mg/L |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Packaged Drinking Water / Packaged Natural Mineral Water** | | US EPA 525.2,1995 APHA,22 nd Ed.,2012,6410B,6-74 (GC-MS/MS Method) | 0.00001-100 mg/L |
| | | Atrazine | US EPA 532,2000 (GC Method) | 0.00007-100 mg/L |
| | | | US EPA 525.2,1995 APHA,22 nd Ed.,2012,6410B,6-74 (GC-MS/MS Method) | 0.00001-100 mg/L |
| | | Methyl Parathion | US EPA 8141B ,Rev2,Feb2007 (GC Method) | 0.00007-100 mg/L |
| | | | US EPA 525.2,1995 APHA,22 nd Ed.,2012,6410B,6-74 (GC-MS/MS Method) | 0.00005-100 mg/L |
| | | Methyl Paraoxon | US EPA 8141B ,Rev2,Feb2007 (GC Method) | 0.00007-100 mg/L |
| | | | US EPA 525.2,1995 APHA,22 nd Ed.,2012,6410B,6-74 (GC-MS/MS Method) | 0.00005-100 mg/L |
| | | Malathion | US EPA 8141B ,Rev2,Feb2007 (GC Method) | 0.00007-100 mg/L |
| | | | US EPA 525.2,1995 APHA,22 nd Ed.,2012,6410B,6-74 (GC-MS/MS Method) | 0.00005-100 mg/L |
| | | Malaoxon | US EPA 8141B ,Rev2,Feb2007 (GC Method) | 0.00007-100 mg/L |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Packaged Drinking Water / Packaged Natural Mineral Water** | | US EPA 525.2,1995<br>APHA,22 nd Ed.,2012,6410B,6-74<br>(GC-MS/MS Method) | 0.00005-100 mg/L |
| | | Aldrin | US EPA 508,1995 (GC Method) | 0.000025-100 mg/L |
| | | | US EPA 525.2,1995<br>APHA,22 nd Ed.,2012,6410B,6-74<br>(GC-MS/MS Method) | 0.00001-100 mg/L |
| | | Dieldrin | US EPA 508,1995 (GC Method) | 0.000025-100 mg/L |
| | | | US EPA 525.2,1995<br>APHA,22 nd Ed.,2012,6410B,6-74<br>(GC-MS/MS Method) | 0.00001-100 mg/L |
| **IV.** | **FOOD & AGRICULTURAL PRODUCTS** | | | |
| **1.** | **Milk and Dairy Products (Dairy Products and Analogues)** | Moisture | DGHS Lab. Manual 1 (2.1, 4, 11, 12,15,16) ,2005<br>AOAC,19 th Ed.,2012, Method no. 927.05,Ch-33,Page no.72<br>AOAC, 19 th Ed.,2012, Method no. 926.08,Ch-33,Page no.81<br>IS 2785:1979, (RA 2000<br>IS 1479 (Part II)<br>AOAC,19 th Ed.,2012, Method no. 920.116,Ch-33,Page no.76<br>IS 3507:1966, Amds.1,(RA 2009)<br>(Gravimetric Method) | 1- 90 g/100g or 100 ml |
| | | pH | IS 1479 (Part II): 1961,(RA 2009) Amds.1 (By pH Meter) | 1 – 12 |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Milk and Dairy Products (Dairy Products and Analogues)** | Total Solids | DGHS Lab. Manual 1(1.6, 3) , 2005<br>AOAC,19 th Ed.,2012, Method no.925.23,Ch-33,Page no.10<br>AOAC, 19 th Ed, 2012, Method no. 941.08, Ch-33,Page no.96<br>AOAC,19 th Ed.,2012, Method no. 920.107, Ch-33,Page no.66<br>IS 2802:1964, (RA 2000,Edition 1.4<br>IS 1479 (Part II): 1961, (RA 2009) Amds. 1 (Gravimetric Method) | 1- 99 g/100g or 100 ml |
| | | Total Ash | DGHS Lab. Manual 1(9,14,15) , 2005<br>IS 1479 (Part II): 1961, (RA 2009) Amds. 1<br>AOAC,19 th Ed.,2012, Method no. 945.46,Ch-33,Page no.10<br>AOAC,19 th Ed.,2012, Method no. 930.30,Ch-33,Page no.72<br>(Gravimetric Method) | 0.05-10 g/100g or 100 ml |
| | | Acid Insoluble Ash | DGHS Lab. Manual 1 (9.7) , 2005 | 0.05-2 g/100g or 100 ml |
| | | Milk Fat | DGHS Lab. Manual 1(1,6,8,9,10,11),2005<br>IS 2802 (Part II): 1964<br>IS 1479 (Part II): 1961, (RA 2009) Amds. 1<br>AOAC,19 th Ed.,2012, Method no. 995.19,Ch-33,Page no.69<br>AOAC,19 th Ed.,2012, Method no. 905.02,Ch-33,Page no.18<br>AOAC,19 th Ed.,2012, Method no.952.06,Ch-33,Page no.97<br>AOAC,19 th Ed.,2012, | 0.1- 99 g/100g or 100 ml |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Milk and Dairy Products (Dairy Products and Analogues)** | | Method no.989.05,Ch-33,Page no.18 AOAC,19 th Ed., 2012, Method no.938.06,Ch-33,Page no.76 (Gravimetric Method) | |
| | | Phosphorus | IS 1479 (Part II):1961 (Titrimetric Method) | 1 – 500 mg/100g or 100 ml |
| | | Milk Protein in Milk solid not Fat | DGHS Lab. Manual 1(2.1),2005 (Titrimetric Method) | 1- 50 g/100g or 100 ml |
| | | Titrable Acidity | DGHS Lab. Manual 1(8.5, 9.3), 2005 IS 11766:1986, Ed.1.1, (RA 2008,Amds.1/ ISO 6092:1980 AOAC,19 th Ed.,2012, Method no. 947.05,Ch-33,Page no.7 (Titrimetric Method) | 0.1- 2 g/100g or 100 ml |
| | | Carbohydrate | DGHS Lab. Manual 1 (9.4) , 2005 USFDA Title 21, Apr 2012 (By Calculation Method) | 1-70 g/100g or 100 ml |
| | | Sucrose | DGHS Lab. Manual 1 (8.3) , 2005 IS 1479 (Part II): 1961, (RA 2009) Amds.1 (Titrimetric Method) | 1-70 g/100g or 100 ml |
| | | Milk Solids not Fat | AOAC 19 th Ed.,2012, Method no. 990.21,Ch-33,Page no.40 (Gravimetric Method) | 1-15 g/100g or 100 ml |
| | | Protein | DGHS Lab. Manual 1 (6.5), 2005 IS 1479 (Part II): 1961 | 0.4-50 g/100g or 100 ml |
| | | Casein in Protein | DGHS Lab. Manual 1 (16),2005 (Titrimetric Method) | 1-98 g/100g or 100 ml |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Milk and Dairy Products (Dairy Products and Analogues)** | Sugar | DGHS Lab Manual 1(8.3),2005 (Titrimetric Method) | 0.5 - 10 g/100g or 100 ml |
| | | Solubility Percent | DGHS Lab Manual 1(9.7),2005 (Gravimetric Method) | 10-100 g/100g |
| | | Vitamin C | AOAC,19th Ed.,2012,Method no. 985.33,Ch-50, Page no.11<br>IS 5838:1970,(RA 2010 (Titrimetric Method) | 5-100 mg/100g or 100 ml |
| | | Common Salt | DGHS Lab. Manual 1(11.08), 2005<br>AOAC 19 th Ed.,2012, Method no.960.29,Ch-33, Page no.76<br>IS 3507:1966, Amds.1,(RA 2009) (Titrimetric Method) | 0.01-5 g/100g or 100 ml |
| **2.** | **Ghee** | Baudouin Test (Test for presence of Sesame oil) | DGHS Lab. Manual 1(12.06), 2005<br>AOAC 19thEd.,2012, Method no. 893.01,Ch-41, Page no.54 (Qualitative Method) | Positive/ Negative |
| | | Butyro Refractometer reading at $40^0$C/Refractive Index at $40^0$C | DGHS Lab. Manual 1(12.03), 2005<br>IS 548 (Part I ):1964, (RA 2006,Edition 2.5 (1996-07) (Refractometer Method) | 1.422-1.489<br>0-99.1 |
| | | Reichert Value | DGHS Lab. Manual 1 (12.05), 2005<br>IS 548 (Part I):1964, (RA 2006,Edition 2.5 (1996-07) (Titrimetric Method) | 0.2-50 |
| | | Free fatty acid as Oleic acid | DGHS Lab. Manual 1 (12.04), 2005<br>IS 548 (Part I ):1964, (RA 2006,Edition 2.5 (1996-07) (Titrimetric Method) | 0.01-10g/100g |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Ghee** | Peroxide Value | DGHS Lab Manual 1(12.08), 2005<br>IS 548 (Part I ):1964, (RA 2006)<br>Edition 2.5 (1996-07) | 0.1 – 10 meq/kg |
| | | Mineral Oil | DGHS Lab Manual 2 (11.02), 2005<br>FSSAI Instruction Manual(Part II), Page no. 11, 2012<br>(Qualitative Method) | Present/Absent |
| **3.** | **Adulterants in Milk** | Cane Sugar | DGHS Lab. Manual 1(1.2),2005<br>IS1479 (Part II):1961,(RA 2009) Amds.1 (Qualitative Method) | Present/Absent |
| | | Starch | DGHS Lab. Manual 1(1.2),2005<br>IS1479(Part II):1961,(RA 2009) Amds.1 (Qualitative Method) | Present/Absent |
| | | Cellulose | DGHS Lab. Manual 1(1.2), 2005 | Present/Absent |
| | | Dulcin | DGHS Lab. Manual 1(1.2), 2005 | Present/Absent |
| | | Saccharin | DGHS Lab. Manual 1(1.2), 2005 | Present/Absent |
| | | Urea | DGHS Lab. Manual 1(1.2),2005<br>IS1479(Part II):1961,(RA 2009) Amds.1 (Qualitative Method) | Present/Absent |
| | | Ammonium Sulphate | DGHS Lab. Manual 1(1.2),2005<br>IS1479(Part II):1961,(RA 2009) Amds.1 (Qualitative Method) | Present/Absent |
| | | Added glucose in milk and milk product | DGHS Lab. Manual 1(1.2),2005<br>IS1479(Part II):1961,(RA 2009) Amds.1 (Qualitative Method) | Present/Absent |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Adulterants in Milk** | Sodium Chloride | DGHS Lab. Manual 1(1.2),2005 IS1479(Part II):1961,(RA 2009) Amds.1 (Qualitative Method) | Present/Absent |
| | | Quaternary ammonium compounds (Detergent) | DGHS Lab. Manual 1(1.2),2005 IS1479 (Part II):1961,(RA 2009) Amds.1 (Qualitative Method) | Present/Absent |
| | | Detection of Neutralizers | DGHS Lab. Manual 1(1.2) ,2005 IS1479(Part II):1961,(RA 2009) Amds.1 (Qualitative Method) | Present/Absent |
| | | Hypochlorites and Chloramines | DGHS Lab. Manual 1(1.2),2005 IS1479(Part II):1961,(RA 2009) Amds.1 (Qualitative Method) | Present/Absent |
| | | Glucose | DGHS Lab. Manual 1(1.2),2005 | Present/ Absent |
| | | Detergent containing Alkylbenzene sulphonic acid | DGHS Lab. Manual 1(1.2),2005 IS1479(Part II):1961,(RA 2009) Amds.1 (Qualitative Method) | Present/Absent |
| | | Presence of Skimmed milk powder in raw milk | DGHS Lab. Manual 1(1.2),2005 IS1479(Part II):1961,(RA 2009) Amds.1 (Qualitative Method) | Present/Absent |
| | | Added Starch in ice cream | DGHS Lab. Manual 1(1.2),2005 | Present/ Absent |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Preservatives in Milk** | Test for Formalin | DGHS Lab. Manual 1 (1.3),2005 IS1479(Part II):1961,(RA , 2009) Amds.1 (Qualitative Method) | Present/Absent |
| | | Test for presence of Boric acid and Borates | DGHS Lab. Manual 1 (1.3),2005 IS 1479(Part II):1961,(RA 2009) Amds.1(Qualitative Method) | Present/Absent |
| | | Test for presence of Salicylic acid | DGHS Lab. Manual 1 (1.3),2005 (Qualitative Method) | Present/Absent |
| **4.** | **Edible Oils, Fats & Related Products (Fats, Oils and Fat Emulsions)** | Clarity | WI/SAP-Food/5/19, Issue no.: 03,Issue date: 01.04.2014 (Qualitative Method) | Present/Absent |
| | | Rancidity | DGHS Lab. Manual 2 (37),2005 FSSAI Instruction Manual (Part II) Page no.12,2012 (Qualitative Method) | Present/Absent |
| | | Mineral Oil | DGHS Lab. Manual 2 (28),2005 AOAC 19$^{th}$ Ed., 2012, Method no. 945.10, Ch-41, Page no. 55 (Qualitative Method) | Present/Absent |
| | | Cloud Point | DGHS Lab. Manual 2 (17),2005 | 1-50$^{o}$C |
| | | Bellier Test (Turbidity temperature Acetic acid Method) | DGHS Lab. Manual 2 (14),2005 (Acetic Acid Method) | 1-50$^{o}$C |
| | | Baudouin Test (Test for Sesame oil) | DGHS Lab. Manual 2 (15),2005 (Qualitative Method) | Present/Absent |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Edible Oils, Fats & Related Products (Fats, Oils and Fat Emulsions)** | Phosphorous | DGHS Lab. Manual 2 (34),2005 (Spectrophotometer Method) | 0.002-0.1g/100g |
| | | Moisture and volatile matter | DGHS Lab. Manual 2 (3),2005<br>IS 548 (Part 1): 1964, Ed.2.5,(RA 2009) Amds.5<br>AOAC,19 th Ed.,2012, Method no.926.12/ 984.20, Ch-41, Page no.1 (Gravimetric Method) | 0.1-10 g/100g |
| | | Refractive Index at $40^0$C<br>(B.R.Reading at $40^0$C) | DGHS Lab. Manual 2 (5),2005<br>IS 548 (Part 1): 1964, Ed.2.5,(RA 2009) Amds.5<br>AOAC,19 th Ed.,2012, Method no.921.08 Ch-41,Page no. 03 (Refractometer Method) | 1.422-1.489<br>0-99.1 |
| | | Saponification Value | DGHS Lab. Manual 2 (9),2005<br>IS 548 (Part 1) :1964, Ed.2.5,(RA 2009) Amds.5<br>AOAC,19 th Ed., 2012, Method no.920.160,Ch-41, Page no. 12 (Titrimetric Method) | 1.0 – 500 |
| | | Castor Oil Test | FSSAI Instruction Manual (Part II), Page no.11,2012 | Present/Absent |
| | | Argemone Oil Test | DGHS Lab. Manual 2 (30), 2005<br>FSSAI, Instruction Manual (Part II),Page no.11,2012 | Present/Absent |
| | | Halphen's Test | DGHS Lab. Manual 2 (16), 2005<br>FSSAI, Instruction Manual, (Part II),Page no.11,2012 | Present/Absent |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Edible Oils, Fats & Related Products (Fats, Oils and Fat Emulsions)** | Acid Value | DGHS Lab. Manual 2 (11.1.5), 2005<br>IS 548 (Part 1) :1964, Ed.2.5,(RA 2009) Amds.5<br>AOAC,19th Ed., 2012, Method no.940.28, Ch-41 Page no.12 (Titrimetric Method) | 0.1 – 15 |
| | | Unsafonifiable Matter | DGHS Lab. Manual 2 (10),2005<br>IS 548 (Part 1) : 1964, Ed.2.5,(RA 2009)Amds.5<br>(Titrimetric Method) | 0.1 – 20g/100g |
| | | Iodine Value (Wij's Method) | DGHS Lab. Manual 2 (12),2005<br>IS 548 (Part 1) : 1964, Ed.2.5,(RA 2009) Amds.5<br>AOAC,19th Ed., 2012, Method no.993.20,Ch-41,Page no. 07 (Titrimetric Method) | 0.1 – 250 |
| | | Peroxide Value | DGHS Lab. Manual 2 (37.1), 2005<br>IS 548 (Part 1) : 1964, Ed.2.5,(RA 2009) Amds.5<br>AOAC,19th Ed.,2012, Method no.965.33, Ch-41, Page no. 11 (Titrimetric Method) | 1.0 -10meq/kg |
| | | Free fatty acid | DGHS Lab. Manual 2 (11, 11.1.6),2005<br>IS 548 (Part 1) : 1964, Ed.2.5,(RA 2009) Amds.5<br>AOAC,19 th Ed., 2012, Method no.940.28, Ch-41, Page no. 12 (Titrimetric Method) | 0.01 - 1g/100g |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Edible Oils, Fats & Related Products (Fats, Oils and Fat Emulsions)** | Insoluble Impurities/(Suspended or other foreign matter) | IS 548 (Part 1):1964, Ed.2.5,(RA 2009) Amds.5 (Gravimetric Method) | 0.1-20g/100g |
| | | Volatile Matter | AOAC,19 th Ed., 2012, Method no.926.12, Ch-41, Page no. 01 (Vacuum Oven Method) | 0.1-20g/100g |
| | | Melting point | DGHS Lab. Manual 2 (8.1),2005 IS 548 (Part 1) : 1964, Ed.2.5,(RA 2009) Amds.5 (By Open Tube Capillary – Slip Method) | 5- $50^0$C |
| | | Reichert Value | DGHS Lab. Manual 2 (13),2005 IS 548 (Part 1) : 1964, Ed.2.5,(RA 2009) Amds.5 (Titrimetric Method) | 1-50 |
| | | Polensky Value | DGHS Lab. Manual 2 (13),2005 IS 548 (Part 1) : 1964, Ed.2.5,(RA 2009) Amds.5 (Titrimetric Method) | 1-50 |
| **5.** | **Antioxidants** | TBHQ | Handbook of Analysis and Quality Control for Fruit & Vegetable Products, Ranganna,1986 WI/SAP-Food/5/96, Issue no.: 03, Issue date: 01.04.2014 | 10 –1000mg/kg |
| | | BHA | DGHS Lab. Manual 2 (5.2.2), 2005 | 5 –1000mg/kg |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| **6.** | **Fruit & Fruit Products Vegetable & Vegetable Products including Canned and Processed Foods, Jams, Juices, Sauces and Concentrates** | Soluble Solids (Total) | DGHS Lab. Manual 5 (1.6, 2.2, 3.1, 5, 6, 13, 15, 16),2005<br>AOAC,19th Ed., 2012, Method no.932.14 ,Ch-37, Page no.7<br>IS 13815:1993/<br>ISO 2173:1978,(RA 2003)<br>AOAC 19th Ed.,2012, Method no. 932.12, Ch-37, Page no. 7<br>(Refractometer Method) | 0.1-90 g/100g or 100 ml |
| | | Salt (Sodium Chloride in brine) | DGHS Lab. Manual 5 (1.7,19), 2005<br>IS 2860: 1964, Ed. 1.1, (RA 2008) Amds. 1<br>(Titrimetric Method) | 0.1-20 g/100g or 100 ml |
| | | Total Solids | DGHS Lab. Manual 5 (2.1, 14.3), 2005<br>AOAC,19 th Ed. 2012,<br>Method no. 920.151, Ch-37, Page no. 6<br>(Gravimetric Method) | 1- 90 g/100g or 100 ml |
| | | Insoluble/Extraneous Matter | DGHS Lab. Manual 5 (2.1), 2005<br>AOAC,19 th Ed. 2012,<br>Method no.920.151, Ch-36, Page no. 9<br>(Gravimetric Method) | 0.1-10 g/100g or 100 ml |
| | | pH | DGHS Lab. Manual 5 (2.3, 11.1, 15.2, 19.2),2005<br>IS 2860:1964, Ed.1.1, (RA 2008) Amds. 1 (By pH Meter) | 1- 10 |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Fruit & Fruit Products Vegetable & Vegetable Products including Canned and Processed Foods, Jams, Juices, Sauces and Concentrates** | Acidity | DGHS Lab. Manual 5 (2.4, 18.3, 19.3),2005<br>AOAC,19 th Ed., 2012,<br>Method no.942.15, Ch-37, Page no. 10<br>IS 2860:1964, (RA 2001, Edition 1.1<br>IS 13844:1993, (RA 2008<br>(Titrimetric Method) | 0.1 - 10 g/100g or 100 ml |
| | | Added Sugar (Total) | DGHS Lab. Manual 5 (2.6), 2005<br>(Titrimetric Method) | 0.1 -70 g/100g or 100 ml |
| | | Vitamin C (Ascorbic Acid) | DGHS Lab. Manual 5 (2.8), 2005<br>(Titrimetric Method) | 10-900 mg/kg |
| | | Mineral Impurities | DGHS Lab. Manual 5 (2.10), 2005<br>IS:13816, 1993, (RA 2009)/<br>ISO 762:1982<br>(Gravimetric Method) | 5-50 mg/kg |
| | | Moisture | DGHS Lab. Manual 5 (4, 6.1), 2005<br>AOAC,19 th Ed.,2012,<br>Method no.934.06, Ch-37, Page no. 4<br>(Gravimetric Method) | 1-98g/100g or 100ml |
| | | Ash Insoluble in Dilute HCl | DGHS Lab. Manual 5 (5.3, 7.2, 13.2, 17.4),2005<br>IS 13846:1993, (RA 2008)/<br>ISO 763:1982<br>(Gravimetric Method) | 0.01-10g/100g or 100ml |
| | | Total Ash | DGHS Lab. Manual 5 (11.3, 14.4, 17.3),2005<br>IS 13846:1993, (RA 2008)/<br>ISO 763:1982 | 0.1-10g/100g or 100ml |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Fruit & Fruit Products Vegetable & Vegetable Products including Canned and Processed Foods, Jams, Juices, Sauces and Concentrates** | | AOAC,19 th Ed., 2012, Method no.950.49 ,Ch-40, Page no. 2<br>AOAC,19 th Ed., 2012, Method no.940.26, Ch-37, Page no. 7<br>AOAC,19 th Ed., 2012, Method no.930.35, Ch-43, Page no. 12<br>(Gravimetric Method) | |
| | | Nitrogen | DGHS Lab. Manual 5 (14.9), 2005<br>(Titrimetric Method) | 0.1 -10 g/100g or 100ml |
| | | Volatile Acids | DGHS Lab. Manual 5 ( 2.5),2005<br>(Titrimetric Method) | 0.1-10 g/100g or 100ml |
| | | Malic Acid | AOAC,19 th Ed., 2012, Method no.995.06, Ch-37, Page no. 15<br>(HPLC Method) | 3 mg/L -20 g/L |
| | | Water Capacity of the Container | DGHS Lab. Manual 5 (1.3), 2005<br>(Weighing Method) | 10-100g/100g |
| | | Drained Weight | DGHS Lab. Manual 5 (1.4,18.1),2005<br>IS 2860: 1964, (RA 2001, Edition 1.1 (1995 – 02)<br>(Weighing Method) | 10-100 g/100g |
| | | Fat | AOAC,19 th Ed., 2012, Method no.950.54, Ch-43,Page no. 9 | 0.01-15 g/100g |
| | | Total soluble solids free of added salts or Salt free basis | DGHS Lab. Manual 5 (2.1), 2005<br>(Gravimetric Method) | 0-90 g/100g |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Fruit & Fruit Products** | Starch | DGHS Lab. Manual 5 (7.3), 2005 (Titrimetric Method) | 1-50g/100g |
| | **Vegetable & Vegetable Products including Canned and Processed Foods, Jams, Juices, Sauces and Concentrates** | Mineral acid | DGHS Lab. Manual 5 (14.6), 2005 (Qualitative Method) | Present/Absent |
| | | Foreign matter in table olives | FSSR 2011 (2.3.44) WI/SAP-Food/5/20, Issue no.: 03, Issue date: 01.04.2014 | 0 and above unit/kg |
| **7.** | **Nut and nut products** | Moisture | AOAC,19 th Ed., 2012, Method no.925.40,Ch-40,Page no.1 DGHS Lab. Manual 5 (20.1), 2005 (Gravimetric Method) | 1-98 g/100g |
| | | Sulphur Dioxide | DGHS Lab. Manual 8 (1.5), 2005 (Colorimetric Method) | 0.005 – 15 g/100g |
| | | Crude Fat (Oil content) | AOAC,19 th Ed., 2012, Method no.948.22,Ch-40,Page no.1 (Gravimetric Method) | 0.01-15 g/100g |
| | | Peroxidase | DGHS Lab. Manual 5 (17.5), 2005 (Qualitative Method) | Present/Absent |
| | | Extraneous vegetable matter in Dates | FSSR 2011 (2.3.47.4) WI/SAP-Food/5/21, Issue no.: 03, Issue date: 01.04.2014 (Visual Method) | 0 and above unit/100g |
| | | Rancidity | WI/SAP-Food/5/22, Issue no.: 03, Issue date: 01.04.2014 (Visual Method) | Present/Absent |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Nut and nut products** | Living Insects | IS 1908:2008<br>WI/SAP-Food/5/23,<br>Issue no.: 03, Issue date: 01.04.2014<br>(Visual Method) | Present/Absent |
| | | Mould | IS 1907:2008<br>WI/SAP-Food/5/24,<br>Issue no.: 03, Issue date: 01.04.2014<br>(Visual Method) | Present/Absent |
| | | Dead Insects | IS 1908:2008<br>WI/SAP-Food/5/25,<br>Issue no.: 03, Issue date: 01.04.2014<br>(Visual Method) | Present/Absent |
| | | Insect Fragments | IS 1908:2008<br>WI/SAP-Food/5/26,<br>Issue no.: 03, Issue date: 01.04.2014<br>(Visual Method) | Present/Absent |
| | | Rodent Contamination | IS 1908:2008<br>WI/SAP-Food/5/27,<br>Issue no.: 03, Issue date: 01.04.2014<br>(Visual Method) | Present/Absent |
| | | Damaged Raisins | FSSR 2011 (2.3.47.2)<br>WI/SAP-Food/5/28,<br>Issue no.: 03, Issue date: 01.04.2014<br>(Gravimetric Method) | 0 and above g/100g |
| | | Sugared Raisins | FSSR 2011 (2.3.47.2)<br>WI/SAP-Food/5/29,<br>Issue no.: 03, Issue date: 01.04.2014<br>(Gravimetric Method) | 0 and above g/100g |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Nut and nut products** | Blemished/Damaged Units | FSSR 2011 (2.3.47.4)<br>WI/SAP-Food/5/32,<br>Issue no.: 03, Issue date: 01.04.2014<br>(Gravimetric Method) | 0 and above g/100g |
| **8.** | **Cereal and Cereal Products, Pulses and Pulse Products** | Foreign Matter | DGHS Lab. Manual 3, 2005<br>Issue no.: 03, Issue date: 01.04.2014<br>IS 4333 (Part 1): 1996, (RA 2009)<br>(Gravimetric Method) | 0 and above g/100g |
| | | Shriveled Grains | IS 4333 (Part 1): 1996, (RA 2009) | 0 and above g/100g |
| | | Damaged Grains | IS 4333 (Part 1): 1996, (RA 2009) | 0 and above g/100g |
| | | Insect damaged Grains/ Weevilled Grains | IS 4333 (Part 1): 1996, (RA 2009) | 0 and above g/100g |
| | | Mass of 1000 grains | IS 4333 (Part 4): 2002, (RA 2009)/ ISO 520 : 1977 | 0 and above g/1000 grains |
| | | Moisture | DGHS Lab. Manual 3 (2, 8.2, 16.1),2005<br>IS 1155: 1968, Ed.3.3, (RA 2010) , Amds.3<br>IS 4333 (Part 2): 2002, (RA 2009)<br>AOAC,19th Ed., 2012, Method no. 925.10, Ch-32, Page no. 1<br>AOAC,19th Ed., 2012, Method no. 945.39, Ch-32, Page no. 63<br>IS 15271:2003<br>(Gravimetric Method) | 1-20 g/100g |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Cereal and Cereal Products, Pulses and Pulse Products** | Total Ash | DGHS Lab. Manual 3 (8.3), 2005<br>IS 1155:1968, Ed.3.3, (RA 2010), Amds.3<br>AOAC,19th Ed.,2012, Method no. 923.03, Ch-32, Page no. 2<br>(Gravimetric Method) | 0.01-10 g/100g |
| | | Gluten | DGHS Lab. Manual 3 (8.5), 2005<br>IS 1155:1968, Ed.3.3, (RA 2010), Amds.3<br>(Gravimetric Method) | 0.2-20 g/100g |
| | | Ash Insoluble in dil. HCl | DGHS Lab. Manual 3 (8.4), 2005<br>IS 1155: 1968, Ed.3.3, (RA 2010), Amds.3<br>IS 1011:2002<br>IS 15271:2003<br>(Gravimetric Method) | 0.002-10 g/100g |
| | | Alcoholic Acidity (With 90% alcohol) | DGHS Lab. Manual 3 (8.6), 2005<br>IS 1155: 1968, Ed.3.3, (RA 2010), Amds.3<br>(Gravimetric Method) | 0.02-2 g/100g |
| | | Nitrogen/Protein | DGHS Lab. Manual 3 (8.8), 2005<br>IS 7219: 1973, (RA 2010)<br>AOAC,19 th Ed.,2012, Method no.920.8, Ch-32, Page no.14<br>(Titrimetric Method) | 0.1-50 g/100g |
| | | Fat | AOAC,19 th Ed., 2012,<br>Method no.922.06, Ch-32, Page no. 5<br>IS 15271:2003<br>(Gravimetric Method) | 0.02-10 g/100g |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Cereal and Cereal Products, Pulses and Pulse Products** | Crude Fibre | DGHS Lab. Manual 3 (8.9), 2005<br>IS 1155: 1968, Ed.3.3, (RA 2010), Amds.3<br>IS 10226(Part I) 1982, (RA 2012<br>(Gravimetric Method) | 0.2-5 g/100g |
| | | Total Solids | DGHS Lab. Manual 3 (17.1.4),2005<br>(Gravimetric Method) | 1- 99 g/100g |
| | | Rodent Hair and Excreta | DGHS Lab. Manual 3 (1.2),2005<br>WI/SAP-Food/5/34, Issue no.: 03, Issue date: 01.04.2014<br>(Visual Method) | Present/Absent |
| | | Calcium Carbonate | DGHS Lab. Manual 3 (8.7),2005<br>AOAC,19 th Ed.,2012, Method no.944.03, Ch-32, Page no. 4<br>(Titrimetric Method) | 0.1 – 5mg/100g |
| | | Uric acid | DGHS Lab. Manual 3 (3),2005<br>IS 4333 (Part 5): 2002, (RA 2009<br>AOAC,19 th Ed.,2012, Method no.970.24, Ch-32,Page no. 27<br>(Spectrophotometric method) | 4-200mg/kg |
| | | Potassium Bromate | AOAC, 19th Ed.,2012, Method no. 956.03, Ch-32, Page no. 20<br>(Titrimetric Method) | 1-50mg/kg |
| | | Total Ash excluding salt /Total Ash excluding added common salt | DGHS Lab. Manual 3 (16.2),2005<br>(Gravimetric Method) | 0.05-5g/100g |
| | | Cocoa powder | DGHS Lab. Manual 3 (17.2),2005<br>(Gravimetric Method) | 0.1-10g/100g |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Cereal and Cereal Products, Pulses and Pulse Products** | Acidity of extracted fat (as oleic acid) | DGHS Lab. Manual 3 (14.4), 2005<br>IS 1011:2002<br>IS 15271:2003<br>(Titrimetric Method) | 0.1-5g/100g |
| | | Microscopic Determination | DGHS Lab. Manual 3 (13),2005<br>IS 2400:1979, (RA 2009 | Qualitative |
| **9.** | **Bakery Products** | Moisture | IS 12711 : 1989, Ed. 1.1, (RA 2010), Amds.1<br>(Gravimetric Method) | 0.5-10 g/100g |
| | | Total Ash | IS 12711 : 1989, Ed. 1.1, (RA 2010), Amds.1<br>(Gravimetric Method) | 0.05-5 g/100g |
| | | Ash Insoluble in dil. HCl | IS 12711 : 1989, Ed. 1.1, (RA 2010), Amds.1<br>(Gravimetric Method) | 0.05-5 g/100g |
| | | Alcoholic Acidity (With 90% alcohol) | IS 12711 : 1989, Ed. 1.1, (RA 2010, Amds.1<br>(Gravimetric Method) | 0.02-2 g/100g |
| | | Fat | IS 12711 : 1989, Ed. 1.1, (RA 2010) Amds.1<br>(Gravimetric Method) | 0.5-60 g/100g |
| | | Crude Fibre | IS 12711: 1968, Ed.3.3, (RA 2010), Amds.3<br>(Gravimetric Method) | 1-20 g/100g |
| | | Total Solids | IS 12711 : 1989, Ed. 1.1, (RA 2010), Amds.1<br>(Gravimetric Method) | 1- 99 g/100g |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Bakery Products** | pH | IS 12711 : 1989, Ed. 1.1, (RA 2010), Amds.1 (pH meter Method) | 1 – 10 |
| | | Acidity of extracted fat (as oleic acid) | IS 12711 : 1989, Ed. 1.1, (RA 2010), Amds.1 (Titrimetric Method) | 0.1-5g/100g |
| **10.** | **Meat and Meat Products** | Moisture | AOAC, 19th Ed.,2012, Method no. 950.46, Ch-39, Page no.1 (Gravimetric Method) | 10 - 90 g/100g |
| | | Ash | AOAC,19 th Ed.,2012, Method no.920.153, Ch-39, Page no.04 (Gravimetric Method) | 0.5 - 10 g/100g |
| | | Protein | DGHS Lab. Manual 6 (2.2),2005 IS 7219: 1973, (RA 2010) (Titrimetric Method) | 0.1 -50 g/100g |
| | | Fat | DGHS Lab. Manual 6 (2.1),2005 (Gravimetric Method) | 0.5 - 50 g/100g |
| | | Energy | Codex Alimentarius, 3.3.1,1985 (By Calculation) | 1-1000 kcal/100g |
| **11.** | **Fish and Fish Products, Sea Foods** | Moisture | AOAC,19 th Ed.,2012, Method no.950.46, Ch-39, Page no.1 (Gravimetric Method) | 1 - 90 g/100g |
| | | Ash | AOAC,19 th Ed.,2012, Method no.938.08 ,Ch-35, Page no. 8 (Gravimetric Method) | 0.01-10 g/100g |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Fish and Fish Products, Sea Foods** | Protein | IS 7219: 1973, (RA 2010) (Titrimetric Method) | 0.1 -50g/100g |
| | | Fat | DGHS Lab. Manual 6 (2.1),2005 (Gravimetric Method) | 0.5- 50 g/100g |
| | | Energy | Codex Alimentarius, 3.3.1,1985 (By Calculation) | 1-1000 kcal/100g |
| **12.** | **Sweets and Confectionery Products** | Moisture | DGHS Lab. Manual 4 (13.7, 14.2, 15.2),2005 IS 1163:1992 IS 6287:1985 (Gravimetric Method) | 0.5- 10 g/100g |
| | | Ash | DGHS Lab. Manual 4 (13.3, 14.3),2005 (Gravimetric Method) | 0.05- 5 g/100g |
| | | Sulphated Ash | DGHS Lab. Manual 4 (13.2, 13.4),2005 IS 6287:1985 (Gravimetric Method) | 0.05 -50 g/100g |
| | | Sulphated Ash (on salt free basis) | DGHS Lab. Manual 4 (13.2A) , 2005 IS 6287:1985 (Gravimetric Method) | 0.05-5g/100g |
| | | Ash Insoluble in dilute Hydrochloric acid | DGHS Lab. Manual 4(13.3, 14.3), 2005 IS 1163:1992 (Gravimetric Method) | 0.05-5g/100g |
| | | Total Protein | DGHS Lab. Manual 4 (13.4), 2005 IS 6287:1985 (Titrimetric Method) | 0.1-20g/100g |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Sweets and Confectionery Products** | Fat content | DGHS Lab. Manual 4 (13.5B, 15.6, 15.3),2005<br>IS 1163:1992<br>IS 6287:1985<br>(Gravimetric Method) | 0.5-50g/100g |
| | | Total Reducing Sugar | DGHS Lab. Manual 4 (6.4)<br>(Gravimetric Method) | 0.1 - 80 g/100g |
| | | Sucrose content | DGHS Lab. Manual 4 (6.4,13.6), 2005<br>(Titrimetric Method) | 10-100 g/100g |
| | | Gum | DGHS Lab. Manual 4 (14.6), 2005<br>(Gravimetric Method) | 0.02 – 50 g/100g |
| | | Cocoa Solids | DGHS Lab. Manual 4 (15.7),2005<br>AOAC, 19th Ed.,2012, Method no. 931.05, Ch-31,Page no. 9<br>(Gravimetric Method) | 0.1-50g/100g |
| **13.** | **Sweetening Agents including Honey** | | | |
| **a.** | **Honey and Honey Products** | Foreign Matter | FSSR 2011(2.8.3 )<br>WI/SAP-Food/5/35,<br>Issue no.: 03, Issue date: 01.04.2014<br>(Visual Method) | Present/Absent |
| | | Specific Gravity | IS 4941:1994, (RA 2002)<br>DGHS Lab. Manual 4 (6.3),2005<br>(Gravity Bottle Method) | 0.5-1.5g/100g |
| | | Moisture | IS 4941:1994, (RA 2002)<br>DGHS Lab. Manual 4 (6.2),2005<br>(Refractometer Method) | 0.1-40g/100g |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Honey and Honey Products** | Total Reducing Sugars | IS 4941:1994, (RA 2002)<br>DGHS Lab. Manual 4 (6.4),2005<br>AOAC,19 th Ed., 2012, Method no. 920.183, Ch-44, Page no. 28 (Titrimetric Method) | 0.5-90g/100g |
| | | Reducing Sugars | IS 4941:1994, (RA 2002)<br>DGHS Lab. Manual 4 (6.4),2005<br>(Titrimetric Method) | 1– 70g/100g |
| | | Sucrose | IS 4941:1994, (RA 2002)<br>DGHS Lab. Manual 4 (6.4, 7.4, 8.2),2005<br>AOAC,19 th Ed., 2012,<br>Method no. 920.184,Ch-44,<br>Page no. 28 (Titrimetric Method) | 1-30g/100g |
| | | Fructose/Glucose ratio | IS 4941:1994, (RA 2002)<br>DGHS Lab. Manual 4 (6.5),2005<br>(Titrimetric Method) | 0.1-10 |
| | | Acidity (Expressed as formic acid) | IS 4941:1994, (RA 2002)<br>DGHS Lab. Manual 4 (6.8),2005<br>(Titrimetric Method) | 0.05-2.0g/100g |
| | | Ash | IS 4941 : 1994, (RA 2002)<br>AOAC,19 th Ed., 2012,<br>Method no. 920.181,<br>Ch-44, Page no. 26<br>DGHS Lab. Manual 4<br>(6.7, 7.3, 9.3),2005<br>(Gravimetric Method) | 0.1 -10g/100g |
| | | Fiehe's Test | IS 4941 : 1994, (RA 2002)<br>DGHS Lab. Manual 4 (6.6),2005<br>(Qualitative Test) | Positive/Negative |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Honey and Honey Products** | Optical Density | IS 4941 : 1994, (RA 2002 (Spectrophotometer Method) | 0.01-0.5g/100g |
| **b.** | **Sugar and Sugar Products** | Dirt | FSSR 2011(2.8.1 ) WI/SAP-Food/5/36, Issue no.: 03, Issue date: 01.04.2014 (Visual Method) | Present/Absent |
| | | Filth | FSSR 2011(2.8.3.1) WI/SAP-Food/5/37, Issue no.: 03, Issue date: 01.04.2014 (Visual Method) | Present/Absent |
| | | Iron Filings | FSSR 2011(2.8.1 ) WI/SAP-Food/5/38, Issue no.: 03, Issue date: 01.04.2014 (Visual Method) | Present/Absent |
| | | Moisture | DGHS Lab. Manual 4 (7.2),2005 IS 6287 : 1985 IS 15279:2003 (Gravimetric Method) | 0.05-10g/100g |
| | | Sucrose | DGHS Lab. Manual 4 (7.4),2005 IS 6287:1985, Ed.2.1(2002-05) IS 15279:2003 (Titrimetric Method) | 10-100 g/100g |
| | | Total Ash | DGHS Lab. Manual 4 (7.3, 9.3),2005 IS 6287:1985, Ed.2.1(2002-05) (Gravimetric Method) | 0.01-5g/100g |
| | | Ash insoluble in dilute Hydrochloric acid | DGHS Lab. Manual 4 (1.5),2005 IS 6287:1985, Ed.2.1(2002-05) (Gravimetric Method) | 0.01-5g/100g |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Sugar and Sugar Products** | Conductivity | DGHS Lab. Manual 4 (7.6), 2005 (By EC meter) | 1-500micromhos/cm |
| | | Calcium Oxide | DGHS Lab. Manual 4 (7.7), 2005 (Titrimetric Method) | 0.1-100 mg/100g |
| | | Total Starch | DGHS Lab. Manual 4 (11),2005 IS 15279:2003 (Titrimetric Method) | 0.5-20g/100g |
| | | Sulphated Ash | DGHS Lab. Manual 4 (10, 13.2),2005 IS 6287: 1985 (Gravimetric Method) | 0.01-5g/100g |
| | | Glucose in Honey | DGHS Lab. Manual 4 (6.5),2005 (Titrimetric Method) | 20-100g/100g |
| | | Colour | IS 15279:2003 (Spectrophotometric Method) | 1 -200 ICUMSA Colour units |
| | | Extraneous matter (Insoluble matter) in Jaggery, Sugar | DGHS Lab. Manual 4 (9.2) IS 15279:2003,2005 (Gravimetric Method) | 0.001- 10 g/100g |
| **14.** | **Spices, Condiments and Related Products** | | | |
| **a.** | **Spices, Condiments and related products(Whole and Ground Spices)** | Mould | IS 1907:1984,(RA 2009 IS3576 : 2010 IS 2477:2010 IS 3795:2010 IS 1908:2008 IS 3796:2011 IS 3797:2011 IS1798:2010 WI/SAP-Food/5/39, Issue no.: 03, Issue date: 01.04.2014 (Visual Method) | Present/Absent |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Spices, Condiments and related products(Whole and Ground Spices)** | Rancidity | WI/SAP-Food/5/22,<br>Issue no.: 03, Issue date: 01.04.2014<br>Visual Method<br>(Qualitative Method) | Present/Absent |
| | | Living and dead insects | IS 3576 : 2010<br>IS 2477:2010<br>IS 3795:2010<br>IS 1908:2008<br>IS 3796:2011<br>IS 3797:2011<br>IS1798:2010<br>WI/SAP-Food/5/40,<br>Issue no.: 03, Issue date: 01.04.2014<br>(Visual Method) | Present/Absent |
| | | Insect Fragments | IS 3576 : 2010<br>IS 2477:2010<br>IS 3795:2010<br>IS 1908:2008<br>IS 3796:2011<br>IS 3797:2011<br>IS1798:2010<br>WI/SAP-Food/5/41,<br>Issue no.: 03, Issue date: 01.04.2014<br>(Visual Method) | Present/Absent |
| | | Rodent Contamination | IS 3576 : 2010<br>IS 2477:2010<br>IS 3795:2010<br>IS 1908:2008<br>IS 3796:2011<br>IS 3797:2011<br>IS1798:2010<br>WI/SAP-Food/5/42,<br>Issue no.: 03, Issue date: 01.04.2014<br>(Visual Method) | Present/Absent |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Spices, Condiments and related products(Whole and Ground Spices)** | Extraneous Matter | IS 3576 : 2010<br>IS 2477:2010<br>IS 3795:2010<br>IS 1908:2008<br>IS 3796:2011<br>IS 3797:2011<br>IS1798:2010<br>IS 1907:1984,(RA 2009<br>IS 1797:1985<br>WI/SAP-Food/5/44,<br>Issue no.: 03, Issue date: 01.04.2014<br>(Visual Method) | Present/Absent<br><br>0 and above g/100g |
| | | Foreign Vegetable Matter | IS 1908:2010<br>WI/SAP-Food/5/45,<br>Issue no.: 03, Issue date: 01.04.2014<br>(Visual Method) | Present/Absent |
| | | Insect damaged Matter | IS 1907:1984,(RA 2009)<br>IS3576 : 2010<br>IS 2477:2010<br>IS 3795:2010<br>IS 1908:2008<br>IS 3796:2011<br>IS 3797:2011<br>IS1798:2010<br>WI/SAP-Food/5/46,<br>Issue no.: 03, Issue date: 01.04.2014<br>(Visual Method) | 0 and above g/100g |
| | | Empty and Malformed capsules by count | IS 1907:1984,(RA 2009)<br>WI/SAP-Food/5/47,<br>Issue no.: 03, Issue date: 01.04.2014<br>(Visual Method) | 0 and above % by count |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Spices, Condiments and related products(Whole and Ground Spices)** | Immature and Shriveled capsules | IS 1907:1984,(RA 2009) WI/SAP-Food/5/48, Issue no.: 03, Issue date: 01.04.2014 (Visual Method) | 0 and above g/100g |
| | | Light Seeds | IS 1907:1984,(RA 2009) WI/SAP-Food/5/49, Issue no.: 03, Issue date: 01.04.2014 (Visual Method) | 0 and above g/100g |
| | | Unripe and Marked Fruit | FSSR 2011(2.9.3.1) WI/SAP-Food/5/50, Issue no.: 03, Issue date: 01.04.2014 (Visual Method) | 0 and above g/100g |
| | | Tendrils, Mother Cloves | FSSR 2011(2.9.6.1) WI/SAP-Food/5/52, Issue no.: 03, Issue date: 01.04.2014 (Visual Method) | 0 and above g/100g |
| | | Khokar Cloves | FSSR 2011(2.9.6.1) WI/SAP-Food/5/53, Issue no.: 03, Issue date: 01.04.2014 (Visual Method) | 0 and above g/100g |
| | | Headless Cloves | FSSR 2011(2.9.6.1) WI/SAP-Food/5/54, Issue no.: 03, Issue date: 01.04.2014 (Visual Method) | 0-10g/100g |
| | | Insect damaged cloves | FSSR 2011(2.9.6.1) WI/SAP-Food/5/55, Issue no.: 03, Issue date: 01.04.2014 (Visual Method) | 0-10g/100g |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Spices, Condiments and related products(Whole and Ground Spices)** | Proportion of edible seeds other than cumin seeds | FSSR 2011(2.9.8.1)<br>WI/SAP-Food/5/58,<br>Issue no.: 03, Issue date: 01.04.2014<br>(Visual Method) | Present/Absent |
| | | Edible seeds other than cumin black | WI/SAP-Food/5/59,<br>Issue no.: 03, Issue date: 01.04.2014<br>(Visual Method) | 0 and above g/100g |
| | | Defective seeds | IS3796:2011<br>WI/SAP-Food/5/60,<br>Issue no.: 03, Issue date: 01.04.2014<br>(Visual Method) | 0 and above g/100g |
| | | Edible seeds other than fenugreek | IS3795:2011<br>WI/SAP-Food/5/61,<br>Issue no.: 03, Issue date: 01.04.2014<br>(Visual Method) | 0 and above g/100g |
| | | Light berries | FSSR 2011(2.9.15.1)<br>WI/SAP-Food/5/64,<br>Issue no.: 03, Issue date: 01.04.2014<br>(Visual Method) | 0 and above g/100g |
| | | Pinheads or Broken Berries | FSSR 2011(2.9.15.1)<br>WI/SAP-Food/5/65,<br>Issue no.: 03, Issue date: 01.04.2014<br>(Visual Method) | 0 and above g/100g |
| | | Defective Rhizomes | FSSR 2011(2.9.18.1)<br>WI/SAP-Food/5/67,<br>Issue no.: 03, Issue date: 01.04.2014<br>(Visual Method) | 0 and above g/100g |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Spices, Condiments and related products(Whole and Ground Spices)** | Damaged Slices In dried Mango Slices | FSSR 2011(2.9.23.1) WI/SAP-Food/5/68, Issue no.: 03, Issue date: 01.04.2014 (Visual Method) | 0 and above g/100g |
| | | Seed Coatings In dried Mango Slices | FSSR 2011(2.9.23.1) WI/SAP-Food/5/69, Issue no.: 03, Issue date: 01.04.2014 (Visual Method) | 0 and above g/100g |
| | | Broken Berries | FSSR 2011(2.9.25.1) WI/SAP-Food/5/70, Issue no.: 03, Issue date: 01.04.2014 (Visual Method) | 0 and above g/100g |
| | | Black Berries | FSSR 2011(2.9.25. ) WI/SAP-Food/5/71, Issue no.: 03 Issue date: 01.04.2014 (Visual Method) | 0 and above g/100g |
| | | Moisture | DGHS Lab. Manual 10(3,14.4, 15.2, 16.1),2005 IS 1797:1985,Ed 3.2, (RA 2009) Amds 2 AOAC,19 th Ed., 2012, Method no.986.21, Ch-43, Page no.01 (Gravimetric Method) | 5-50g/100g |
| | | Total Ash | DGHS Lab. Manual 10 (4, 14.5, 15.2, 16.2),2005 IS 1797:1985,Ed 3.2, (RA 2009) Amds 2 AOAC,19 th Ed., 2012, Method no.941.12, Ch-43, Page no.02 (Gravimetric Method) | 0.5-15g/100g |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Spices, Condiments and related products(Whole and Ground Spices)** | Acid Insoluble Ash | DGHS Lab. Manual 10 (5, 14.5, 15.2, 16.2),2005<br>IS 1797:1985,Ed 3.2, (RA 2009)<br>Amds 2<br>AOAC,19 th Ed., 2012,<br>Method no.941.12B,<br>(Gravimetric Method) | 0.1-10g/100g |
| | | Non volatile Ether Extract | DGHS Lab. Manual 10 (9),2005<br>IS 1797:1985,Ed 3.2, (RA 2009)<br>Amds 2<br>AOAC,19 th Ed., 2012,<br>Method no.940.29<br>(Gravimetric Method) | 0.5-30g/100g |
| | | Crude Fibre | DGHS Lab. Manual 10 (11), 2005<br>IS 1797:1985,Ed 3.2, (RA 2009),<br>Amds 2<br>AOAC,19 th Ed., 2012,<br>Method no.940.29 ,Ch. 43, page no. 03<br>(Gravimetric Method) | 0.5-14g/100g |
| | | Protein | DGHS Lab. Manual 10 (14.7), 2005<br>IS 7219:1973,(RA 2010)<br>AOAC,19 th Ed., 2012,<br>Method no.920.165, Ch-43, Page no.2<br>(Titrimetric Method) | 0.4-50 g/100g |
| | | Fat | AOAC,19 th Ed., 2012,<br>Method no.950.54, Ch-43, Page no.9<br>(Gravimetric Method) | 0.5-20 g/100g |
| | | Carbohydrate | USFDA Title 21, Food and Drugs, Apr 2012<br>(By Calculation) | 1-100 g/100g |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Spices, Condiments and related products(Whole and Ground Spices)** | Energy Value (Calories) | Codex Alimentarius, 3.3.1,1985 (By Calculation) | 2.5-400 kcal/100g |
| | | Volatile Oil | DGHS Lab. Manual 10 (10), 2005<br>IS 1797:1985, Ed. 3.2, (RA 2009), Amds. 2<br>AOAC,19 th Ed.,2012,<br>Method no.962.17, Ch-43, Page no. 3<br>(Gravimetric Method) | 0.5-25 g/100g |
| | | Total Starch | DGHS Lab. Manual 10 (15.5), 2005<br>AOAC,19 th Ed.,2012,<br>Method no.940.30, Ch-43, Page no. 7<br>(Titrimetric Method) | 5 – 80 g/100g |
| | | Salt | IS 1797:1985, Ed. 3.2, (RA 2009), Amds. 2 (Titrimetric Method) | 0.5 -10 g/100g |
| | | Capsaicin | WI/SAP-HPLC/5/4,<br>Issue no.: 03, Issue date: 01.04.2014<br>(HPLC method) | 0.1- 50g/100g |
| | | Curcumin Content | DGHS Lab. Manual 10 (15.4), 2005<br>(Spectrophotometer Method) | 0.1 - 50 g/100g |
| | | Calcium as Calcium oxide on dry basis | DGHS Lab. Manual 10 (8),2005<br>(Titrimetric Method) | 0.01 – 10 g/100g |
| | | Solubility in cold water on dry weight basis | DGHS Lab. Manual 10 (6),2005<br>(Gravimetric Method ) | 0.1 – 90 g/100g |
| | | Test for Lead Chromate | DGHS Lab. Manual 10 (15.6), 2005<br>(Qualitative Method) | Positive/Negative |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Spices, Condiments and related products(Whole and Ground Spices)** | Peroxidase test | DGHS Lab. Manual 5 (17.5), 2005 (Qualitative Method) | Positive/Negative |
| | | Microscopic Determination | Pearson's Composition and Analysis of Foods, Page no. 400, 9th Ed.,1991 WI/SAP-Food/5/72, Issue no.: 03, Issue date: 01.04.2014 | Qualitative |
| **b.** | **Asafoetida** | Moisture | DGHS Lab. Manual 10 (16.1), 2005 (Gravimetric Method) | 0.5- 20 g/100g |
| | | Ash Insoluble in Dil. HCl | DGHS Lab. Manual 10 (16.2), 2005 (Gravimetric Method) | 0.1-5 g/100g |
| | | Alcoholic Extract | DGHS Lab. Manual 10 (16.3), 2005 (Gravimetric Method) | 0.1-20g/100g |
| | | Total Ash | DGHS Lab. Manual 10 (16.2), 2005 | 0.5 -50 g/100g |
| | | Starch | DGHS Lab. Manual 10 (15.5),2005 (Titrimetric Method) | 0.5 – 25 g/100g |
| **c.** | **Salt (Edible common salt and Iodized salt)** | Moisture | IS 7224:2006 IS 253:1985,(RA 2004) (Gravimetric Method) | 0.1 – 10 g/100g |
| | | Total Chloride/Sodium Chloride | IS 7224:2006 IS 253:1985, (RA 2004) (Titrimetric Method) | 1 – 100 g/100g |
| | | Matter insoluble in water | IS 7224:2006 IS 253:1985,(RA 2004) (Gravimetric Method) | 0.01 – 10 g/100g |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Salt (Edible common salt and Iodized salt)** | Matter soluble in water other than Sodium Chloride | IS 7224:2006<br>IS253:1985,(RA 2004)<br>(Gravimetric Method) | 0.01 – 10 g/100g |
| | | Iodine content | IS 7224:2006<br>(Titrimetric Method ) | 1 – 50 mg/kg |
| | | Water Soluble Calcium | IS 253: 1985, (RA 2004)<br>(Titrimetric Method) | 0.05- 10 g/100g |
| | | Water Soluble Magnesium | IS 253: 1985, (RA 2004)<br>(Titrimetric Method) | 0.1- 10 g/100g |
| | | Alkalinity | IS 253: 1985, (RA 2004)<br>(Titrimetric Method) | 0.01- 10 g/100g |
| | | Sulphate | IS 253: 1985, (RA 2004)<br>(Gravimetric Method) | 0.1- 10 g/100g |
| | | Potassium | IS 253: 1985, (RA 2004)<br>(Flame Photometric Method) | 0.1- 10 g/100g |
| **15.** | **Beverages** | | | |
| **a.** | **Tea and Tea Products** | Water Extract | IS 13862:1999/ ISO 9768 : 1994<br>(Gravimetric Method)<br>AOAC,19 th Ed., 2012,<br>Method no. 920.104,<br>Ch-30, Page no.12<br>DGHS Lab. Manual 4 (1.7, 2.5, 5.6)<br>(Gravimetric Method) | 5 – 60g/100g |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Tea and Tea Products** | Total Ash | IS 13854:1994, (RA 2009)/ ISO 1575: 1987 AOAC,19 th Ed., 2012, Method no. 920.100A, Ch-30, Page no. 10 (Gravimetric Method) | 1-15 g/100g |
| | | Water Soluble Ash in Total Ash/Water Soluble Ash | IS 13855:1993, (RA 2009)/ ISO 1576: 1988 AOAC,19 th Ed., 2012, Method no. 920.100B, Ch-30, Page no. 10 (Gravimetric Method) | 1-80 g/100g |
| | | Alkalinity of Water Soluble Ash | IS 13856:1993, (RA 2009)/ ISO 1578 : 1975 AOAC,19 th Ed.,2012, Method no. 920.100C, Ch-30, Page no.10 DGHS Lab. Manual 4 (1.6) (Titrimetric Method) | 0.1-10 g/100g |
| | | Acid Insoluble Ash | IS 13857:1993, (RA 2009)/ ISO 1577 : 1987 AOAC,19 th Ed.,2012, Method no. 920.100E, Ch-30, Page no.10 DGHS Lab. Manual 4 (1.5) (Gravimetric Method) | 0.1-5 g/100g |
| | | Crude Fibre | IS 10226 (Part I):1982, (RA 2010) / ISO 5498:1981 AOAC,19 th Ed., 2012, Method no. 920.102, Ch-30,Page no.12 (Gravimetric Method) | 1-50 g/100g |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Tea and Tea Products** | Water Insoluble Ash | IS 13855 : 1993, (RA 2009) / ISO 1576 : 1988<br>AOAC,19 th Ed., 2012,<br>Method no. 920.100B,<br>Ch-30,Page no.10<br>(Gravimetric Method) | 0.1-5 g/100g |
| | | Loss in Mass (Moisture) | IS 13853 : 1994, (RA 2009) / ISO 1573 : 1980<br>AOAC,19 th Ed., 2012,<br>Method no. 925.19, Ch-30,Page no.10<br>(Gravimetric Method) | 1-15 g/100g |
| | | Lead | DGHS Lab. Manual 9 (2),2005<br>IS 12074:1987, (RA 2010)<br>AOAC,19 th Ed., 2012,<br>Method no.999.11, Ch-9,Page no.19<br>(AAS Method) | 0.2 -100 mg/kg |
| | | Copper | DGHS Lab. Manual 9 (2),2005<br>IS 11123:1984, (RA 2010)<br>AOAC,19 th Ed., 2012,<br>Method no.971.20, Ch-9, Page no.15<br>(AAS Method) | 0.2 - 100 mg/kg |
| | | Caffeine | DGHS Lab. Manual 4 (1.8B), 2005<br>(HPLC Method)<br>AOAC,19 th Ed.,2012, Method no.969.15(E), Ch-30, Page no.11<br>(Spectrophotometric Method) | 10-1000 mg/kg |
| | | Microscopic Determination | DGHS Lab. Manual 4 (1.9),2005<br>IS 3077 : 1992,(RA 2004, Ed.3.3 | Qualitative |
| | | Iron filings | DGHS Lab. Manual 4 (5.9),2005<br>(Qualitative Test) | Present/Absent |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| **b.** | **Alcoholic Drinks & Beverages (Wine,Beer, Rum,Vodka,Whisky,Gin, Toddy,Brandy, Grape Spirit)** | Reducing Residual Sugar | IS 7585:1995,(RA 2009) (Titrimetric Method) | 1 – 175 g/L |
| | | pH | IS 7585:1995,(RA 2009)<br>IS 3865:2001,(RA 2009)<br>AOAC,19 th Ed., 2012,<br>Method no. 945.10,Ch-27, Page no. 7<br>(By pH Meter) | 1 - 14 |
| | | Total Acidity /Acids (as Tartaric acid) | IS 7585:1995, (RA 2009)<br>IS 3752:2005, (RA 2009)<br>AOAC,19 th Ed.,2012,<br>Method no. 962.12,Ch-28, Page no. 9<br>(Titrimetric Method) | 0.075– 100 g/L<br>100-2000 g/100L |
| | | Volatile Acidity (as Acetic acid) | IS 7585:1995,(RA 2009)<br>IS 3752:2005,(RA 2009)<br>(Titrimetric Method) | 0.03-5 g/L<br>3 –500 g/100 L |
| | | Esters (as Ethyl acetate) | IS 3752:2005,(RA 2009)<br>(Titrimetric Method) | 0.1 –50 g/L<br>10-1000 g/100 L |
| | | Higher Alcohols (as Amyl alcohol) | IS 3752:2005,(RA 2009)<br>(Spectrophotometric Method) | 0.1-100 g/L<br>10 -1000 g/100L |
| | | Aldehydes (as Acetaldehyde) | IS 3752:2005,(RA 2009)<br>AOAC,19 th Ed.,2012,<br>Method no. 972.08, Ch-26, Page no. 11<br>(Titrimetric Method) | 0.2 – 5 g/L<br>10-100 g/100 ml<br>20 – 500 g/100 L |
| | | Total Sulphur dioxide | IS 7585:1995,(RA 2009<br>AOAC,19 th Ed., 2012,<br>Method no. 940.20, Ch-28, Page no.17<br>WI/SAP-AB/5/8, Issue no.: 03 Issue date: 01.04.2014<br>(Titrimetric Method) | 3.2 – 1000 mg/L |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Alcoholic Drinks & Beverages (Wine,Beer, Rum,Vodka,Whisky,Gin, Toddy,Brandy, Grape Spirit)** | Free Sulphur dioxide | IS 7585:1995,(RA 2009) (Titrimetric Method) | 1.28 –500 mg/L |
| | | Copper | IS 7585:1995,(RA 2009) (Visual Method)<br>IS 6854:1973,(RA 2009), Amds. 1<br>IS 3752:2005,(RA 2009)<br>AOAC,19 th Ed.,2012, Method no.967.08, Ch-26, Page no.12 (AAS Method) | 0.04 –100 mg/L |
| | | Iron | AOAC,19 th Ed., 2012, Method no.970.19, Ch-28, Page no.8 (AAS Method) | 0.08 -100 mg/L |
| | | Extracts | IS 7585:1995,(RA 2009) (Gravimetric Method) | 5 -500 g/L |
| | | Tannins | IS 7585:1995,(RA 2009) (Spectrophotometric Method) | 0.5 –50 g/L |
| | | Methyl Alcohol | IS 3752:2005,(RA 2009)<br>IS 3865:2001,(RA 2009)<br>AOAC,19 th Ed.,2012, Method no. 958.04, Ch-26, Page no.15 (Spectrophotometric Method) | 0.1 – 5 g/L<br>0.1 –30 g/100 L |
| | | Alcohol/Ethyl Alcohol | AOAC,19 th Ed.,2012, Method no.920.57, Ch-28, Page no.1<br>IS 3865:2001,(RA 2009)<br>IS 3752:2005,(RA 2009) (Pycnometer Method)<br>AOAC,19 th Ed.,2012, Method no.983.13,Ch-28,Page no.3 (Gas Chromatographic Method) | 1- 20 g/100ml |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Alcoholic Drinks & Beverages (Wine,Beer, Rum,Vodka,Whisky,Gin, Toddy,Brandy, Grape Spirit)** | Turbidity | AOAC,19 th Ed.,2012, Method no.970.14,Ch-27,Page no.2 (Nephelometric Method) | 0-500 FTU |
| | | Malic Acid | AOAC,19 th Ed.,2012, Method no.945.33 & 986.13, Ch-28, Page no.11 (HPLC Method) | 3 mg/L –10 g/L |
| | | Colour Intensity | AOAC,19 th Ed.,2012, Method no.976.08,Ch-27, Page no.1 (Spectrophotometric Method) | 0.1 – 50 units |
| | | Sugar | IS 1162:1958, (RA 2009, Amds. 1 AOAC,19 th Ed., 2012, Method no.920.51,Ch-27, Page no.7 (Titrimetric Method) | 1 – 30 g/100ml |
| | | Residue on Evaporation | IS 3752:2005,(RA 2009) (Gravimetric Method) | 0.1-30 g/100 ml |
| | | Furfurals | IS 3752:2005,(RA 2009) (Visual Method) | 3 – 20 g/100 L |
| | | Ash | AOAC,19 th Ed.,2012, Method no.920.67,Ch-28, Page no.6 IS 3752:2005,(RA 2009) (Gravimetric Method) | 0.1 - 5g/100 ml |
| | | Density | OIV-MI-AS201A-2009) (Pycnometer Method) | 0.5 – 5 g/cm$^3$ |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Alcoholic Drinks & Beverages (Wine,Beer, Rum,Vodka,Whisky,Gin, Toddy,Brandy, Grape Spirit)** | Fat | AOAC,19 th Ed.,2012, Method no.922.06, Ch-32, Page no.5 (Gravimetric Method) | 0.02-1 g/100 ml |
| | | Protein | IS 7219 :1973, (RA 2010)<br>AOAC,19 th Ed., 2012, 920.53, Ch-27, Page no. 10 (Kjeldahl Nitrogen Method) | 0.1-1 g/100 ml |
| | | Carbohydrate | AOAC,19 th Ed., 2012, 985.10, Ch-28, Page no.6 (By Calculation) | 0.5-5 g/100 ml |
| | | Energy value (Calories) | AOAC,19 th Ed., 2012, 979.07, Ch-28, Page no. 6 (By Calculation) | 0.5-500 kcal/100 ml |
| **c.** | **Non-Alcoholic Carbonated Beverages** | Caffeine | DGHS Lab. Manual 8 (3.5.4),2005 (HPLC method) | 10-1000 mg/L |
| **16.** | **Nutritional Analysis of Food and Agricultural Products (All categories of food products)** | Fat | DGHS Lab. Manual 1(4),2005<br>IS 2802 (Part II): 1964<br>IS 1479 (Part II): 1961, (RA 2009), Amds. 1<br>AOAC,19 th Ed.,2012, Method no. 995.19 th, Ch-33, Page no.69<br>AOAC,19 th Ed.,2012, Method no. 905.02, Ch-33, Page no. 18<br>AOAC,19 th Ed.,2012, Method no. 952.06, Ch-33, Page no.9 7<br>AOAC,19 th Ed., 2012 , Method no. 989.05, Ch- 33, Page no.18<br>AOAC,19 th Ed., 2012, Method no. | 0.1-50 g/100g or 100ml |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Nutritional Analysis of Food and Agricultural Products (All categories of food products)** | | 938.06, Ch-33, Page no.76<br>AOAC,19 th Ed.,2012, 950.54, Ch-43, Page no.9<br>AOAC,19 th Ed.,2012, Method no.922.06, Ch-32, Page no.5 (Gravimetric Method)<br>IS 1163:1992 | |
| | | Protein | DGHS Lab. Manual 1(4, 6),2005<br>IS 7219:1973, (RA 2010<br>AOAC,19 th Ed.,2012, Method no.920.165, Ch-43, Page no. 2<br>AOAC,19 th Ed.,2012, 920.53, Ch-27, Page no. 10<br>IS 1479 (Part II): 1961 (Kjeldahl/Titrimetric Method) | 0.1-80 g/100g or 100ml |
| | | Carbohydrate | USFDA Title 21, Food and Drugs, Apr 2012 (By Calculation) | 1 -100 g/100g or 100ml |
| | | Sugar | DGHS Lab. Manual 4,2005<br>IS 6287:1985, (RA 2010,Ed.2.1,Amds.1<br>AOAC, 19 th Ed.,2012, Method no.939.03, Ch-32, Page no 12 (Volumetric Method) | 0.1- 40 g/100g or 100ml |
| | | Energy value (Calories) | Codex Alimentarius, 3.3.1,1985 (By Calculation) | 1-1000 kcal/100g or 100 ml |
| **17.** | **Vitamins** | Vitamin B1 | WI/SAP-HPLC/5/6, Issue no.: 03, Issue date: 01.04.2014 (HPLC Method) | 0.5-100 mg/100g or 100 ml |
| | | Vitamin B2 | WI/SAP-HPLC/5/6, Issue no.: 03, Issue date: 01.04.2014 (HPLC Method) | 0.5-100 mg/100g or 100 ml |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Vitamins** | Vitamin B3 | WI/SAP-HPLC/5/6, Issue no.: 03, Issue date: 01.04.2014 (HPLC Method) | 0.5-100 mg/100g or 100 ml |
| | | Vitamin B6 | WI/SAP-HPLC/5/6, Issue no.: 03, Issue date: 01.04.2014 (HPLC Method) | 0.5-100 mg/100g or 100 ml |
| | | Vitamin B12 | WI/SAP-HPLC/5/6, Issue no.: 03, Issue date: 01.04.2014 (HPLC Method) | 0.5-100 mg/100g or 100 ml |
| | | Vitamin B9 | WI/SAP-HPLC/5/6, Issue no.: 03, Issue date: 01.04.2014 (HPLC Method) | 0.05-100 mg/100g or 100 ml |
| | | Vitamin C | DGHS Lab. Manual 5 (2.8),2005 AOAC,19 th Ed.,2012, Method no.985.33, Ch-50, Page no.11 WI/SAP-HPLC/5/3, Issue no.: 03, Issue date: 01.04.2014 (HPLC Method) | 0.2-100 mg/100g or 100 ml |
| | | Vitamin A | WI/SAP-HPLC/5/8, Issue no.: 03, Issue date: 01.04.2014 (HPLC Method) | 0.5-100mg/100g or 100 ml |
| | | Vitamin D3 | WI/SAP-HPLC/5/8, Issue no.: 03, Issue date: 01.04.2014 (HPLC Method) | 0.05-100mg/100g or 100 ml |
| | | Cholesterol | AOAC, 19 th Ed.,2012, Method no.994.10,Ch- 45,Page no. 105 WI/SAP/-GC/5/18, Issue no.: 03, Issue date: 01.04.2014 | ≥1mg/100g or 100 ml |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| **18.** | **Fatty Acid Methyl Ester (FAME) in Edible Oils, Fat & Ghee** | Saturated Fatty Acids | AOAC, 19 th Ed., 2012, Method no.996.06, Ch-41,Page no.20 WI/SAP/-GC/5/17, Issue no.: 03, Issue date: 01.04.2014 | 0.1 - 100 g/100g or 100 ml |
| | | Monounsaturated Fatty Acids (MUFA) | AOAC, 19 th Ed., 2012, Method no.996.06, Ch-41,Page no.20 WI/SAP/-GC/5/17, Issue no.: 03, Issue date: 01.04.2014 | 0.1 - 100 g/100g or 100 ml |
| | | Polyunsaturated Fatty Acids (PUFA) | AOAC, 19 th Ed., 2012, Method no.996.06, Ch-41,Page no.20 WI/SAP/-GC/5/17, Issue no.: 03, Issue date: 01.04.2014 | 0.1 - 100 g/100g or 100 ml |
| | | Trans Fatty Acids | AOAC, 19 th Ed., 2012, Method no.996.06, Ch-41,Page no.20 WI/SAP/-GC/5/17, Issue no.: 03 Issue date: 01.04.2014 | 0.1 - 100 g/100g or 100 ml |
| | | Phosphorous | AOAC, 19 th Ed., 2012, Method no.986.24,Ch-50,Page no.13 (Spectrophotometer Method) | 0.1-20g/100g or 100 ml |
| **19.** | **Animal Feed Compounded Feed, Dairy Feed, Poultry Feed, Pet Food** | Moisture | IS 7874 (Part I): 1975, Ed.1.2, (RA 2009), Amds.2 (Gravimetric Method) | 0.1-40g/100g |
| | | Crude Protein | IS 7874 (Part I): 1975, Ed.1.2, (RA 2009) Amds.2 (Kjeldahl Method) | 0.2-40g/100g |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Animal Feed Compounded Feed, Dairy Feed, Poultry Feed, Pet Food** | Crude Fat | IS 7874 (Part I): 1975, Ed.1.2, (RA 2009) Amds.2 (Gravimetric Method) | 0.1-5g/100g |
| | | Crude Fibre | IS 7874 (Part I): 1975, Ed.1.2, (RA 2009) Amds.2 (Gravimetric Method) | 0.1-5g/100g |
| | | Acid Insoluble Ash | IS 7874 (Part I): 1975, Ed.1.2, (RA 2009) Amds.2 (Gravimetric Method) | 1.0-10g/100g |
| | | Sodium | AOAC,19 th Ed., 2012, Method no.968.08, Ch-4,Page no. 60 (AAS Method) | 3 – 5000 mg/kg |
| | | | AOAC,19 th Ed., 2012, Method no.968.08, Ch-4,Page no. 60 (ICP Method) | 2.5–5000 mg/kg |
| | | Zinc | AOAC,19 th Ed., 2012, Method no.968.08, Ch-4,Page no. 60 (AAS Method) | 2.5 –7000 mg/kg |
| | | | AOAC,19 th Ed., 2012, Method no.968.08, Ch-4,Page no. 60 (ICP Method) | 2.5 –7000 mg/kg |
| | | Iron | AOAC,19 th Ed., 2012, Method no.968.08, Ch-4,Page no. 60 (AAS Method) | 4 –5000 mg/kg |
| | | | AOAC,19 th Ed., 2012, Method no.968 08, Ch-4,Page no. 60 (ICP Method) | 3 –5000 mg/kg |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Animal Feed Compounded Feed, Dairy Feed, Poultry Feed, Pet Food** | Manganese | AOAC,19 th Ed., 2012, Method no.968.08, Ch-4,Page no. 60 (AAS Method) | 2.5 –5000 mg/kg |
| | | | AOAC,19 th Ed., 2012, Method no.968.08, Ch-4,Page no. 60 (ICP Method) | 1 –5000 mg/kg |
| | | Copper | AOAC,19 th Ed., 2012, Method no.968.08, Ch-4,Page no. 60 (AAS Method) | 1 –5000 mg/kg |
| | | | AOAC,19 th Ed., 2012, Method no.968.08, Ch-4,Page no. 60 (ICP Method) | 1– 5000 mg/kg |
| | | Selenium | AOAC,19 th Ed., 2012, Method no.968.08, Ch-4,Page no. 60 (AAS Method) | 0.5 –500 mg/kg |
| | | | AOAC,19 th Ed., 2012, Method no.968.08, Ch-4,Page no. 60 (ICP Method) | 0.1 –500 mg/kg |
| **20.** | **Plant Material/Tissue & Herbal/ Medicinal Plants** | Total Nitrogen | AOAC,19 th Ed., 2012, Method no.978.04,Ch-2,Page no. 28 (Kjeldahl Method) | 0.01 – 15 g/100g |
| | | Phosphorous | WLII,1997, Page no. 59 WI/SAP-Food/5/93, Issue no. 03, Issue date: 01.04.2014 (Spectrophotometer Method) | 0.1-10 g/100g |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Plant Material/Tissue & Herbal/ Medicinal Plants** | Potassium | AOAC,19 th Ed., 2012, Method-no.965.09, Ch-3,Page no. 13 (AAS Method) | 2-200 mg/kg |
| | | Sodium | AOAC,19 th Ed., 2012, Method / 965.09 D, Ch-3,Page no. 13 (AAS Method) | 2-200 mg/kg |
| | | Iron | AOAC,18 th Ed., 2012, Method no.975.03/ 965.09 D, Ch-3,Page no. 13 (AAS Method) | 4-500 mg/kg |
| | | | WLII, 1997, Page no. 59 WI/SAP-ICP/5/5, Issue no. 03, Issue date: 01.04.2014, (ICP Method) | 3-500 mg/kg |
| | | Zinc | AOAC,19 th Ed., 2012, Method no.975.03, Ch-3,Page no. 5 (AAS Method) | 5-500 mg/kg |
| | | | WLII,1997, Page no. 59 WI/SAP-ICP/5/5, Issue no. 03, Issue date: 01.04.2014, (ICP Method) | 0.5- 500 mg/kg |
| | | Copper | AOAC,19 th Ed., 2012, Method no.975.03/ 965.09 D, Ch-3,Page no.13 (AAS Method) | 2- 500 mg/kg |
| | | | WLII,1997, Page no. 59 WI/SAP-ICP/5/5, Issue no. 03, Issue date: 01.04.2014 (ICP Method) | 0.5-500 mg/kg |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Plant Material/Tissue & Herbal/ Medicinal Plants** | Cadmium | WHO,1998, Page no.62 (AAS Method) | 5-500 mg/kg |
| | | | WLII,1997, Page no. 59 WI/SAP-ICP/5/5, Issue no. 03, Issue date: 01.04.2014 (ICP Method) | 0.05-500 mg/kg |
| | | Sulphur | AOAC,19 th Ed., 2012, Method no.923.01/ 920.10B , Ch-3,Page no.26 (Gravimetric Method) | 50-5000 mg/kg |
| | | Arsenic | WHO,1998, Page no.61 (Qualitative Method) | Qualitative |
| | | | WLII,1997, Page no. 59 WI/SAP-ICP/5/5, Issue no. 03, Issue date: 01.04.2014 (ICP Method) | 0.1-100 mg/kg |
| | | Lead | WHO,1998, Page no.62 (AAS Method) | 5-500 mg/kg |
| | | | WLII,1997, Page no. 59 WI/SAP-ICP/5/5, Issue no. 03, Issue date: 01.04.2014 (ICP Method) | 0.1-100 mg/kg |
| | | Mercury | WLII,1997, Page no. 59 WI/SAP-ICP/5/5, Issue no. 03, Issue date: 01.04.2014 (ICP Method) | 0.01-50 mg/kg |
| | | Chromium | WHO,1998, Page no. 62 (AAS Method) | 0.2-200 mg/kg |
| | | | WLII,1997, Page no. 59 WI/SAP-ICP/5/5, Issue no. 03, Issue date: 01.04.2014 (ICP Method) | 0.2-200 mg/kg |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Plant Material/Tissue & Herbal/ Medicinal Plants** | Nickel | WHO,1998, Page no. 62 (AAS Method)<br>WLII,1997, Page no. 59 WI/SAP-ICP/5/5, Issue no. 03, Issue date: 01.04.2014 (ICP Method) | 0.1-100 mg/kg<br>0.5-50 mg/kg |
| **21.** | **Food for special dietary uses** | Total Ash | DGHS Lab. Manual 3 (8.3), 2005<br>IS 1155: 1968, Ed.3.3, (RA 2010) , Amds.3<br>AOAC,19th Ed.,2012, Method no. 923.03, Ch-32, Page no. 2 (Gravimetric Method) | 0.01-10 g/100g |
| | | Ash Insoluble in dil. HCl (Acid Insoluble Ash) | DGHS Lab. Manual 3 (8.4),2005<br>IS 1155: 1968, Ed.3.3, (RA 2010) , Amds.3<br>IS 1011:2002<br>IS 15271:2003<br>(Gravimetric Method) | 0.002-2 g/100g |
| | | Moisture | DGHS Lab. Manual 3,2005 (8.2,2,16.1)<br>IS 1155: 1968, Ed.3.3, (RA 2010 , Amds.3<br>IS 4333 (Part 2): 2002, (RA 2009<br>AOAC,19th Ed.,2012, Method no. 925.10, Ch-32, Page no. 1<br>AOAC,19th Ed., 2012, Method no. 945.39, Ch-32, Page no. 5<br>IS 15271:2003<br>(Gravimetric Method) | 1-20 g/100g |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Food for special dietary uses** | Calcium | AOAC,19 th Ed., 2012, Method no.944.03,Ch-32,Page no.4 (Titrimetric Method) | 0.1-10g/100g |
| | | Loss on Drying | AOAC,19 th Ed., 2012, Method no.934.01, Ch-4,Page no.1 (Gravimetric Method) | 0.1-30g/100g |
| | | Phosphorous | AOAC,19 th Ed., 2012, Method no.986.24, Ch-50,Page no.13 (Spectrophotometer Method) | 0.1-20g/100g |
| | | Protein | IS 7219: 1973, (RA 2012 (Kjeldahl Nitrogen Method) | 0.5- 50 g/100g |
| | | Crude Fibre | DGHS Lab. Manual 3 (8.9) ,2005 IS 1155: 1968, Ed.3.3, (RA 2010), Amds.3 IS 10226(Part I):1982, (RA 2012) (Gravimetric Method) | 0.2-5 g/100g |
| **22.** | **Other Food Product and Ingredients** | | | |
| **a.** | **Baking Powder** | Carbon Dioxide | Pearson's Composition and Analysis of Foods, Page no. 339 9th Ed. 1991 WI/SAP-Food/5/72, Issue no.: 03, Issue date: 01.04.2014 (Titrimetric Method) | 1-50g/100g |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| **b.** | **Pan Masala** | Coal Tar Coloring Matter(Carmosin, Ponceau 4 R , Erythrosin,Brilliant Blue FCF, Tartrazine, Sunset yellow ) | DGHS Lab. Manual 8, Page no 77), 2005 (Qualitative Test) | Present/Absent |
| | | Total Ash | DGHS Lab. Manual 3 (8.3),2005 (Gravimetric Method) | 0.05 – 10 g/100g |
| | | Ash insoluble in dilute HCl | DGHS Lab. Manual 3 (8.4),2005 (Gravimetric Method) | 0.05 – 5 g/100g |
| **23.** | **Food Additives** | Colouring Matter (Carmosin, Ponceau 4 R,Erythrosin, Brilliant Blue FCF, Tartrazine, Sunset yellow) | DGHS Lab. Manual 8,2005 (Qualitative Test) | Present/Absent |
| | | Sulphur Dioxide (Dry Fruit) | DGHS Lab. Manual 8 (1.5B),2005 (Spectrophotometric method) | 1 -1000 mg/kg |
| | | Saccharin | DGHS Lab. Manual 8 (3.1),2005 (Qualitative Test) | Present/Absent |
| | | Benzoic acid | DGHS Lab. Manual 8 (1.2),2005 (Qualitative Test) | Present/Absent |
| **24.** | **Food & Agriculture Products** | **Metals and Minerals Residue Lead** | DGHS Lab. Manual 9 (2),2005 AOAC,19 th Ed., 2012, Method no.999.11,Ch-9,Page no.19 (AAS Method) | 0.2- 200 mg/kg or mg/L |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Food & Agriculture Products** | **Metals and Minerals Residue** | AOAC,19 th Ed., 2012, Method no.984.27, Ch-50,Page no.17 (ICP Method) | 0.1-100 mg/kg or mg/L |
| | | Iron | DGHS Lab. Manual 9 (2),2005 | 0.2 - 500 mg/kg or mg/L |
| | | | AOAC,19 th Ed., 2012, Method no.999.11,Ch-9,Page no.19 (AAS Method) | |
| | | | AOAC,19 th Ed., 2012, Method no.984.27, Ch-50,Page no.17 (ICP Method) | 0.2- 200 mg/kg or mg/L |
| | | Cadmium | DGHS Lab. Manual 9 (2),2005 | 0.1-100 mg/kg or mg/L |
| | | | AOAC,19 th Ed., 2012, Method no.999.11,Ch-9,Page no.19 (AAS Method) | |
| | | | AOAC,19 th Ed., 2012, Method no.984.27,Ch-50,Page no.17 (ICP Method) | 0.05-100 mg/kg or mg/L |
| | | Copper | DGHS Lab. Manual 9 (2),2005 | 0.08- 100 mg/kg or mg/L |
| | | | AOAC,19 th Ed., 2012, Method no.999.11,Ch-9,Page no.19 (AAS Method) | |
| | | | AOAC,19 th Ed., 2012, Method no.984.27,Ch-50,Page no.17 (ICP Method) | 0.5- 100 mg/kg or mg/L |
| | | Chromium | DGHS Lab. Manual 9 (2),2005 (AAS Method) | 0.1- 100 mg/kg or mg/L |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Food & Agriculture Products** | **Metals and Minerals Residue** | AOAC,19 th Ed., 2012, Method no.984.27, Ch-50,Page no.17 (ICP Method) | 0.2- 200 mg/kg or mg/L |
| | | Nickel | DGHS Lab. Manual 9 (2),2005 (AAS Method) | 0.1- 100 mg/kg or mg/L |
| | | | AOAC,19 th Ed., 2012, Method no.984.27, Ch-50,Page no.17 (ICP Method) | 0.5-100 mg/kg or mg/L |
| | | Arsenic | AOAC,19 th Ed., 2012, Method no.986.15, Ch-9,Page no.1 (AAS Method) | 0.1- 100 mg/kg or mg/L |
| | | | AOAC,19 th Ed., 2012, Method no.984.27, Ch-50,Page no.17 (ICP Method) | 0.1- 100 mg/kg or mg/L |
| | | Mercury | DGHS Lab. Manual 9 (2.1),2005 AOAC,19 th Ed., 2012, Method no.971.21, Ch-9,Page no.35 (Flameless AAS Method) | 0.1- 100 mg/kg or mg/L |
| | | | AOAC,19 th Ed., 2012, Method no.984.27, Ch-50,Page no.17 (ICP Method) | 0.01-50 mg/kg or mg/L |
| | | Tin | DGHS Lab. Manual 9 (4.1),2005 (Volumetric Method) | 10-500 mg/kg or mg/L |
| | | | AOAC,19 th Ed., 2012, Method no.984.27, Ch-50,Page no.17 (ICP Method) | 0.1-100 mg/kg or mg/L |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Food & Agriculture Products** | **Metals and Minerals** Zinc | DGHS Lab. Manual 9 (2),2005 AOAC,19 th Ed., 2012, Method no.999.11, Ch-9,Page no.19 (AAS Method) | 1.0- 100 mg/kg or mg/L |
| | | | AOAC,19 th Ed., 2012, Method no.984.27, Ch-50,Page no.17 (ICP Method) | 0.5-100 mg/kg or mg/L |
| | | Calcium | AOAC,19 th Ed., 2012, Method no.984.27, Ch-50,Page no.17 (ICP Method) | 10- 1000 mg/kg or mg/L |
| | | Magnesium | AOAC,19 th Ed., 2012, Method no.984.27, Ch-50,Page no.17 (ICP Method) | 10- 1000 mg/kg or mg/L |
| | | Selenium | AOAC,19 th Ed., 2012, Method no.984.27, Ch-50,Page no.17 (ICP Method) | 0.5 - 500 mg/kg or mg/L |
| | | Sodium | AOAC,19 th Ed., 2012, Method no.984.27, Ch-50,Page no.17 (ICP Method) | 10 - 1000 mg/kg or mg/L |
| | | Potassium | AOAC,19 th Ed., 2012, Method no.984.27, Ch-50,Page no.17 (ICP Method) | 10 - 10000 mg/kg or mg/L |
| | | Manganese | AOAC,19 th Ed., 2012, Method no.984.27, Ch-50,Page no.17 (ICP Method) | 0.5 - 100 mg/kg or mg/L |
| | | | DGHS Lab. Manual 9 (2),2005 (AAS Method) | 1.0 - 100 mg/kg or mg/L |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| **25.** | **Food and Agricultural Products** | **Toxins**<br>Saffrole | AOAC,19 th Ed.,2012,<br>Method no. 969.13,Ch-29,Page no. 4<br>WI/SAP-GC/5/19,<br>Issue no.:03, Issue date: 01.04.2014 | 8-1000 mg/kg or mg/L |
| | | Hypericine | WI/SAP-HPLC/5/10,<br>Issue no.:03, Issue date: 01.04.2014 | 0.8-1000 mg/kg or mg/L |
| | | Agaric acid | WI/SAP-GCMSMS/5/03,<br>Issue no.: 03, Issue date: 01.04.2014 | 50-1000 mg/kg or mg/L |
| | | Hydrocyanic acid | DGHS Lab Manual, Page no. 85, 2005<br>AOAC,19 th Ed., Method no.915.03,<br>Ch-49,Page no.106<br>WI/SAP-Food/5/102 | Qualitative |
| **26.** | **Food & Agriculture Products (Nut & Nut Products)** | **Aflatoxins**<br>Aflatoxin B1 | AOAC, 19 th Ed. 2012,<br>Method No. 991.31,Ch-49,Page no. 21<br>& Agilent Application note on Determination of Aflatoxins in Food by LC-MS/MS<br>WI/SAP-LCMSMS /5/02,<br>Issue no.: 03, Issue date: 01.04.2014 | 10-50 µg/kg |
| | | Aflatoxin B2 | AOAC, 19 th Ed. 2012,<br>Method No. 991.31,Ch-49,Page no. 21<br>& Agilent Application note on Determination of Aflatoxins in Food by LC-MS/MS<br>WI/SAP-LCMSMS /5/02,<br>Issue no.: 03, Issue date: 01.04.2014 | 5-25 µg/kg |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Food & Agriculture Products (Nut & Nut Products)** | **Aflatoxins**<br>Aflatoxin G1 | AOAC, 19 th Ed. 2012, Method No. 991.31,Ch-49,Page no. 21 & Agilent Application note on Determination of Aflatoxins in Food by LC-MS/MS<br>WI/SAP-LCMSMS/5/02,<br>Issue no.: 03, Issue date: 01.04.2014 | 10-50 µ g/kg |
| | | Aflatoxin G2 | AOAC, 19 th Ed. 2012, Method No. 991.31,Ch-49,Page no. 21 & Agilent Application note on Determination of Aflatoxins in Food by LC-MS/MS<br>WI/SAP-LCMSMS /5/02,<br>Issue no.: 03, Issue date: 01.04.2014 | 5-25 µ g/kg |
| **27.** | **Food & Agriculture Products**<br>**Pesticide Residues Organochlorine & Organophosphous (Fruits and Vegetables)** | **Pesticides residues** | | |
| | | Alpha HCH | NRCG SOP for the Residue Analysis of Agrochemicals<br>WI/SAP-GCMSMS/5/01<br>Issue No. 03, Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |
| | | Gamma HCH | NRCG SOP for the Residue Analysis of Agrochemicals<br>WI/SAP-GCMSMS/5/01,<br>Issue no.03,Issue date:01.04.2014 | 0.01 –0.2 mg/kg |
| | | Aldrin | NRCG SOP for the Residue Analysis of Agrochemicals<br>WI/SAP-GCMSMS/5/01,<br>Issue No.03,Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Food & Agriculture Products** | **Pesticides residues** Alachlor | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-GCMSMS/5/01, Issue No.03,Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |
| | **Pesticide Residues Organochlorine & Organophosphous (Fruits and Vegetables)** | Beta -HCH | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-GCMSMS/5/01, Issue No.03,Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |
| | | Delta-HCH | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-GCMSMS/5/01, Issue No.03,Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |
| | | 2,4 DDE | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-GCMSMS/5/01, Issue No.03, Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |
| | | Alpha Endosulfan | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-GCMSMS/5/01, Issue No.03, Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |
| | | 4,4 DDE | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-GCMSMS/5/01, Issue No.03, Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |
| | | Dieldrin | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-GCMSMS/5/01, Issue No.03,Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Food & Agriculture Products** | **Pesticides residues** 2,4 DDD | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-GCMSMS/5/01, Issue No.03,Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |
| | **Pesticide Residues Organochlorine & Organophosphous (Fruits and Vegetables)** | 2,4 DDT | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-GCMSMS/5/01, Issue No.03,Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |
| | | Beta Endosulfan | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-GCMSMS/5/01 Issue No.03,Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |
| | | 4,4 DDD | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-GCMSMS/5/01, Issue No.03,Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |
| | | 4,4 DDT | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-GCMSMS/5/01, Issue No.03,Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |
| | | Atrazine | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-LCMSMS/5/01, Issue No.03,Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |
| | | Endosulfan Sulphate | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-GCMSMS/5/01, Issue No.03,Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Food & Agriculture Products** | **Pesticides residues** Ethion | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-GCMSMS/5/01, Issue No.03, Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |
| | **Pesticide Residues Organochlorine & Organophosphous (Fruits and Vegetables)** | Phorate Sulphone | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-GCMSMS/5/01, Issue No.03,Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |
| | | Phorate Sulfoxide | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-GCMSMS/5/01, Issue No.03,Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |
| | | Malathion | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-LCMSMS/5/01 Issue No.03,Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |
| | | Malaoxon | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-LCMSMS/5/01, Issue No.03,Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |
| | | Methyl Parathion | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-GCMSMS/5/01, Issue no.03,Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |
| | | Chlorpyrifos | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-GCMSMS/5/01, Issue No.03,Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Food & Agriculture Products** | **Pesticides residues** Methyl Paraoxon | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-GCMSMS/5/01 Issue No.03,Issue date: 01.04.2014 | 0.1 – 0.5 mg/kg |
| | **Pesticide Residues Organochlorine & Organophosphous (Fruits and Vegetables)** | Monocrotophos | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-LCMSMS/5/01, Issue No.03,Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |
| | | Phorate | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-LCMSMS/5/01, Issue No.03,Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |
| | | Dichlorvos | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-GCMSMS/5/01, Issue No.03,Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |
| | | Formothion | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-GCMSMS/5/01, Issue No.03,Issue date: 01.04.2014 | 0.1 – 0.5 mg/kg |
| | | Heptachlor | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-GCMSMS/5/01, Issue No.03,Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |
| | | Fenitrothion | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-GCMSMS/5/01, Issue No.03,Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Food & Agriculture Products** | **Pesticides residues** Fenthion | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-GCMSMS/5/01, Issue No.03,Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |
| | **Pesticide Residues Organochlorine & Organophosphous (Fruits and Vegetables)** | Heptachlor epoxide | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-GCMSMS/5/01, Issue No.03,Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |
| | | Chlorienvinphos | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-GCMSMS/5/01, Issue No.03,Issue date: 01.04.2014, | 0.01 –0.2 mg/kg |
| | | Butachlor | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-GCMSMS/5/01, Issue No.03,Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |
| | | Captan | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-GCMSMS/5/01, Issue No.03,Issue date: 01.04.2014 | 0.1 – 0.5 mg/kg |
| | | Chlorobenzilate | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-GCMSMS/5/01, Issue No.03, Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |
| | | Dicofol | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-GCMSMS/5/01, Issue No.03, Issue date: 01.04.2014 | 0.1 – 0.5 mg/kg |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Food & Agriculture Products** | **Pesticides residues** Iprodoin | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-GCMSMS/5/01, Issue No.03, Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |
| | **Pesticide Residues Organochlorine & Organophosphous (Fruits and Vegetables)** | Captafol | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-GCMSMS/5/01, Issue No.03, Issue date: 01.04.2014 | 0.1 – 0.5 mg/kg |
| | | Fenvalerate | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-GCMSMS/5/01, Issue No.03, Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |
| | | Cypermethrin | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-GCMSMS/5/01, Issue No.03, Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |
| | | Deltamethrin | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-GCMSMS/5/01, Issue No.03, Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |
| | | Chlormequat chloride | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-LCMSMS/5/01, Issue No.03, Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |
| | | Carbendazim | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-LCMSMS/5/01, Issue No.03, Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Food & Agriculture Products** | **Pesticides residues** Trichlorfon | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-LCMSMS/5/01, Issue No.03, Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |
| | **Pesticide Residues Organochlorine & Organophosphous (Fruits and Vegetables)** | Dimethoate | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-LCMSMS/5/01, Issue No. 03, Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |
| | | 3-Hydroxy carbofuran | NRCG SOP for Residue Analysis of Agrochemicals WI/SAP-LCMSMS/5/01, Issue No. 03, Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |
| | | Cymoxanil | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-LCMSMS/5/01, Issue No. 03,Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |
| | | Phosphamidon | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-LCMSMS/5/01, Issue No. 03,Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |
| | | Simazine | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-LCMSMS/5/01, Issue No. 03,Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |
| | | Carbofuran | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-LCMSMS/5/01, Issue No. 03,Issue date: 01.04.2014’ | 0.01 –0.2 mg/kg |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Food & Agriculture Products** | **Pesticides residues** Carbaryl | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-LCMSMS/5/01, Issue No. 03,Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |
| | **Pesticide Residues Organochlorine & Organophosphous (Fruits and Vegetables)** | Diuron | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-LCMSMS/5/01 Issue No.03,Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |
| | | Dimethomorph | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-LCMSMS/5/01, Issue No.03,Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |
| | | Myclobutanil | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-LCMSMS/5/01, Issue No.03,Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |
| | | Triadimefon | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-LCMSMS/5/01, Issue No.03,Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |
| | | Triazophos | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-LCMSMS/5/01, Issue No.03,Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |
| | | Phenthoate | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-LCMSMS/5/01, Issue No.03,Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Food & Agriculture Products** | **Pesticides residues** Thiameton | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-LCMSMS/5/01, Issue No.03,Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |
| | **Pesticide Residues Organochlorine & Organophosphous (Fruits and Vegetables)** | Tridemorph | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-LCMSMS/5/01, Issue No.03,Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |
| | | Quinolphos | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-LCMSMS/5/01, Issue No.03,Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |
| | | Penconazole | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-LCMSMS/5/01, Issue No.03,Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |
| | | Edifenphos | NRCG SOP for Residue Analysis of Agrochemicals WI/SAP-LCMSMS/5/01, Issue No.03,Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |
| | | Diazinon | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-LCMSMS/5/01, Issue No.03,Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |
| | | Phosalone | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-LCMSMS/5/01, Issue No.03,Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Food & Agriculture Products** | **Pesticides residues** Pirimiphos methyl | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-LCMSMS/5/01, Issue No.03,Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |
| | **Pesticide Residues Organochlorine & Organophosphous (Fruits and Vegetables)** | Indoxacarb | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-LCMSMS/5/01 Issue No.03,Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |
| | | Novaluron | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-LCMSMS/5/01 Issue No.03,Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |
| | | Isoproturon | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-LCMSMS/5/01, Issue No.03,Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |
| | | Benomyl | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-LCMSMS/5/01, Issue No.03,Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |
| | | Ethephon | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-LCMSMS/5/01 Issue No.03,Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |
| | | 2,4-D | NRCG SOP for the Residue Analysis of Agrochemicals WI/SAP-LCMSMS/5/01, Issue No.03,Issue date: 01.04.2014 | 0.01 –0.2 mg/kg |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| **V.** | **COAL, COKE & OTHER SOLID FUEL** | | | |
| **1.** | **Coal/Coke,** | Total Moisture | IS 1350 (Part I) :1984, (RA 2007) Ed. 2.1,Amds.1 (Gravimetric Method) | 0.1 to 40g/100g |
| **2.** | **Coal carbonization products, Charcoal, Briquette, Solid fuels** | Ash | IS 1350 (Part I) :1984, (RA 2007), Ed. 2.1,Amds.1 (Gravimetric Method) | 0.1 to 80g/100g |
| | | Gross Calorific Value | IS 1350 (Part II) :1970, (RA 2009) Amds.1 (Bomb Calorimeter) | 100-9000 kcal/kg |
| | | Fixed Carbon | IS 1350 (Part I) :1984, (RA 2007) Ed. 2.1,Amds.1 (By Calculation) | 10-99g/100g |
| | | Volatile Matter | IS 1350 (Part I) :1984, (RA 2007) Ed. 2.1,Amds.1 (Gravimetric Method) | 0.4-60g/100g |
| | | Total Sulphur | IS 1350 (Part III): 1969,(RA 2009) (Gravimetric Method) | 0.1 to 5 g/100g |
| | | Nitrogen | IS 1350 (Part IV): Sec. 1: 1974, (RA 2009) (Kjeldhal Nitrogen) | 0.1-10 g/100g |
| | | Mercury | ASTM D 6414-14,2014 (Cold Vapour AAS Method) | 0.04-50 mg/kg |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| **VI** | **FERTILIZERS** | | | |
| **1.** | **Nitrogeneous, Phosphatic, Mixed, Potash & Micronutrients** | Moisture | FCO,2013,Schedule II, Part B-2, Page no. 56 (Gravimetric Method) | 0.1-10 g/100g |
| | | Total Nitrogen | FCO,2013,Schedule II ,Part B- iv, Page no. 58 (Kjeldhal Nitrogen) | 0.1-40 g/100g |
| | | Ammonia Nitrogen | FCO, Schedule II, Part B-vii, Page no. 62 (Distillation cum Titration) | 0.1-25 g/100g |
| | | Nitrogen as Urea | FCO,2013,Schedule II, Part B-xi, , Page no. 64 (Kjeldhal Nitrogen) | 0.1-50 g/100g |
| | | Free Acidity | FCO,2013,Schedule II, Part B-xiii, Page no. 66 (Titration Method) | 0.1-10 g/100g |
| | | Water Insoluble Nitrogen | FCO,2013, Schedule II, Part B-x, Page no. 63 (Gravimetric Method) | 0.1-30 g/100g |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Nitrogeneous, Phosphatic, Mixed, Potash & Micronutrients** | Particle Size | FCO,2013,Schedule II, Part B-20, Page no. 117 (Sieving cum Gravimetric Method) | 0 to 100 g/100g |
| | | Free Phosphoric Acid | FCO,2013,Schedule II, Part B-vii, Page no. 74 (Titration Method) | 0.01-7 g/100g |
| | | Water Soluble Phosphates | FCO,2013,Schedule II, Part B-iii, Page no. 71 (Gravimetric Method) | 0.01-20 g/100g |
| | | Total Phosphates | FCO,2013,Schedule II, Part B- ii, Page no. 71 (Gravimetric Method) | 0.01-50 g/100g |
| | | Potash content | FCO,2013, Schedule II, Part B- 5, Page no. 77 (Titration Method) | 0.01-50 g/100g |
| | | Total Chlorides | FCO,2013,Schedule II, Part B-18, Page no. 114 (Titration Method) | 0.01-30 g/100g |
| | | Sodium | FCO,2013,Schedule II, Part B-17, Page no.113 (AAS Method) | 20mg/kg-50 g/100g |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Nitrogeneous, Phosphatic, Mixed, Potash & Micronutrients** | Zinc | FCO,2013,Schedule II, Part B-22-A,Page no. 119 (AAS Method) | 1mg/kg -25g/100g |
| | | Iron | FCO,2013,Schedule II, Part B-22-A,Page no. 119 (AAS Method) | 8mg/kg -25g/100g |
| | | Manganese | FCO,2013,Schedule II, Part B-22-A,Page no.119 (AAS Method) | 5mg/kg -25g/100g |
| | | Copper | FCO,2013,Schedule II, Part B-22-A,Page no.119 (AAS Method) | 4mg/kg -25g/100g |
| | | Boron | FCO,2013,Schedule II, Part B-23, Page no.120 (Titration Method) | 0.01-25 g/100g |
| | | Total Sulphur | FCO,2013,Schedule II, Part B-24, Page no.122 (Gravimetric Method) | 0.1 – 10 g/100g |
| | | Elemental Sulphur | FCO,2013,Schedule II, Part B-24, Page no.123 (Gravimetric Method) | 0.1 – 10 g/100g |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Nitrogeneous, Phosphatic, Mixed, Potash & Micronutrients** | Arsenic | FCO,2013,Schedule II, Part B-B-xiv,Page no.66 (Gutzeit apparatus method) | 1mg/kg-25g/100g |
| | | Lead | FCO,2013,Schedule II, Part B-V, Page no.93 (AAS Method) | 2 –1000 mg/kg |
| | | Mercury | FCO, 2013,Schedule III, Part D-11,Page no.144G (Cold Vapour AAS Method & Instrument Manufacturer Instruction) | 0.1 -100 mg/kg |
| | | Cadmium | FCO, 2013, Schedule II, Part B-(X),Page no.95 (AAS Method) | 0.2 –100 mg/kg |
| | | Water Insoluble Matter | FCO, 2013, Schedule II, Part B- x, Page no. 109 (Gravimetric Method) | 0.1 – 10 g/100g |
| **2.** | **Bio-fertilizers, Organic Fertilizers, City Compost, Vermicompost** | pH | FCO, 2013, Schedule IV, Part D-1, Page no. 144 D (By pH meter) | 1 – 14 |
| | | Moisture | FCO, 2013,Schedule IV, Part D-2, Page no. 144 E (Gravimetric Method) | 2 – 50 g/100g |
| | | Colour | In-house qualitative method (Visual appearance) WI/SAP-OF/5/6, Issue No. 03, Issue date: 01.04.2014 | Qualitative |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Bio-fertilizers, Organic Fertilizers, City Compost, Vermicompost** | Odour | In-house qualitative method WI/SAP-OF/5/6, Issue No. 03, Issue date: 01.04.2014 | Qualitative |
| | | Particle Size | In-house method WI/SAP-OF/5/3, Issue No. 03, Issue date: 01.04.2014, | 1.0 to 100 % |
| | | Bulk Density | FCO, 2013,Schedule IV, Part D-3, Page no. 144E (Gravimetric Method) | 0.1 -30 g/cm3 |
| | | Electrical Conductivity | FCO, 2013, Schedule IV, Part D-4, Page no. 144 E (Conductivity Meter) | 1 – 20 dSm -1 |
| | | Total Organic Carbon | FCO, 2013, Schedule IV Part D-5, Page no.144 E (Gravimetric Method) | 1 – 35 g/100g |
| | | Total Nitrogen | FCO, 2013,Schedule IV, Part D-6, Page no.144 F (Kjeldhal Nitrogen) | 0.1 –25 g/100g |
| | | Carbon:Nitrogen Ratio | FCO, 2013,Schedule IV, Part D-7, Page no.144 F (By Calculation Method) | 0.2 -25 |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Bio-fertilizers, Organic Fertilizers, City Compost, Vermicompost** | Total Phosphate | FCO, 2013,Schedule IV Part D-8, Page no. 144 F (Spectrophotometer Method) | 0.05 –25 g/100g |
| | | Total Potassium | FCO, 2013,Schedule IV, Part D-9, Page no.144 F (Flame Photometry Method) | 0.05 – 10 g/100g |
| | | Cadmium | FCO, 2013,Schedule IV, Part D-10, Page no.144 G (AAS Method) | 0.2 –100 mg/kg |
| | | Copper | FCO, 2013,Schedule IV, Part D-10, Page no. 144 G (AAS Method) | 1 –5000 mg/kg |
| | | Chromium | FCO, 2013,Schedule IV, Part D-10, Page no.144 G (AAS Method) | 2 – 200 mg/kg |
| | | Lead | FCO, 2013,Schedule IV, Part D-10,Page no.144 G (AAS Method) | 2 – 150 mg/kg |
| | | Nickel | FCO, 2013,Schedule IV, Part D-10, Page no.144 G (AAS Method) | 1.2 – 100 mg/kg |
| | | Zinc | FCO, 2013,Schedule IV, Part D-10, Page no.144 G (AAS Method) | 0.2– 1000 mg/kg |
| | | Mercury | FCO, 2013,Schedule IV, Part D-11, Page no.144 G (Cold Vapour AAS Method &Instrument Manufacturer Instruction) | 0.1 – 10 mg/kg |

| | | | |
|---|---|---|---|
| **Laboratory** | **Ashwamedh Engineers & Consultants Co-op. Soc. Ltd., Laboratory Services Division, Survey No. 102, Plot No. 26, Wadala Pathardi Road, Indira Nagar, Nashik, Maharashtra** | | |
| **Accreditation Standard** | **ISO/IEC 17025: 2005** | | |
| **Discipline** | **Chemical Testing** | **Issue Date** | **02.12.2014** |
| **Certificate Number** | **T-1188** | **Valid Until** | **01.12.2016** |
| **Last Amended on** | **19.12.2014** | **Page** | **134 of 134** |

| S.No. | Product / Material of Test | Specific Test Performed | Test Method Specification against which tests are performed | Range of Testing / Limits of Detection |
|---|---|---|---|---|
| | **Bio-fertilizers, Organic Fertilizers, City Compost, Vermicompost** | Arsenic | FCO, 2013,Schedule IV, Part D-12, Page no.144 H (Hydride AAS Method ) | 0.2 –100 mg/kg |

**-X-X-X-X-X-X-X-X-X-X-X-X-X-X-**

***NOTE**: The Laboratory has demonstrated competence for the stated scope for **WATER**. This however **does not fully cover** the specification requirements of **BIS for the Packaged Drinking Water as per IS:14543 and the Packaged Natural Mineral Water IS:13428.**

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**Convenor**

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