

Laboratory **Quality Control and Quality Assurance Division, CSIR-Indian Institute of Integrative Medicine, Canal Road, Jammu-Tawi, Jammu & Kashmir**

Accreditation Standard **ISO/IEC 17025: 2005**

Certificate Number **TC-6948 (in lieu of T-1021)**

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Validity **01.03.2018 to 29.02.2020**

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Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
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CHEMICAL TESTING

I.	ANIMAL FOOD & FEEDS			
1.	Cotton seed cake, Poultry feed additives, Animal nutrition, supplements, Oil cake	Moisture	IS: 7874	0.05% to 20%
		Crude protein	SOP 47, 26/9/2015, Issue 1, Rev. 03	0.01% to 75%
		Crude fiber	IS: 7874	0.05% to 50%
		Crude fat	IS: 7874	0.05% to 56%
		Total ash	IS: 7874	0.05% to 20%
		Acid insoluble ash	IS: 7874	0.05% to 10%
		Total carbohydrates	AOAC Method 986.25	5% to 80%
		Salt as sodium chloride	SP: 18 (Part XV)	0.1% to 10%
	Total energy	SOP 69, 25/05/2015, Issue 01, Rev. 0.	10 kcal to 5000 kcal/kg	
II.	AYUSH PRODUCTS			
1.	Ayurvedic drugs, Unani drugs, Herbal formulations, (Raw material/ root/ stem/ leaf/ bark/ fruit/seeds and extracts)	Heavy Metals analysis by ICP-MS		
		Mercury	SOP 08, 3/11/17, Issue 01, Rev. 02.	0.001 mg/kg to 1000 mg/kg
		Lead		0.0001 mg/kg to 1000 mg/kg
		Cadmium		0.0001 mg/kg to 1000 mg/kg
		Arsenic		0.0001 mg/kg to 1000 mg/kg
		Pesticide residues analysis by GC-MS		
		Alachlor	SOP 16, 5/11/17, Issue 1, Rev. 1.	0.01 µg/g to 100 µg/g
		Aldrin		
		Alpha HCH		
	Azinphos methyl			

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		Beta-HCH		
		Bromopropylate		
		Chlordane		
		Chlorfenvinphos		
		Chlorfenvinphos trans		
		Chlorpyrifos-methyl		
		Chlorpyrifos		
		Cypermethrin-I		
		Cypermethrin-II		
		Delta HCH		
		Diazinon		
		Dieldrin		
		Endosulfan sulfate		
		Endosulfan-I		
		Endosulfan-II		
		Endrin		
		Ethion		
		Fenitrothion		
		Fonofos		
		Fenvalerate		
		Gama HCH		
		HCB		
		Heptachlor		
		Heptachlor endo epoxide		
		Heptachlor exo epoxide		
		Malathion		
		Methidathion		
		Pentachloroaniline		
		Permethrin		
		Phosalone		
		Pirimiphos methyl		
		p-p-DDD		
		p-p-DDE		

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		p-p-DDT		
		o-p-DDT		
		Piperonyl butoxide		
		Quintozene		
		Aflatoxins analysis by HPLC		
		B1	SOP 25, 07/12/2017, Issue 1, Rev. 0	0.5 µg/kg to 500 µg/kg
		B2		
		G1		
		G2		
		Total Ash	SOP 64, 25/05/2015, Issue 01, Rev. 0	3% to 25%
		Acid insoluble ash		2% to 20%
		Water soluble extractive value	SOP 65, 25/05/2015, Issue 01, Rev. 0	1% to 60%
		Alcohol soluble extractive value		1% to 50%
		Loss on drying at 105 °C	SOP 66, 25/05/2015, Issue 01, Rev. 0	3% to 25%
		HPLC	SOP 71, 07/12/2017, Issue 1, Rev. 0	Qualitative
		HPTLC qualitative	SOP 68, 25/05/2015, Issue 01, Rev. 0	Qualitative
2.	Saffron preparations	Moisture & Volatile content at 103 °C	IS 5453 Part II ISO 3632-2	0.01% to 10%
		Crude fiber		0.01% to 10%
		Total ash		0.01% to 10%
		Ash insoluble in HCl		0.01% to 10%
		Colouring Strength (expressed as Crocin)		At E _{1cm} ^{1%} (440 nm) Grade I: 190 Grade II: 150 Grade III: 110 Grade IV: 80
		Safranal		At E _{1cm} ^{1%} (330 nm) Aroma range: 20-50

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Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Bitterness (expressed as Picrocrocine)		At E _{1cm} ^{1%} (257nm) Grade I: 70 Grade II: 55 Grade III: 40 Grade IV: 30
3.	Piper nigrum	Piperine by HPLC	SOP 21, 25/05/2015, Issue 1, Rev.0	0.01% to 99.5%
III.	COSMETICS & ESSENTIAL OILS			
1.	Essential oils and natural fragrant raw materials	Characterisation	ISO-7359: 1980; E, ISO-7609:1985;E, IS-528:1989, IS-587:1988 IS-6774:2006	Qualitative
2.	Lavender oil and its products	Linalool	SOP No. 31, 05/07/2016, Issue no. 01, Rev. no. 01	0.01% to 50%
		Linalyl acetate		0.01% to 50%
		HPTLC profile (qualitative)	SOP 22, 05/08/2015, Issue 1, Rev. 0	Qualitative
		Heavy metals		
		Hg	SOP 29, 3/11/17, Issue 01, Rev. 02.	0.001 mg/kg to 1000 mg/kg
		Pb		0.0001 mg/kg to 1000 mg/kg
		Cd		0.0001 mg/kg to 1000 mg/kg
		As		0.0001 mg/kg to 1000 mg/kg
3.	Mentha oil and its products	Assay of Menthol by GC	SOP No. 32, 05/07/2016, Issue no. 01, Rev. no. 01	0.01% to 99.5%
		HPTLC profile	SOP 32, 05/08/2015, Issue 1, Rev. 0	Qualitative

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		Heavy metals		
		Hg	SOP 29, 3/11/17, Issue 01, Rev. 02	0.001 mg/kg to 1000 mg/kg
		Pb		0.0001 mg/kg to 1000 mg/kg
		Cd		0.0001 mg/kg to 1000 mg/kg
		As		0.0001 mg/kg to 1000 mg/kg
IV.	FOOD & AGRICULTURAL PRODUCTS			
1.	Nuts	Aflatoxins		
		B1	SOP 26, 07/12/2017, Issue 1, Rev. 0	0.5 µg/kg to 20 µg/kg
		B2		
		G1		
		G2		
		Free Fatty Acids	SOP 34 7/5/2013 Issue no. 02, Rev. no. 02	0.01% to 50%
		Peroxide value	AOAC 20 th Ed. Official Method 965.33 Section 41.1.14	0.2 to 2000 meq / kg
		Iodine value	AOAC 20 th Ed. Official Method 920.158 Sec. 41.1.14	10 to 250
2.	Honey	Moisture	IS:4941	0.01% to 30%
		Specific gravity	IS:4941	1% to 2 %
		Reducing sugar	IS:4941	0.01% to 90%
		Sucrose	IS:4941	0.2% to 95%
		Fructose-Glucose Ratio	IS:4941	0.5% to 1.5
		Acidity	IS:4941	0.1% to 5%
		Ash	IS:4941	0.1% to 5%

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3.	Alcoholic drinks & beverages	pH	SOP- 63, 25/05/2015, Issue 01, Rev. 0.	3 to 12
		Ethyl alcohol content	IS:3752	0.1% to 45%
		Residue on evaporation	IS:3752	0.01 g/100L to 10g/100L
		Total Acidity as tartaric acid	IS:3752	0.1 g/100L to 100g/100L
		Volatile acidity as acetic acid	IS:3752	0.7 g/100L to 100g/100L
		Esters as ethyl acetate	IS:3752	2.0 g/100L to 100g/100L
		Higher alcohols as amyl alcohol	IS:3752	4.1 g/100L to 400g/100L
		Aldehydes as acetaldehyde	IS:3752	0.6 g/100L to 80g /100L
		Determination of Methyl alcohol	SOP 62, 25/05/2015, Issue 01, Rev. 0	Qualitative
4.	Spices & condiments	Volatile oil	IS: 1797	0.5% to 40%
		Total Ash	IS: 1797	0.05% to 20%
		Acid insoluble ash	IS: 1797	0.05% to 20%
		Alcohol soluble extract	IS: 1797	0.4% to 80%
		Water soluble extract	IS: 1797	0.05% to 80%
		Crude fibre	IS: 1797	0.05% to 35%
V.	RESIDUE IN FOOD PRODUCTS			
1	Honey	Pesticide residues		
		Cypermethrin-III		0.1 µg/gm to 100 µg/gm
		Cypermethrin-IV		
		Delta HCH		
		Diazinon		
		Dieldrin		
		Endosulfan sulfate		
		Endosulfan-I		
Endosulfan-II				

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		Endrin		
		Fenitrothion		
		Fonofos		
		HCB		
		Heptachlor endo epoxide		
		Heptachlor exo epoxide		
		Malathion		
		Methyl parathion		
		Methidathion		
		Permethrin-I		
		Permethrin-II		
		Phosalone		
		Pirimiphos methyl		
		p-p-DDD		
		p-p-DDT		
2.	Alcoholic drinks & beverages	Pesticide residues		
		Alachlor		0.1 µg/l to 100 µg/l
		Aldrin		
		Alpha HCH		
		Azinphos methyl		
		Beta-HCH		
		Bromopropylate		
		Chlordane		
		Chlorfenvinphos		
		Chlorfenvinphos trans		
		Chlorpyrifos-methyl		
		Chlorpyrifos		
		Cypermethrin-I		
		Cypermethrin-II		
		Diazinon		
		Dichlorvos		
		Dieldrin		
		Endosulfan sulfate		

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		Endosulfan-I		
		Endosulfan-II		
		Gama HCH		
		HCB		
		Heptachlor		
		Heptachlor endo epoxide		
		Heptachlor exo epoxide		
		Malathion		
		Methidathion		
		Pentachloroaniline		
		Permethrin		
		Phosalone		
		Pirimiphos		
		p-p-DDD		
		p-p-DDE		
		p-p-DDT		
		o-p-DDT		
		Piperonyl butoxide		
		Quintozene		
VI.	NUTRACEUTICALS			
1.	Nutraceuticals	Heavy metals		
		Lead	SOP 28, 3/11/17, Issue 01, Rev. 02.	0.0001 mg/kg to 1000 mg/kg
		Mercury		0.0001 mg/kg to 1000 mg/kg
		Arsenic		0.0001 mg/kg to 1000 mg/kg
		Cadmium		0.0001 mg/kg to 1000 mg/kg

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		Pesticide residues		
		Alachlor	SOP 18, 26/05/15, Issue 01, Rev. 02.	0.01 µg/g to 100 µg/g
		Aldrin		
		Alpha HCH		
		Azinophos methyl		
		Beta-HCH		
		Bromopropylate		
		Chlordane		
		Chlorfenvinphos cis		
		Chlorfenvinphos trans		
		Chlorpyrifos-methyl		
		Chlorpyrifos		
		Cypermethrin-I		
		Cypermethrin-II		
		Cypermethrin-III		
		Cypermethrin-IV		
		Delta HCH		
		Dichloroves		
		Diazinon		
		Dieldrin		
		Endosulfan sulfate		
		Endosulfan-I		
		Endosulfan-II		
		Endrin		
		Ethion		
		Fenitrothion		
		Fenvalerate		
		Fonofos		
		HCB		
		Heptachlor		
		Heptachlor endo epoxide		
		Heptachlor exo epoxide		
		Malathion		

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Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Methyl parathion		
		Methidathion		
		Permethrin-I		
		Permethrin-II		
		Pentachloroaniline		
		Phosalone		
		Pirimiphos methyl		
		Piperonyl butoxide		
		p-p-DDD		
		p-p-DDT		
		Quntiozene		
		2-4-DDT		
		4-4DDD		
		4-4DDE		
		4-4DDT		
		Aflatoxins		
		B1	SOP 27, 07/12/2017, Issue 1, Rev. 0	0.5 µg/kg to 500 µg/kg
		B2		0.5 µg/kg to 500 µg/kg
		G1		501µg/kg to 2000 µg/kg
		G2		501µg/kg to 2000 µg/kg
		Energy Value	SOP 61: 3/6/2013 Issue no. 01, Rev. no. 01	10 kcal to 5000 kcal/kg
		Total carbohydrates	SOP 45, 05/08/2015, Issue no. 01, Rev. 01	5% to 80%
		Total proteins	SOP 47, 26/09/2015, Issue 01, Rev. 3.	0.01% to 75%
		Total Sugars	SOP 54, 25/09/2015, Issue no. 01, Rev. 2.	0.2% to 95%
		Total Fat (Lipid)	SOP 55, 25/09/2015, Issue no. 01, Rev. 2.	0.05% to 56%
		Vitamins		
		Vitamin A	SOP 43, 25/01/2016, Issue 01, Rev. 01. SOP 44,	10mg/kg to 200 mg/kg
		Vitamin B1		5mg/kg to 200 mg/kg

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		Vitamin B6	25/01/2016, Issue 01, Rev. 01	5mg/kg to 200 mg/kg
		Vitamin D		10mg/kg to 200 mg/kg
		Vitamin K		10mg/kg to 200 mg/kg
		Vitamin C		20mg/kg to 5000 mg/kg
		Vitamin B2		5mg/kg to 200 mg/kg
		Vitamin B12		1mg/kg to 200 mg/kg
		Vitamin E		10mg/kg to 200 mg/kg
		Vitamin B9		10 mg/kg to 200 mg/kg
		Total fatty acids	SOP 60, 26/05/2015, Issue 01, Rev. 0	0.5% to 15%
		Total Saturated FA		0.5% to 15%
		Total Unsaturated FA		0.5% to 15%
VII.	WATER			
1.	Surface water, Ground water, Drinking water, Packaged drinking water, Swimming pool water, Water from purifiers	Total Dissolved solids	IS:3025 (Part-16)	2 mg/l to 2000 mg/l
		Residual Free Chlorine	IS:3025 (Part-26)	0.01 mg/l to 100 mg/l
		Magnesium	IS:3025 (Part-46)	0.5 mg/l to 500 mg/l
		Conductivity	APHA: Ed.23 rd 2510A	0.0 µs to 199, 900µs
		Copper	SOP 07, 28/11/17, issue no.: 01, Rev. no.: 01	0.0001 mg/l to 300 mg/l
		Iron	SOP 07, 28/11/17, issue no.: 01, Rev. no.: 01	0.0001 mg/l to 65 mg/l
		Manganese	SOP 07, 28/11/17, issue no.: 01, Rev. no.: 01	0.0001 mg/l to 50 mg/l
		Zinc	SOP 07, 28/11/17, issue no.: 01, Rev. no.: 01	0.0001 mg/l to 60 mg/l
		Selenium	SOP 07, 28/11/17, issue no.: 01, Rev. no.: 01	0.0001 mg/l to 90mg/l
		Cadmium	SOP 07, 28/11/17, issue no.: 01, Rev. no.: 01	0.0001 mg/l to 50mg/l
		Mercury	SOP 07, 28/11/17, issue no.: 01, Rev. no.: 01	0.001 mg/l to 200 mg/l

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		Arsenic	SOP 07, 28/11/17, issue no.: 01, Rev. no.: 01	0.0001 mg/l to 270 mg/l
		Lead	SOP 07, 28/11/17, issue no.: 01, Rev. no.: 01	0.0001 mg/l to 27 mg/l
		Chromium	SOP 07, 28/11/17, issue no.: 01, Rev. no.: 01	0.001 mg/l to 21 mg/l
		Calcium	IS:3025 (Part-40) 1991, reaffirmed 2003	0.001 mg/l to 800 mg/l
VIII.	RESIDUE IN WATER			
1.	Surface water, Ground water, Drinking water, Packaged drinking water, Swimming pool water, Water from purifiers	Pesticide residues		
		Alachlor	SOP 15, 26/05/2015, Issue 01, Rev. 00.	0.05 µg/l to 100 µg/l
		Aldrin		
		Alpha HCH		
		Azinphos methyl		
		Beta-HCH		
		Bromopropylate		
		Chlordane		
		Chlorfenvinphos		
		Chlorfenvinphos trans		
		Chlorpyrifos-methyl		
		Chlorpyrifos		
		Cypermethrin-I		
		Cypermethrin-II		
		Delta HCH		
Diazinon				
Dichlorvos				
Dieldrin				
Endosulfan sulfate				
Endosulfan-I				
Endosulfan-II				
Endrin				

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		Ethion		
		Fenitrothion		
		Fonofos		
		Fenvalerate		
		Gama HCH		
		HCB		
		Heptachlor		
		Heptachlor endo epoxide		
		Heptachlor exo epoxide		
		Malathion		
		Methidathion		
		Pentachloroaniline		
		Permethrin		
		Phosalone		
		Pirimiphos		
		p-p-DDD		
		p-p-DDE		
		p-p-DDT		
		o-p-DDT		
		Piperonyl butoxide		
		Quintozene		

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**.

Ashutosh D. Tatwawadi
Convenor

N. Venkateswaran
Program Director