



NABL

SCOPE OF ACCREDITATION

Laboratory	RCA Laboratories, 1 st Floor, Bhardia Chambers, Plot No. 18, Sec. 1A, Gandhidham, Gujarat		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Chemical Testing	Issue Date	24.02.2016
Certificate Number	T-2859	Valid Until	23.02.2018
Last Amended on	05.05.2016	Page	1 of 7

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 & AGRICULTURALS PRODUCTS			
1.	Cereals Pulses & Products	Refractions (Food Grains)	IS 4333 (Part 1): 1996 (RA 2012) /	0 to 25% (m/m)
		Other Food Grains		
		Damaged		
		Discolored		
		Insect Damaged		
		Fragments		
		Broken		
		Slightly Damaged Or Touched		
		Chalky In Case Of Rice		
		Red Grains		
	Kernels With Husk	IS 10768: (1984) (RA 2005)	0 to 95 % (m/m)	
	Shrivelled Or Immature			
	Varietal Admixture			
	Refractions (Pulses)	IS 10768: (1984) (RA 2005)	0 to 95 % (m/m)	
	Seeds Typical Of The Species And Variety			
	Seeds Typical Of Species But Of Another Variety			
	Defective Seeds			
	Organic Impurities			
	Inorganic Impurities			
	Detection Of Hectoliter Weight	IS 4333 (Part 3): 2002 (RA 2012) ISO 7971-2: (1995)	55 kg/hl to 90 kg/hl	
	Average Grain Length In Rice	ES ISO 7301: 2001 (RA 2012) (Identical with ISO 7301: 1988)	2.50 mm to 10 mm	

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1.	Cereals Pulses & Products	Moisture	IS 4333 (Part 2): 2002 (RA 2012) / ISO 712: 1998.	5 % to 18 %(m/m)
			ISO 6540: 2001 (RA 2012)) (Identical with ISO 6540: 1980 for maize	5 % to 18 %(m/m)
		Ash	GAFTA (11:0): 2014	0.2 % to 3.0 %(m/m)
		Acid Insoluble Ash	GAFTA (12:0): 2014	0.1 % to 1.0 %(m/m)
		Wet Gluten	GAFTA 26:2: (2014)	15 % to 35 %(m/m)
		Dry Gluten	IS 1155: (1968) (RA 2010)	5 % to 15 %(m/m)
		Protein / Crude Protein	GAFTA 130 (4:1)	7 % to 15 %(m/m)
		Alcoholic Acidity	IS 1009: (1979) (RA 2010)	0 to 0.5 % (m/m)
		Crude Fibre	GAFTA (9:0): 2014	0.1 % to 4.0 % (m/m)
		Starch	GAFTA 23.0: 2014	25 % to 90 % (m/m)
		Ergot	IS 8184: 1976 (RA 2005)	Qualitative
2.	Oil Seeds & by-Products	Moisture	IS 3579: 1966 (RA 2000) / AOCS Ab 2-49 (2009)/ Ai- 2- 75 (2009) ISO 665: (2000)	4 % to 12 % (m/m)
		Oil Content	IS 3579-(1966 (RA 2000) / FOSFA (2005)	15 % to 65 % (m/m)

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3.	Oil Seeds & by-Products	FFA Of Extracted Oil	IS 3579: 1966 (RA 2000)	0.2 % to 10 %(m/m)
		Foreign Matter	IS 3579: 1966 (RA 2000)	0 to 10 % (m/m)
		Refraction	IS 3579: 1966 (RA 2000)	0 to 10 % (m/m)
		Admixture	IS 3579: 1966 (RA 2000)	0 to 10 % (m/m)
		Counts / Ounce	FOSFA (2001)	25 counts to 150 counts
	Oils, Fats & Related Products	Moisture & Volatile Matter	AOCS Ca 2c – 25: (2009) IS 548 (Part 1): 1964 (RA 2010)	0.01 % to 0.5 % (m/m)
		Free Fatty Acid (FFA)	AOCS Ca 5a – 40: (2012) IS 548 (Part 1): 1964 (RA 2010)	0.02 % to 10.0 % (m/m)
		Saponification Value	AOCS Cd 3-25 (2013) / ASTM D 9493 / IS 548 (Part 1): 1964 (RA 2010)	150 units to 260 units
		Unsaponifiable Matter	IS 548 (Part 1): 1964 (RA 2010) AOCS Ca 6b-53 (2011)	0.3 % to 5 % (m/m)
	4.	Oil Seeds & by-Products Oils, Fats & Related Products	Iodine Value	IS 548 (Part 1): 1964 (RA 2010) AOCS Cd 1d-92 (2009) / ISO 3961: (1996) / IP 84: 93
Refractive Index			AOCS Cc 7-25: (2009) / IS 548 (Part 1): (1964) (RA 2010)	1.300 to 1.700

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	Oil Seeds & by-Products Oils, Fats & Related Products	Specific Gravity Density	IS 548 (Part 1): 1964 (RA 2010) AOCS Cc 10c-95 (2009) ISO 6883: (2000)	0.8000 to 1.0000 0.8000 g/ml to 1.0000 g/ml
		Color	IS 548 (Part 1): 1964 (RA 2010) AOCS Cc 13e-92 (2009)	0.1 R1 to 10 R1 50Y
		Insoluble Impurities	AOCS Ca 3a-46 (2011) IS 548 (Part 1): 1964 (RA 2010)	0.005 % to 0.5 % (m/m)
		Acid Value	IS 548 (Part 1): 1964 (RA 2010) / AOCS cd 3d-63: (2009)	0.04 units to 20 units
		Peroxide Value	AOCS Ja 8-87 (2013) IS 548(Part 1): 1964 (RA 2010)	0.5 units to 15 units
		Lecithin (As P And Phosphate)	AOCS Ca 12-55 (2009)	20 mg/kg to 250 mg/kg
		Cloud Point	AOCS Cc 6-25 (2009)	5°C to 25 °C
		Melting Point / Slip Point	IS 548 (Part 1): 1964 (RA 2010) / AOCS Cc 3-25: (2009) /	15 °C to 45 °C
		Determination Of Carotene In Vegetable Oil	BS 684 Sec 2.20: 1977	300 mg/kg to 1500 mg/kg
		Chlorophyll	AOCS Cc 13i-96: (2011)	1000 mg/kg to 22000 mg/kg
		Purity Tests	IS 548 (Part 2): 1976 (RA 2010)	Qualitative

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5.	Raw Sugar	Polarization	ICUMSA GS 1/2/3/9-1 (2011) /	95.0 °Z to 99.9 °Z
		Moisture	ICUMSA GS2/1/3/9-15 (2007) (Amended)	0.04 % to 0.5 % (m/m)
		Sulphated Ash	ICUMSA GS1-10 (Amended): (1998) /	0.04 % to 0.5 % (m/m)
		Color	ICUMSA GS1/3 – 7: (2011) ICUMSA GS 9/1/2/3 – 8: (2011)	300 Units to 5000 Units
		Reducing Sugar	ICUMSA GS1/3/7-3: (2005) / ICUMSA GS 1-5: (2009)	0.2 % to 1.0 %m/m
		Starch	ICUMSA GS 1-16: (2013)	50 mg/kg to 200 mg/kg
6.	Refined Sugar	Polarization	ICUMSA GS 2/3-1: (2011) / IS 15279: (2003) (RA 2008)	95.0 °Z to 99.9 °Z
		Moisture	ICUMSA GS 2/1/3/9-15: (2007)	0.04 % to 0.1 % (m/m)
		ICUMSA Colour	ICUMSA GS 2/3-9: (2005) GS 2/3-10: (2011) GS 9/1/2/3-8: (2011)	25 units to 100 units 100 units to 300 units
		Sulphite By Colorimetry	ICUMSA GS 2/1/7/9-33: (2011)	1 mg/kg to 100 mg/kg
		Insoluble Matter	ICUMSA GS 2/3/9-19: (2007) /	0.005 % to 0.1 % (m/m)
		Reducing Sugar	ICUMSA GS 2/3/9-5: (2011) / ICUMSA GS 2/9-6: (2011)	0.005 % to 0.05 % (m/m)
		Sulphated Ash	IS 15279: (2003) (RA 2008)	0.02 % to 0.1 % (m/m)

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II. ANIMAL FOOD & FEED				
1.	Deoiled Cake (Soybean Meal / Ground Nut Ext./ Rapeseed Meal / Castor Seed Ext./ Fish Meal	Moisture	GAFTA 130 (2:1): 2014	5 % to 15 % (m/m)
		Protein	GAFTA 130 (4:1): 2014	8 % to 65 % (m/m)
		Oil	GAFTA 130 (3.0): 2014	0.5 % to 20 % (m/m)
		Crude Fibre	GAFTA 130 (9:0): 2014	3 % to 40 % (m/m)
		Ash	GAFTA-130 (11:0): 2014	1 % to 15 % (m/m)
		Acid Insoluble Ash/ Sand & Silica	GAFTA- 130 (12:0): 2014	0.2 % to 10 % (m/m)
		Urease Activity	GAFTA- 130 (22:0): 2014	(0.1 mgN to 2.0 mgN)/ g/min at 30°C
		Phosphorous	GAFTA 130 (8:0): 2014	0.5 % to 1.5 % (m/m)
III. SOLID FUELS				
1.	Coal	Total Moisture	IS 1350 (Part 1): 1984 (RA 2012), Clause. 6.3.2 ISO 589: 2008(E)11-01, Clause. 4.1.2	2 % to 40 % (m/m)
		Inherent Moisture	SOP/RCAL/KDL/020 Issue .No. 01, Issue date: 01.04.2015	2 % (m/m) to 15 % (m/m)
		Fixed Carbon	IS 1350 (Part 1): 1984 (RA 2002)	25 % to 75 % (m/m) By Difference
		Gross Calorific Value	IS 1350 (Part 2): 1970 (RA 2000) ASTM D 5865-12	3000 kcal/kg to 8000 kcal/kg 3000 kcal/kg to 8000 kcal/kg

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Discipline Chemical Testing **Issue Date** 24.02.2016

Certificate Number T-2859 **Valid Until** 23.02.2018

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	Coal	Sulphur	IS 1350 (Part 3): 1969 (RA 2000)	0.1 % to 2 % (m/m)
		Fusibility (Ash Fusion Temperature) In Oxidizing Atmosphere	ASTM D 1857/D1857M-04 (RA 2010)	700 °C to 1350 °C 1200 °C to 1400 °C 1200 °C to 1450 °C 1200 °C to 1500 °C
	Ash		IS 1350 (Part 1): 1984 (RA 2002)	5 % to 60 % (m/m)
		Volatile Matter	IS 1350 (Part 1): 1984 (RA 2002)	15 % to 40 % (m/m)

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