

Laboratory **Quality Assurance Laboratory, Synthite Industries Limited, Synthite Valley, Kolenchery, Kerala**

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

Certificate Number **TC-6465 (in lieu of T-0998, T-0999)**

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Validity **07.08.2017 to 06.08.2019**

Last Amended on **30.10.2017**

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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**BIOLOGICAL TESTING**

<b>I. FOOD AND AGRICULTURAL PRODUCTS</b>				
<b>1.</b>	<b>Whole and Ground Spices and Condiments, Spice Oils and Oleoresins</b>	Aerobic Plate Count (TPC)	BAM Online January 2001, Chapter 3,	≥10cfu/g
			4th Ed., APHA, Chapter 6, Page 55	≥ 10cfu/g
			IS 5402:2002	≥ 10cfu/g
		Total Yeast and Mould Count ( TYMC )	BAM Online January 2001, Chapter 18, page 309.	≥ 10cfu/g
			IS 5403:1999	≥ 10cfu/g
		Escherichia coli-MPN method	BAM Online September 2002, Chapter 4, page 4-5.	≥ 3 MPN /gm or ≥ 0.3 MPN/gm
		Escherichia coli -Solid method	BAM Online September 2002, Chapter 4, page 4-5.	≥ 10cfu/g
		Escherichia coli-MPN method	IS:5887 (Part I)-1976, Reaffirmed 2005.	≥ 0.3 MPN /gm
		Escherichia coli Isolation method	IS:5887 (Part I)-1976, Reaffirmed 2005.	Qualitative (Absent / present in 1 gm / 0.1 gm)
		Coliforms – MPN Method	BAM Online September 2002, Chapter 4, page 4-5	≥3 MPN /gm
	IS 5401(PART –II) :2002	≥0.3 MPN /gm		

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		Staphylococcus aureus	BAM Online January 2001, Chapter 12, page 209-210.	≥10cfu/g
			IS 5887(PART-8/SEC I): 2002	≥10cfu/g
		Bacillus cereus	BAM Online February 2012, Chapter 14, page 261 - 263 .	≥10cfu/g
		Clostridium perfringens	BAM Online January 2001, Chapter 16, page 278 – 280.	≥10cfu/g
		Salmonella	BAM Online November,2011 Chapter 5, pages 2-4 and 13-21	Qualitative (Present/Absent in 25gm)
		Enterobacteriaceae	4th Ed., APHA, 8.62, Page-74 IS/ISO 7402:1993	≥10cfu/g
		Pseudomonas	IS: 14843:2000 ISO 13720:	<0.1 microorganisms/g
II.	<b>WATER</b>			
1.	<b>Well Water, Borewell Water, Condensate Water, Distilled Water, Millipore Water</b>	Total Plate Count[TPC]	IS:1622-1981 [Reaffirmed 1996]	<1 cfu/ml
		Total Yeast and Mould Count	IS:15188:2012 ISO 8199:2005	<1 cfu/ml
		Coliforms – MPN method	IS:1622-1981 [Reaffirmed 1996]	0MPN/100ml
		Escherichia coli – MPN method	IS:1622-1981 [Reaffirmed 1996]	0MPN/100ml
		Salmonella	IS:15187:2002, ISO 6340:1995	Qualitative (Present/Absent/100ml)

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<b>CHEMICAL TESTING</b>				
<b>I.</b>	<b>RESIDUES IN FOOD PRODUCTS</b>			
<b>1.</b>	<b>Spices &amp; Spice Oleoresins</b>	<b>Aflatoxin</b>	ASTA 24.2 (1997edition) (HPLC Method using Kobra cell)	
		B1		0.5 µg/kg to 250 µg/kg
		B2		0.5 µg/kg to 250 µg/kg
		G1		0.5 µg/kg to 250 µg/kg
		G2		0.5 µg/kg to 250 µg/kg
		<b>Heavy Metal</b>	SOP No. SIC/QM/616 Issue No: D, Issue date: 20.07.2012	
		Lead		0.25 mg/kg to 50 mg/kg
		Arsenic		0.25 mg/kg to 50 mg/kg
		Cadmium		0.25 mg/kg to 50 mg/kg
		Mercury	AOAC 20 <sup>th</sup> Edition Official method 999.11 using AAS	0.1 mg/kg to 50 mg/kg
		<b>Residual Solvent</b>	FCC 10 <sup>th</sup> edition P: 1527 – 1528 (Gas Chromatography method)	
		Hexane		1 mg/kg to 500 mg/kg
		Ethylene- dichloride		
		Methanol		
Acetone				
Methylene- chloride				
Ethyl Alcohol				
Ethyl acetate				
<b>2.</b>	<b>Coffee &amp; Cocoa extracts</b>	<b>Aflatoxin</b>	ASTA 24.2 (1997edition) (HPLC Method using Kobra cell)	
		B1		0.5 µg/kg to 250 µg/kg
		B2		0.5 µg/kg to 250 µg/kg
		G1		0.5 µg/kg to 250 µg/kg
		G2		0.5 µg/kg to 250 µg/kg

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		<b>Heavy Metal</b> Lead Arsenic Cadmium Mercury	AOAC 20 <sup>th</sup> Edition Official method 999.11 using AAS  SOP No. SIC/QM/302 Issue No: C, Issue date:16.10.2005 FCC 10 <sup>th</sup> Edition P. 1405 – 1406	0.25 mg/kg to 50 mg/kg 0.25 mg/kg to 50 mg/kg 0.25 mg/kg to 50 mg/kg 0.1 mg/kg to 50 mg/kg
		<b>Residual Solvent</b> Hexane Ethylene- dichloride Methanol Acetone Methylene- chloride Ethyl Alcohol Ethyl acetate	FCC 10 <sup>th</sup> edition P: 1527 – 1528 (Gas Chromatography method)	1 mg/kg to 500 mg/kg 1 mg/kg to 500 mg/kg 1 mg/kg to 500 mg/kg 1 mg/kg to 500 mg/kg 1 mg/kg to 500 mg/kg 1 mg/kg to 500 mg/kg 1 mg/kg to 500 mg/kg
3.	<b>Fruits &amp; Vegetable Extracts (Dates Plum Apricot Fig Kismiss Grape)</b>	<b>Aflatoxin</b> B1 B2 G1 G2  <b>Heavy Metals</b> Lead Arsenic Cadmium Mercury	SIC/QM/767 Issue No: A, Issue date:16.10.2014 HPLC using Kobra Cell Ref: ASTA 24.2 (1997edition)  SOP No. SIC/QM/616 Issue No: D, Issue date:20.07.2012 AOAC 20 <sup>th</sup> Edition Official method 999.11 using AAS	0.5 µg/kg to 250 µg/kg 0.5 µg/kg to 250 µg/kg 0.5 µg/kg to 250 µg/kg 0.5 µg/kg to 250 µg/kg  0.25 mg/kg to 50 mg/kg 0.25 mg/kg to 50 mg/kg 0.25 mg/kg to 50 mg/kg 0.1 mg/kg to 50 mg/kg

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		<b>Residual Solvent</b> Hexane Ethylene- dichloride Methanol Acetone Methylene- chloride Ethyl Alcohol Ethyl acetate	FCC 10 <sup>th</sup> edition P: 1527 – 1528 (Gas Chromatography method)	1 mg/kg to 500 mg/kg 1 mg/kg to 500 mg/kg 1 mg/kg to 500 mg/kg 1 mg/kg to 500 mg/kg 1 mg/kg to 500 mg/kg 1 mg/kg to 500 mg/kg 1 mg/kg to 500 mg/kg
4.	Spice Oils	<b>Aflatoxin</b> B1 B2 G1 G2	ASTA 24.2 (1997 edition) (HPLC Method using Kobra Cell)	0.5 µg/kg to 250 µg/kg 0.5 µg/kg to 250 µg/kg 0.5 µg/kg to 250 µg/kg 0.5 µg/kg to 250 µg/kg
		<b>Heavy Metals</b> Lead Arsenic Cadmium Mercury	SOP No. SIC/QM/616 Issue No: D, Issue date:20.07.2012 AOAC 20 <sup>h</sup> Edition Official method 999.11 using AAS	0.25 mg/kg to 50 mg/kg 0.25 mg/kg to 50 mg/kg 0.25 mg/kg to 50 mg/kg 0.1 mg/kg to 50 mg/kg
5.	Spices & Spice Oleoresins	<b>Illegal Dyes</b> Fast Garnet GBC Oil Orange SS Para Red Sudan I Sudan II Sudan III Sudan IV Sudan Red 7B Toluidine Red Rhodamine-B Orange II sodium salt Sudan Black B Sudan Red G	SOP No. SIC/QM/763 Issue No: 1, Issue date:01.07.2014 (LC/MS-MS Method) In-House Validated	20 µg/kg to 500 µg/kg 50 µg/kg to 500 µg/kg 20 µg/kg to 500 µg/kg 10 µg/kg to 500 µg/kg 10 µg/kg to 500 µg/kg 10 µg/kg to 500 µg/kg 50 µg/kg to 500 µg/kg 10 µg/kg to 500 µg/kg 20 µg/kg to 500 µg/kg 5 µg/kg to 500 µg/kg 20 µg/kg to 500 µg/kg 10 µg/kg to 500 µg/kg 50 µg/kg to 500 µg/kg

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		Auramine		20 µg/kg to 500 µg/kg
		p-nitro aniline		50 µg/kg to 500 µg/kg
		Metanil yellow		50 µg/kg to 500 µg/kg
		Sudan Orange G		10 µg/kg to 500 µg/kg
		Bixin		100 µg/kg to 500 µg/kg
		Chrysoidine G		10 µg/kg to 500 µg/kg
		Basic Red 9		10 µg/kg to 500 µg/kg
<b>II. FOOD &amp; AGRICULTURAL PRODUCTS</b>				
1.	<b>Spices &amp; Spice Oleoresins</b>	Moisture	SOP No. SIC/QM/302 Issue No: C, Issue date: 6.10.2005 FCC 10 <sup>th</sup> edition P.1405 – 1406	1.0 g/100g to 50 g/100g
2.	<b>Capsicum Oleoresin</b>	Capsaicin	SOP No. SIC/QM/209 (Spectrophotometric method) Issue No: B, Issue date: 1.07.2004	0.4 g/100g to 100 g/100g
			SOP No. SIC/QM/708 (HPLC Method) Issue No: B, Issue date: 1.07.2004	0.005 g/100g to 100 g/100g
		Capsaicinoids (N+C+D IN SHU)	AOAC 20 <sup>TH</sup> Edition 995.03 HPLC Method	0.1 MSHU to 5 MSHU
3.	<b>Chillies (whole/powder )</b>	Capsaicin	ISO 7543:1:1994(E)  ISO 7543:2 1993(E)	0.5 g/100g to 100 g/100g 0.005 g/100g to 100 g/100g
4.	<b>Ginger &amp; Ginger Oleoresin</b>	Gingerols & Shogaols	SOP No. SIC/QM/713 Issue No: B, Issue date: 1.07.2004 ISO 13685:1997 (HPLC Method)	Gingerols: 1 g/100g to 50 g/100g Shogaols: 0.5 g/100g to 20 g/100g

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5.	Pepper Oleoresin	Piperine	ASTA 12.1 (1997 Edition) (Spectrometric method)	5 g/100g to 100 g/100g
			SOP No. SIC/QM/206 Issue No: B, Issue date:01.07.2004 (Spectrophotometric method)	5 g/100g to 100 g/100g
6.	Coffee & Cocoa extracts	Moisture	FCC 10 <sup>th</sup> Edition P. 1405 – 1406	1 g/100g to 50 g/100g
7.	Fruits & Vegetable Extracts (Dates, Plum Apricot, Fig, Kismiss & Grape)	Moisture	FCC 10 <sup>th</sup> Edition P. 1405 – 1406	1.0 g/100g to 50 g/100g
8.	Spice Oils	Optical rotation	FCC 10 <sup>th</sup> edition, Page: 1396 – 1397	-50° to +100°
		Refractive index	FCC 10 <sup>th</sup> edition P.1398	1.3000 to 1.7000
		Specific gravity	FCC 10 <sup>th</sup> edition P. 1522	0.8000 to 1.5000
<b>III. COSMETICS &amp; ESSENTIAL OILS</b>				
1.	Essential Oils	Aflatoxin	SIC/QM/767	
		B1	Issue No: A,	0.5 µg/kg to 250 µg/kg
		B2	Issue date:16.10.2014	0.5 µg/kg to 250 µg/kg
		G1	Ref: ASTA 24.2(1997 edition)	0.5 µg/kg to 250 µg/kg
		G2	(HPLC Method using Kobra Cell)	0.5 µg/kg to 250 µg/kg