

Laboratory **Quality Evaluation Laboratory, Spices Board, Sugandha Bhavan,  
N.H. By Pass, Palarivattom, Kochi, Kerala**

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

Certificate Number **TC-6491 (in lieu of T-0729, T-0730)**

Page 1 of 6

Validity **24.11.2017 to 23.11.2019**

Last Amended on --

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
<b><u>BIOLOGICAL TESTING</u></b>				
<b>I.</b>	<b>FOOD &amp; AGRICULTURAL PRODUCTS</b>			
<b>1.</b>	<b>Spices and Spice products</b>	Bacillus cereus	FDA BAM, Chapter 14, 2012	1x10 <sup>1</sup> to 150x10 <sup>6</sup> CFU/g
		Coliforms	FDA BAM, Chapter 4,2013	<3 to >1100 MPN/g
		Clostridium perfringens	FDA BAM, Chapter 16, 2001	1x10 <sup>1</sup> to 200x10 <sup>6</sup> CFU/g
		Escherichia coli	FDA BAM, Chapter 4,2013	<3 to >1100 MPN/g
		Salmonella	FDA BAM, Chapter 5,2014 AOAC International, 20 <sup>th</sup> edition ,2013,Volume I, Chapter 17	Qualitative (Present/Absent in 25 g)
		Staphylococcus aureus	FDA BAM, Chapter 12, 2001	1x10 <sup>1</sup> to 200x10 <sup>6</sup> CFU/g
		Total Plate Count	FDA BAM, Chapter 3,2001	1x10 <sup>1</sup> to 250x10 <sup>6</sup> CFU/g
		Yeast and Mould Count	FDA BAM, Chapter 18, 2001	1x10 <sup>1</sup> to 150x10 <sup>6</sup> CFU/g
		Enterobacteriaceae	IS/ISO 7402:1993	1x10 <sup>1</sup> to 150x10 <sup>6</sup> CFU/g

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Page 2 of 6

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<b>CHEMICAL TESTING</b>				
<b>1.</b>	<b>FOODS &amp; AGRICULTURAL PRODUCTS</b>			
	<b>Herbs, spices and condiments</b>			
<b>1.</b>	<b>Chillies (Whole and Ground)</b>	Total ash Acid Insoluble ash Moisture	ASTA Method 3.0, 1997 ASTA Method 4.0, 1997 ASTA Method 2.0, 1997	3% to 10% 0.1% to 2.0% 5%to 15%
<b>2.</b>	<b>Black Pepper (Whole)</b>	Light Berries Mineral Oil	ASTA Method 14.2, 2013 MOA 40.21 , Issue No 1 Reaffirmed on 10/04/2015	1.0% to 5.0% Qualitative (Present/Absent)
<b>3.</b>	<b>Black Pepper (Whole &amp; Ground)</b>	Moisture Total ash Acid insoluble ash Volatile oil	ASTA Method 2.0, 1997 ASTA Method 3.0, 1997 ASTA Method 4.0, 1997 ASTA Method 5.0, 2010	5% to 15% 3% to 10% 0.1%to 2.0% 2.0% to 5.0%
<b>4.</b>	<b>Cardamom (Whole and Ground)</b>	Moisture Total ash Acid insoluble ash Volatile oil	ASTA Method 2.0, 1997 ASTA Method 3.0, 1997 ASTA Method 4.0, 1997 ASTA Method 5.0, 2010	5%to 15% 3% to 10% 0.1% to 2.0% 2.0% to 10.0%
<b>5.</b>	<b>Turmeric (Whole and Ground)</b>	Moisture Total ash Acid insoluble ash Starch Volatile oil	ASTA Method 2.0, 1997 ASTA Method 3.0, 1997 ASTA Method 4.0, 1997 ASTA Method 8.0, 1997 ASTA Method 5.0, 2010	5%to 15.0% 3.0% to 10.0% 0.1% to 2.0% 40.0% to 60.0% 3.0% to 8.0%
<b>6.</b>	<b>Ginger (Whole and Ground)</b>	Moisture Total ash Acid insoluble ash Volatile oil	ASTA Method 2.0, 1997 ASTA Method 3.0, 1997 ASTA Method 4.0, 1997 ASTA Method 5.0, 2010	5.0% to 15.0% 3.0% to 10.0% 0.1% to 2.0% 1.0%to 4.0%
<b>7.</b>	<b>Coriander (Whole and Ground)</b>	Moisture Total ash Acid insoluble ash Volatile oil	ASTA Method 2.0, 1997 ASTA Method 3.0, 1997 ASTA Method 4.0, 1997 ASTA Method 5.0, 2010	3.0% to 15.0% 3.0% to 10.0% 0.1% to 2.0% 0.1%to 2.0%

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Page 3 of 6

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8.	<b>Fennel (Whole and Ground)</b>	Moisture Total ash Acid insoluble ash Volatile oil	ASTA Method 2.0, 1997 ASTA Method 3.0, 1997 ASTA Method 4.0, 1997 ASTA Method 5.0, 2010	5.0% to 15.0% 3.0% to 10.0% 0.1% to 2.0% 0.5% to 2.0%
9.	<b>Fenugreek (Whole and Ground)</b>	Moisture Total ash Acid insoluble ash	ASTA Method 2.0, 1997 ASTA Method 3.0, 1997 ASTA Method 4.0, 1997	3.0% to 15.0% 3.0% to 10.0% 0.1% to 2.0%
10.	<b>Celery Seeds</b>	Moisture Total ash Acid insoluble ash Volatile oil	ASTA Method 2.0, 1997 ASTA Method 3.0, 1997 ASTA Method 4.0, 1997 ASTA Method 5.0, 2010	3.0% to 15.0% 3.0% to 10.0% 0.1% to 2.0% 0.5% to 2.5%
11.	<b>Cumin (Whole and Ground)</b>	Moisture Total ash Acid insoluble ash Volatile oil	ASTA Method 2.0, 1997 ASTA Method 3.0, 1997 ASTA Method 4.0, 1997 ASTA Method 5.0, 2010	3.0% to 15.0% 3.0% to 10.0% 0.1% to 2.0% 2.0% to 5.0%
12.	<b>Tamarind</b>	Moisture	ASTA Method 2.0, 1997	10.0% to 25.0%
13.	<b>Curry Powder</b>	Moisture Total Ash Acid insoluble ash Volatile Oil	ASTA Method 2.0, 1997 ASTA Method 3.0, 1997 ASTA Method 4.0, 1997 ASTA Method 5.0, 2010	3.0% to 15.0% 0.1% to 5.0% 0.1% to 2.0% 3.0% to 10.0%
14.	<b>Spices (Whole)</b>	Excreta Mammalian Excreta others Extraneous/Foreign matter Insect infested/defiled Whole insects, dead Mould (visual)	ASTA cleanliness Specifications for spices, seeds and herbs, 2007 Method No. 14.1	2.27 mg/kg to 907.2 mg/kg (5 mg/lb to 2000 mg/lb) 2.27 mg/kg to 454 mg/kg (5 mg/lb to 1000 mg/lb) up to 5% up to 5% up to 5% up to 5%
15.	<b>Chillies &amp; Chilly Oleoresin</b>	Color value	ASTA Method 20.1, 2004 Version	60 to 2000 (ASTA Units)
16.	<b>Turmeric and Turmeric products</b>	Curcumin	ASTA Method 18.0, 2004 Version	2% to 10%

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Page 4 of 6

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17.	Spices and Spice Products	Oleoresin (MDC extractable)	ASTA Method 11.0, 1997 Version	5% to 15%
		Water Activity	MOA 20.28 Issue No 2 Reaffirmed on 10/04/2015	0.100 to 1.00 at ambient temperature
		Added starch	MOA 10.50 Issue No 3 dtd 23/08/2015	Qualitative (Present/Absent)
18.	Pepper & Pepper Products	Piperine	ASTA Method 12.1, 1997 Version	3.0% to 10%
19.	Spices (Whole and Ground)	Starch	ASTA Method 8.0, 1997 Version	30% to 60%
		Sulphur Dioxide	AOAC – 20 <sup>th</sup> Edition, Vol.II 2016, Method No. 990.28	5 mg/kg to 100 mg/kg
20.	Chilly and Chilly Products	Capsaicin (NHC, Capsaicin, DHC Total Capsaicinoids)	ASTA Method 21.3, 2004 Version	900 SHU to 9000 SHU (0.06%) 9,001 SHU to 90000 SHU (0.6%) 90001 SHU to 644060 SHU(4.0%)
21.	Vanilla and Vanilla products	Vanillin	AOAC – 20 <sup>th</sup> Edition, Vol.II, 2016, Method No. 990.25	0.10% to 10% 10%to 30% 30% to 98%
22.	Cumin whole	Other seeds	MOA 10.10 Issue No 5 dtd 27/03/2014	upto 5%

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Page 5 of 6

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II.	<b>RESIDUES IN FOOD PRODUCTS</b>			
1.	<b>Spices and Spice Products (Whole and Ground)</b>	<b>Mycotoxins</b> Aflatoxin B1 Aflatoxin B2 Aflatoxin G1 Aflatoxin G2 Total Aflatoxin	MOA 40.10, Issue No 4 Dtd 9/4/2015	0.5 µg/kg to 500 µg/kg 0.5 µg/kg to 500 µg/kg 0.5 µg/kg to 500 µg/kg 0.5 µg/kg to 500 µg/kg 0.5 µg/kg to 500 µg/kg
		Ochratoxin A	MOA 40.11, Issue No 3 Reaffirmed on 10/04/2015	5.0 µg/kg to 1000 µg/kg
		<b>Sudan Dyes</b> Sudan I Sudan II Sudan III Sudan IV	MOA 40.14 Issue No 2 (LC MSMS) MOA 40.13 Issue No 2 (HPLC) Reaffirmed on 10/04/2015	10 µg/kg to 1000 µg/kg 100 µg/kg to 10000 µg/kg
		<b>Illegal Dyes</b> Para Red Rhodamine B Butter Yellow Sudan Orange G Sudan Red 7b	MOA 40.17 Issue No 3 Reaffirmed on 10/04/2015	10 µg/kg to 1000 µg/kg
		<b>Pesticide Residues:</b> <u>Organochlorine</u> Aldrin α- BHC β-BHC γ -BHC δ - BHC Dieldrin Endosulfan I Endosulfan II Endosulfan Sulphate Endrin Endrin Aldehyde Heptachlor Heptachlor Epoxide	MOA 40.03, Issue No 11 Reaffirmed on 10/04/2015	50 µg/kg to 10000 µg/kg

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**Page 6 of 6**

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		<u>Organophosphorus</u> Chlorpyriphos Quinalphos Ethion Triazophos Dimethoate Iprobenfos Profenofos	MOA 40.08, Issue No 9 Reaffirmed on 10/04/2015	50 µg/kg to 10000 µg/kg
		Pyrethroid Cypermethrin Fenvalerate	MOA 40.03 , Issue No 11 Reaffirmed on 10/04/2015	50 µg/kg to 10000 µg/kg

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Rini Narayan  
Convenor

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N. Venkateswaran  
Program Director