

Laboratory **Katco Food Test & Research Laboratory, G. T. Road, Doraha, Distt. Ludhiana, Punjab**

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

Discipline **Chemical Testing** **Issue Date** **11.03.2014**

Certificate Number **T-2884** **Valid Until** **10.03.2016**

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S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
I. FOOD & AGRICULTURAL PRODUCTS				
1	Honey & Honey Products	Authenticity Testing C-3/C-4 Sugar Content	EA-IRMS KATCO/SOP#IRMS.C4-301 Based on: (AOAC 998.12,1995, Revision March, 1999) (21/04/2011; Issue No: 02)	-8‰ to - 35‰
		Physico-chemical Test Moisture	IS:4941:1994 (Reaffirmed 2009) Annex B (10/05/2012; Issue No: 01)	0.1 - 46.2 %
		Fiche's Test	IS:4941:1994 (Reaffirmed 2009) Annex F (10/05/2012; Issue No: 01)	-ve/ +ve
		Total Reducing Sugar (TRS)	IS:4941:1994 (Reaffirmed 2009) Annex C (10/05/2012; Issue No: 01)	10 - 99.99 %
		Sucrose	IS:4941:1994 (Reaffirmed 2009) Annex C (10/05/2012; Issue No: 01)	0.5 - 99.99 %
		Fructose	IS:4941:1994 (Reaffirmed 2009) Annex C (10/05/2012; Issue No: 01)	0.5- 99.99 %
		Glucose	IS:4941:1994 (Reaffirmed 2009) Annex C (10/05/2012; Issue No: 01)	0.5- 99.99 %

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		Fructose Glucose Ratio	IS:4941:1994 (Reaffirmed 2009) Annex C (10/05/2012; Issue No: 01)	0.8-2.6
		Hydroxyl Methyl Furfural (HMF)	AOAC 980.23 (2000) (10/05/2012; Issue No: 01)	0.5 - 2000 mg/kg
		Conductivity	KATCO/SOP#CHE.CDV-107 (10/05/2012; Issue No: 01)	0.1-1.8 mS
		Specific gravity	IS:4941:1994 (Reaffirmed 2009) Annex A (10/05/2012; Issue No: 01)	1.2 - 1.6 gm/ml
		pH	KATCO/SOP#CHE.PH-109 (IHC) (10/05/2012; Issue No: 01)	3.5 - 7.0
		Acidity	IS:4941:1994 (Reaffirmed 2009) Annex E (10/05/2012; Issue No: 01)	0.1 – 50%
		Ash value	IS:4941:1994 (Reaffirmed 2009) Annex D (10/05/2012; Issue No: 01)	0.1-20 %
		Color	As per P-Fund scale (28/06/2010/Issue No: 01)	5-114mm & above
		Optical density	IS:4941:1994 (Reaffirmed 2009) Annex H (10/05/2012; Issue No: 01)	0.05-1.0

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		Total Count of Pollens & plant Elements / g	IS:4941:1994 (Reaffirmed 2009) Annex G	10,000 - 4 lakh
		Sugar Profiling by HPLC		
		Fructose	KATCO/SOP#HPLC.F,G,S,M-118 (03/03/2012; Issue No: 01)	0.5- 99.99 %
		Glucose		0.5- 99.99 %
		Sucrose		0.5- 99.99 %
		Fructose Glucose Ratio		0.8-3.0
		Biochemical Test		
		Diastase	KATCO/SOP#CHE.DIAS-207 IHC Method (At No: 1321) PHDT (28/06/2010/Issue No: 01)	2-100 schade
		Glycerol	KATCO/SOP#CHE.GLY-203 KATCO/SOP#CHEM.GLY-206 (In-house) (28/06/2010/Issue No: 01)	10 - 8000 mg/kg
		Antibiotic Residue Analysis BY LC-MS/MS		
		Tetracyclines (Group)	KATCO/SOP#LCMSMS.TETRA-209 (In House Procedure)	2-5000 µg/kg
		Tetracycline	(06/03/2012; Issue No: 01)	2-5000 µg/kg
		Oxytetracycline		2-5000 µg/kg
		Chlortetracycline		2-5000 µg/kg
		Doxycycline		2-1000 µg/kg

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S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Sulfonamides (Group)		KATCO/SOP#LCMSMS.SULFA-209-LTR (In House Procedure)	2-2000 µg/kg
	Sulfadiazine		(21/02/2012;	2-2000 µg/kg
	Sulfathiazole		Issue No: 01)	2-2000 µg/kg
	Sulfacetamide			2-2000 µg/kg
	Sulfadimidine (Sulfamethazine)			2-2000 µg/kg
	Sulfadoxine			2-2000 µg/kg
	Sulfadimethoxine			2-2000 µg/kg
	Trimethoprim			2-2000 µg/kg
	Sulfamethoxazole			2-2000 µg/kg
	Sulfamethoxypryridazine			2-2000 µg/kg
	Sulfamerazine			2-2000 µg/kg
	Metronidazole		KATCO/SOP#LCMSMS.M (2)-209 (In House Procedure)	0.5-100 µg/kg
			(30/12/201;	
			Issue No: 01)	
	Fluoroquinolones (Group)		KATCO/SOP#LCMSMS.FQL-209	2-1000 µg/kg
	Ciprofloxacin		(USFDA method Sept.29,2006)	2-1000 µg/kg
	Enoxacin		(09/03/2012;	2-1000 µg/kg
	Enrofloxacin		Issue No: 01)	2-1000 µg/kg
	Fleroxacin			2-1000 µg/kg
	Norfloxacin			2-1000 µg/kg
	Ofloxacin			2-1000 µg/kg
	Antibiotic Residue Analysis (Biochip Array Technology)			
	Antimicrobial Array Plus, AM-I		KATCO/SOP#EI.AMI-208	
	Sulfonamides (Group)		(RANDOX Antimicrobial I plus kit Manual) (05/05/2011;	
	Sulfadiazine		Issue No: 01)	2-2000 µg/kg
	Sulfadimethoxine			2-2000 µg/kg
	Sulfaquinoxaline			2-2000 µg/kg

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		Sulfamethazine		2-2000 µg/kg
		Sulfamethoxazole		2-2000 µg/kg
		Sulfapyridine		2-2000 µg/kg
		Sulfamerazine		2-2000 µg/kg
		Sulfamonomethoxine		2-2000 µg/kg
		Sulfamethoxypryrdidazine		2-2000 µg/kg
		Sulfachlorpyridazine		2-2000 µg/kg
		Sulfamethizole		2-2000 µg/kg
		Sulfadoxine		2-2000 µg/kg
		Trimethoprim		2-2000 µg/kg
		Sulfathiazole		2-2000 µg/kg
		Sulfaisoxazole		2-2000 µg/kg
		Antimicrobial Array Plus, AM-II		
		Tetracyclines	KATCO/SOP#EI.AMII-208	2-5000 µg/kg
		Fluoroquinolones	(RANDOX Antimicrobial II kit	2-1000 µg/kg
		Ceftiofur	Manual)(05/05/2011;	2-1000 µg/kg
		Thiamphenicol	Issue No: 01)	2-1000 µg/kg
		Streptomycin		2-1000 µg/kg
		Antimicrobial Array Plus, AM-III		
		Chloramphenicol	KATCO/SOP#EI.AMIII-208 (RANDOX Antimicrobial III kit Manual) (05/05/2011; Issue No: 01)	0.1-100 µg/kg
		Antibiotic Residue Analysis by Elisa Screening		
		Tetracyclines	KATCO/SOP#ELISA.T(2)-202 (As per kit manual) (02/04/2012; Issue No: 01)	2-5000 µg/kg

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		Chloramphenicol	KATCO/SOP#ELISA.C-201 (As per kit manual) (02/04/2012; Issue No: 01)	0.1-100 µg/kg
		Fluoroquinolones	KATCO/SOP#ELISA.F(2)-205 (As per kit manual) (09/04/2012; Issue No: 01)	2-1000 µg/kg
		Heavy Metal Contaminants		
		Lead (Pb)	KATCO/SOP#ICP.	25-2000 µg/kg
		Arsenic (As)	Pb, As,Cd,Cu-302/ 304	10-1000 µg/kg
		Copper (Cu)	Ref AOAC 19 th Edition.	5-1000 µg/kg
		Cadmium (Cd)	(04/05/2012; Issue No: 01)	0.50-1000 µg/kg
	Honey By-Products (Bees Wax/Wax.)	Physico-chemical Testing		
		Acid value	KATCO/SOP#CHE.ACID-113 (15/06/2013/Issue No: 01)	1 - 50
		Ester value	KATCO/SOP#CHE.EV-114 (15/06/2013/Issue No: 01)	1 – 100 By calculation
		Melting Point/Boiling Point	KATCO/SOP#CHE.MP-115 (15/06/2013/Issue No: 01)	Above Ambient to 400 ⁰ C at Atmospheric Pressure
		Ratio Number	KATCO/SOP#CHE.RN-116 (15/06/2013/Issue No: 01)	1 – 30 By calculation
		Saponification value	KATCO/SOP#CHE.SAP-117 (15/06/2013/Issue No: 01)	1 - 150

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2.	Sugar & Sugar/Sweet Products	Authenticity Testing		
		C-3/C-4 Sugar Content	EA-IRMS KATCO/SOP#IRMS.C4-301 Based on: (AOAC 998.12,1995, Revision March, 1999) (21/04/2011; Issue No: 02)	-8‰ to - 35‰
		Physico-chemical Tests		
		Determination of Loss on drying	IS:4941:1994 (Reaffirmed 2009) Annex B & IS:15279:2003 (15/06/2013/Issue No: 01)	0.1 - 46.2 %
		Total Reducing Sugar (TRS)	IS:4941:1994 (Reaffirmed 2009) Annex C & IS:15279:2003 (15/06/2013/Issue No: 01)	10 - 99.99 %
		Sucrose	IS:4941:1994 (Reaffirmed 2009) Annex C & IS:15279:2003 (15/06/2013/Issue No: 01)	0.5 - 99.99 %
3.	Fruit, Fruit juices, Vegetables, Other Agricultural Product, spices & Herbal Products	Authenticity Testing		
		C-3/C-4 sugar content / Photosynthetic Pathway	KATCO/SOP#IRMS.C4-301A (21/12/2011; Issue No: 01)	-8‰ to - 35‰
		Physico-chemical Testing		
		Total Reducing Sugars (TRS)	KATCO/SOP#CHE.TRS- 123A KATCO/SOP#CHE.TRS-123B (10/05/2012; Issue No: 01)	0.5 - 99.99 %

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		Sucrose	KATCO/SOP#CHE. SUC-124 (10/05/2012; Issue No: 01)	0.5 - 80 %
		Fructose		0.5 - 80 %
		Glucose		0.5 - 80 %
		Moisture	KATCO/SOP#CHE.MOIS-125 (10/05/2012; Issue No: 01)	1 - 90 %
		Essential Oil Content	KATCO/SOP#CHE.EO-122 (10/05/2012; Issue No: 01)	0.1 - 25%
		Ash Content	KATCO/SOP#CHE.ASH-111 (10/05/2012; Issue No: 01)	0.1 - 20%
II.	DRUGS & PHARMACEUTICALS			
		Authenticity Testing		
		C-4/C-3 Pathway of drugs/ Natural Drugs/ Plant Preparations	KATCO/SOP#IRMS.C4-301A (21/06/2011/Issue No: 01)	-8% _o to - 35% _o
		Natural Drugs (Medicinal/ Aromatic Plant Preparations and Products)		
		Essential Oil Content	KATCO/SOP#CHE.EO-122 (15/05/2012; Issue No: 01)	0.1 - 25%
		Ash Content	KATCO/SOP#CHE.ASH-111 IS:4941:1994 (Reaffirmed 2009) (10/05/2012; Issue No: 01)	0.1 - 20%

-X-X-X-X-X-X-X-X-X-X-X-X-