

OLEOCHEMICALS



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Since its establishment, Britz has devoted itself in the research and marketing of oleochemicals. Britz supplies a wide range of oleochemical products, specialty esters and intermediate chemicals. Its series of products includes fatty acids, glycerine, fatty alcohols, free fatty acids, methyl esters, glycerol esters, polyglycerol esters, sorbitan esters, polyols, organic solvents, biomass fuel and many others. These products are used in a broad range of applications including candles, tires, personal care products, food, animal feeds, polymer, inks & paints and detergents among others.

Britz is well recognized in the candle and oleochemical industries for its product quality and after sales services. Through partnerships with various organizations and research institutes, it has built a comprehensive marketing network. And to serve its customers in the Far East better, Britz has set up an office in Xiamen, China. Britz has been working tirelessly to add value to both its customers and suppliers by acting as a bridge of information – for its customers and intermediate traders, Britz provides them with product information and application support, and also keeps them informed of the market trend to enable them to take advantage of it; for its suppliers, Britz shares critical information from the frontline of market, conveys user feedbacks and works together on market strategies.

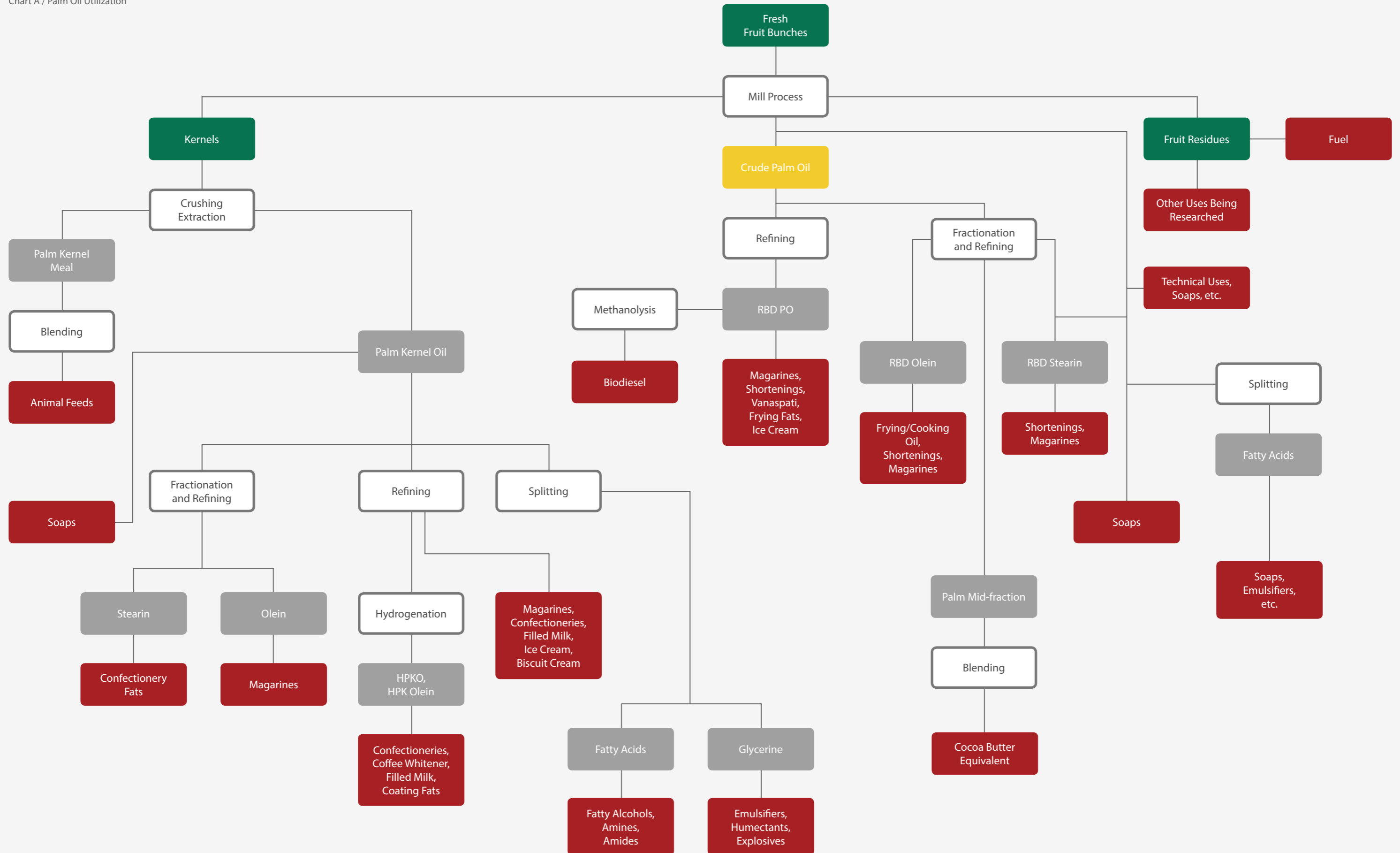
Britz's mission is to build a comprehensive network with partners from different industries, enabling it to service all customers to every minute details and creating a win-win situation for all parties to grow sustainably.

Member of

- Roundtable of Sustainable Palm Oil (RSPO)
- Malaysian Palm Oil Board (MPOB)
- Asociación Latino Americana de Fabricantes de Velas (Alafave)
- China Candle Association (CCA)

Palm Oil Utilization

Chart A / Palm Oil Utilization



Fatty Acids & Glycerine Process Flow

Oleochemicals

The three basic reactions in oil chemistry are with:

1. Caustic soda, to produce soaps - the earliest surfactants.
2. Water, under high pressure and temperature to make fatty acids.
3. Methanol, to produce methyl esters.

Fatty acids and methyl esters can be further converted into fatty alcohols by high pressure hydrogenation or similarly into soaps by reacting with caustic soda.

Fatty acids, methyl esters and fatty alcohols are what most oleochemical producers call basic oleochemicals and are the building blocks for further oleochemical derivatives which are key ingredients in consumer products or process aids in other industries.

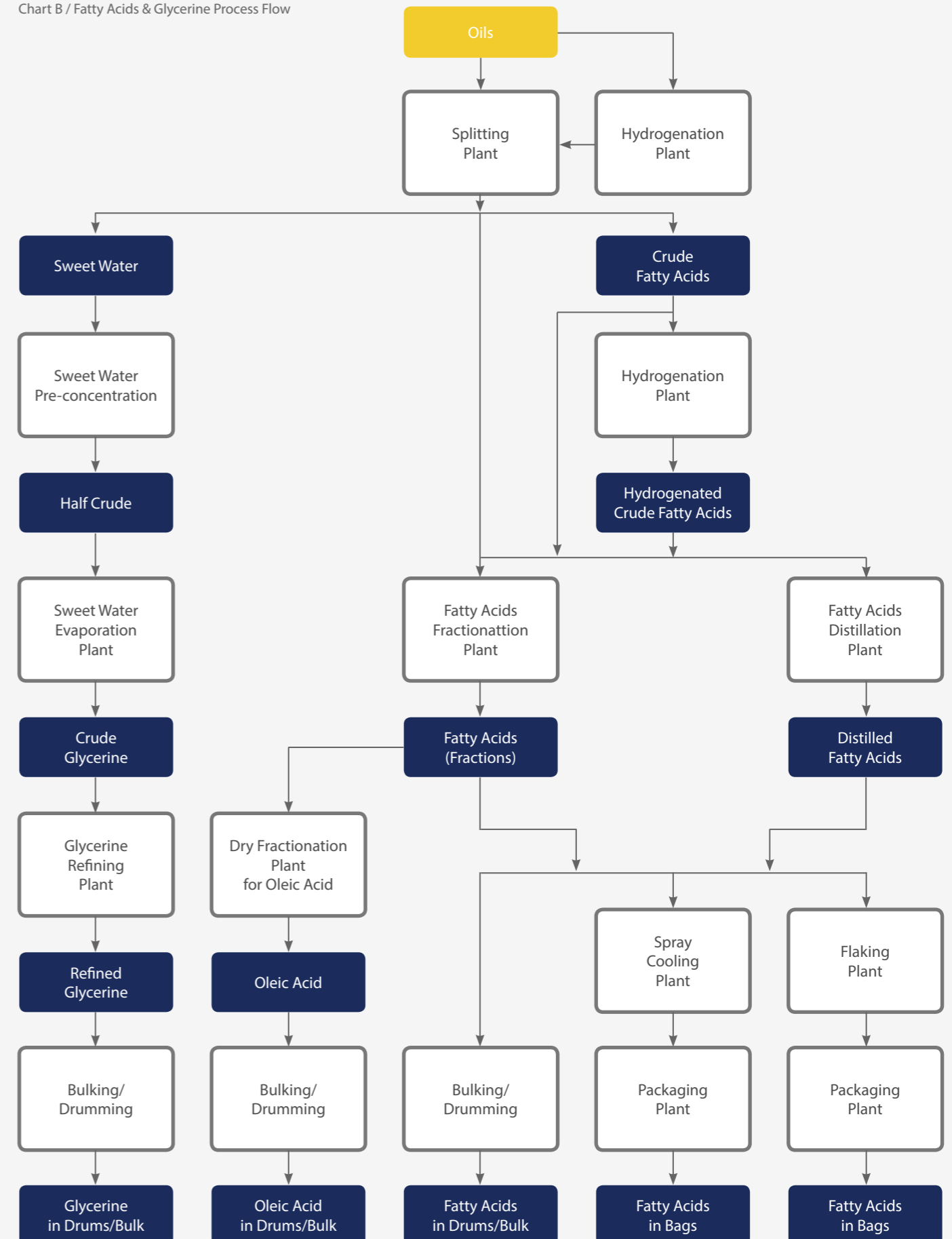
In the end, they all end up in products which we consume or use, e.g. soaps, shampoos, detergents, tyres, food products, pharmaceuticals, paints, lubricants and many others.

Britz Networks Sdn. Bhd. supplies a full range of fatty acids and glycerine produced using vegetable oil feedstocks such as palm oil, palm kernel oil, coconut oil and their derivatives.

Our range of products includes:

- Fractionated Fatty Acids
- Distilled/Topped Fatty Acids
- Hydrogenated Fatty Acids
- Refined Glycerine (BP/USP)
- Hydrogenated Triglycerides
- Blends based on client requirements

Chart B / Fatty Acids & Glycerine Process Flow



Distilled Fatty Acids

Table 1 / Specifications of Distilled Fatty Acids

Product Code	Description	Titre °C	Iodine Value g I ₂ /100g	Acid Value mg KOH/g	Sap. Value mg KOH/g	Moisture %	Unsap. Matter %	Color		Fatty Acid Composition										Product Form	Packaging
								5¼" Lovibond Cell		%											
								Red	Yellow	C6	C8	C10	C12	C14	C16	C18	C18:1	C18:2	Others		
DCFA	Distilled Coconut Fatty Acid	22-26	13 max	260-275	261-276	-	-	1 max	10 max	0.5 max	5-8	5-9	46-52	15-20	6-11	1-4	5-11	3.0 max	-	Liquid	PD/SD/ ISO/Bulk
DHCFA	Hardened Distilled Coconut Fatty Acid	24-28	0.5 max	265-275	266-276	0.2 max	-	0.5 max	5 max	-	4-9	4-9	45-55	15-21	8-13	7-14	-	-	-	Liquid	PD/SD/ ISO/Bulk
DTCFA	Distilled Topped Coconut Fatty Acid	23-30	15 max	253-260	254-261	-	-	1 max	10 max	1.0 max		48-58	16-23	7-12	2-6	5-12	4 max	-	Liquid	PD/SD/ ISO/Bulk	
DTHCFA	Hardened Distilled Topped Coconut Fatty Acid	29-32	0.5 max	251-260	252-261	0.2 max	0.5 max	1 max	10 max	0.3 max		0.5 max	50-58	18-24	9-14	7-15	0.5 max			Liquid	PD/SD/ ISO/Bulk
DKFA	Distilled Palm Kernel Fatty Acid	20-28	20 max	248-263	249-264	-	-	0.5 max	5 max	0.5 max	2-5	2-5	46-54	13-18	6-12	1-4	12-18	4 max	-	Liquid	PD/SD/ ISO/Bulk
DHKFA	Hardened Distilled Palm Kernel Fatty Acid	28-34	1 max	248-263	249-264	-	-	0.5 max	5 max	0.5 max	2-5	2-5	46-54	13-18	6-12	14-24	1 max	-	-	Liquid	PD/SD/ ISO/Bulk
DTKFA	Distilled Topped Palm Kernel Fatty Acid	23-28	23 max	246-258	247-259	-	-	0.5 max	5 max	1 max		48-58	14-20	7-12	1-4	12-20	4 max	-	Liquid	PD/SD/ ISO/Bulk	
DTHKFA	Hardened Distilled Topped Palm Kernel Fatty Acid	33-38	1 max	246-258	247-259	0.2 max	-	0.5 max	5 max	2 max		48-58	14-20	7-12	14-24	1 max	0.5 max	-	Liquid	PD/SD/ ISO/Bulk	
DPFA	Distilled Palm Oil Acid	45-48.5	45-56	203-210	204-211	0.2 max	0.5 max	2 max	20 max	-	-	-	1 max	2 max	43-48	3-10	37-40	6-11	1 max	Solid	PD/SD/ ISO/Bulk
DPHPFA	Distilled Palm Oil Acid Partially Hardened	42-50	30 min	204-211	205-212	0.2 max	-	1 max	5 max	-	-	-	3 max		40-50	11-21	28-36	2-6	1 max	Solid	PD/SD/ ISO/Bulk
DSFA	Distilled Palm Stearine Fatty Acid	47-54	28 min	206-214	207-215	-	-	0.5 max	5 max	-	-	-	1 max	2 max	55-65	4-8	20-35	8 max	-	Solid	PD/SD/ ISO/Bulk
DPHSFA	Distilled Palm Stearine Fatty Acid Partially Hardened	42-52	30-42	205-210	206-211	-	-	2 max	10 max	-	-	-	2 max		40-48	12-22	28-38	8 max	-	Solid	PD/SD/ ISO/Bulk
DPA	Distilled Palmitic Acid	58-63	5-10	210-225	211-226	-	-	3 max	30 max	3 max				83 min	17 max			-	Solid	PB/JB/PD/ SD/ISO/Bulk	

PB = 25kg net PP laminated paper bag JB = 800kg net jumbo bag PD = 180kg PE drum SD = 180kg steel drum ISO = 20mt ISO tank

Fractionated Fatty Acids

Table 2 / Specifications of Fractionated Fatty Acids

Product Code	Description	Titre °C	Iodine Value g I ₂ /100g	Acid Value mg KOH/g	Sap. Value mg KOH/g	Moisture %	Unsap. Matter %	Color		Fatty Acid Composition														Product Form	Packaging	
								5¼" Lovibond Cell		%																
								Red	Yellow	C6	C8	C10	C12	C14	C15	C16	C16:1	C17	C18	C18:1	C18:2	C18:3	> C18			Others
0810	Caprylic/Capric Acid	7 max	1.5 max	352-365	354-367	-	-	3	25	4 max	45-60	35-50	2 max	-	-	-	-	-	-	-	-	-	-	-	Liquid/Solid/Flakes/Beads	SD/ISO/Bulk
0810D	Caprylic/Capric Acid	7 max	0.5 max	350-375	351-376	-	-	0.5 max	5 max	2 max	52 min	42-48	1.5 max	-	-	-	-	-	-	-	-	-	-	-	Liquid/Solid/Flakes/Beads	SD/ISO/Bulk
0899	Caprylic Acid 99%	15-18	0.5 max	383-390	384-391	-	-	0.5 max	5 max	1 max	99 min	1 max	-	-	-	-	-	-	-	-	-	-	-	-	Liquid/Solid/Flakes/Beads	SD/ISO/Bulk
1099	Capric Acid 99%	30-32	0.5 max	321-329	322-330	-	-	0.5 max	5 max	0.5 max	1 max	99 min	1 max	-	-	-	-	-	-	-	-	-	-	-	Liquid/Solid/Flakes/Beads	SD/ISO/Bulk
1299	Lauric Acid 99%	42-45	0.2 max	278-282	279-283	-	-	0.2 max	2 max	1 max		99 min	1 max	-	-	-	-	-	-	-	-	-	1 max	Liquid/Solid/Flakes/Beads	PB/JB/ISO/Bulk	
1298	Lauric Acid 98%	42-45	0.2 max	279-281	279-282	-	-	0.2 max	1 max	0.5 max	2 max	98 min	2 max	-	-	-	-	-	-	-	-	-	-	-	Liquid/Solid/Flakes/Beads	PB/JB/ISO/Bulk
1275	Lauric Acid 75%	32-38	0.5 max	265-275	266-276	-	-	0.3 max	3 max	1 max		72-78	22-28	-	4 max	-	-	0.5 max		-	-	-	-	-	Liquid/Solid/Flakes/Beads	SD/ISO/Bulk
1499	Myristic Acid 99%	53-55	0.5 max	244-248	245-249	-	-	0.2 max	2 max	-	-	-	1 max	99 min	-	1 max	-	-	-	-	-	-	-	-	Liquid/Solid/Flakes/Beads	PB/JB/ISO/Bulk
1498	Myristic Acid 98%	53-55	0.5 max	244-248	245-249	-	-	0.2 max	2 max	-	-	-	1.5 max	98 min	0.5 max	1 max	-	-	-	-	-	-	-	-	Liquid/Solid/Flakes/Beads	PB/JB/ISO/Bulk
1698	Palmitic Acid 98%	61-63	0.5 max	217-220	218-221	-	-	0.3 max	2 max	-			1 max	-	98 min	-	-	1 max				-	-	-	Liquid/Solid/Flakes/Beads	PB/JB/ISO/Bulk
1695	Palmitic Acid 95%	60-63	2 max	217-221	218-222	-	-	0.3 max	3 max	5 max				1 max	95 min	-	-	5 max		-	-	-	-	-	Liquid/Solid/Flakes/Beads	PB/JB/ISO/Bulk
18175	Oleic Acid 75% Vegetable Based	9 max	90 min	195-205	197-207	-	-	1 max	10 max	11 max							75 min	14 max	-	-	-	-	-	-	Liquid	SD/ISO/Bulk
18170	Oleic Acid 70% Vegetable Based	10 max	88-96	195-205	197-207	0.3 max	-	1.5 max	15 max	15 max							70 min	13 max	-	-	1 max	-	-	-	Liquid	SD/ISO/Bulk

PB = 25kg net PP laminated paper bag JB = 800kg net jumbo bag PD = 180kg PE drum SD = 180kg steel drum ISO = 20mt ISO tank

Stearic Acid

Table 3 / Specifications of Stearic Acid

Product Code	Description	Titre °C	Iodine Value g I ₂ /100g	Acid Value mg KOH/g	Sap. Value mg KOH/g	Moisture %	Unsap. Matter %	Color 5¼" Lovibond Cell		Fatty Acid Composition %											Product Form	Packaging	
								Red	Yellow	C10	C12	C14	C15	C16	C17	C18	C18:1	C18:2	C18:3	C20			Others
1892	Stearic Acid 92%	66-70	2 max	195-199	196-200	-	-	0.3 max	3 max	-	-	-	-	8 max	-	92 min	2 max	-	-	-	4 max	Liquid/Solid/ Flakes/Beads	PB/JB/SD/ ISO/Bulk
1865	Stearic Acid 65%	58-63	0.5 max	202-209	203-210	-	-	0.3 max	3 max	-	-	2 max	-	30-33	-	65-69	1 max	-	-	-	1.5 max	Liquid/Solid/ Flakes/Beads	PB/JB/SD/ ISO/Bulk
1850	Stearic Acid 50% Triple Pressed	55-57	0.5 max	205-210	206-211	-	-	0.5 max	5 max	-	1 max	2 max	-	45-49	-	50-54	1 max	-	-	-	-	Liquid/Solid/ Flakes/Beads	PB/JB/SD/ ISO/Bulk
1843	Stearic Acid 43% Triple Pressed	54-56	0.5 max	205-211	206-212	-	-	0.5 max	5 max	-	1 max	2 max	-	52-58	-	40-46	1 max	-	-	-	-	Liquid/Solid/ Flakes/Beads	PB/JB/SD/ ISO/Bulk
1838	Stearic Acid 38% Triple Pressed	54-56	0.5 max	206-213	207-214	-	-	0.5 max	5 max	-	1 max	2 max	-	57-65	-	35-40	0.5 max	-	-	-	1.5 max	Liquid/Solid/ Flakes/Beads	PB/JB/SD/ ISO/Bulk
1818	Rubber Grade Stearic Acid	52-57	4 max	195 min	196 min	-	-	0.5 max	5 max	-	-	-	-	75 max	-	25 min	-	-	-	-	-	Liquid/Solid/ Flakes/Beads	PB/JB/SD/ ISO/Bulk
1804	Rubber Grade Stearic Acid	52 min	4 max	195 min	196 min	-	-	5 max	50 max	Variable											Liquid/Solid/ Flakes/Beads	PB/JB/SD/ ISO/Bulk	

PB = 25kg net PP laminated paper bag JB = 800kg net jumbo bag PD = 180kg PE drum SD = 180kg steel drum ISO = 20mt ISO tank

Refined Glycerine

Table 4 / Specifications of USP Grade Refined Glycerine

Product Code	Description	Appearance	Glycerine Content %	Moisture %	Color mL of FeCl ₃	Color APHA	Identification A	Identification B		Identification C	Specific Gravity 25°C	Residue on Ignition %	Chlorides ppm	Sulphates ppm	Heavy Metals ppm	Chlorinated Compound ppm	Fatty Acids & Esters mL of 0.5N NaOH/50g	Related Compounds		Product Form	Packaging
								Diethylene Glycol	Ethylene Glycol									Individual Impurities	Total Impurities		
G997U	USP Grade	Transparent	99.7 min	0.3 max	0.4 max	-	Conform	0.1 max	0.1 max	Conform	1.2607 min	0.01 max	10 max	20 max	5 max	30 max	1 max	0.1 max	1 max	Liquid	PD/SD/ISO/FB

Table 5 / Specifications of BP and EP Grade Refined Glycerine

Product Code	Description	Appearance	Glycerine Content %	Moisture %	Color APHA	Identification A, B, C, D	Sulphated Ash %	Chlorides ppm	Heavy Metals ppm	Halogenated Compounds ppm	Impurities A & Related Compound	Acidity & Alkalinity mL of 0.1M NaOH /50 mL Solution 5	Refractive Index n ₂₀ /D	Aldehydes ppm	Esters mL of 0.1M HCl /50 mL Solution 5	Sugar	Product Form	Packaging
G997E	EP Grade	Transparent	99.7 min	0.3 max	10 max	Conform	0.01 max	10 max	5 max	35 max	Conform	0.2 max	1.470-1.475	10 max	8 min	Pass	Liquid	PD/SD/ISO/FB
G997B	BP Grade	Transparent	99.7 min	0.3 max	10 max	Conform	0.01 max	10 max	5 max	35 max	Conform	0.2 max	1.470-1.475	10 max	8 min	Pass	Liquid	PD/SD/ISO/FB

PD = 250kg net PE drum SD = 250kg net steel drum FB = 20mt flexibag IBC = 1250kg IBC tank ISO = 20mt ISO tank

Split Fatty Acids & Hydrogenated Products

Table 6 / Specifications of Split Fatty Acids & Hydrogenated Products																					
Product Code	Description	Melting Point °C	Iodine Value g I ₂ /100g	Acid Value mg KOH/g	Sap. Value mg KOH/g	Moisture, Impurities, Unsap %	Degree of Split %	Color 5¼" Lovibond Cell		Fatty Acid Composition %										Product Form	Packaging
								Red	Yellow	C6	C8	C10	C12	C14	C16	C18	C18:1	C18:2	Others		
CKFA	Split Undistilled Palm Kernel Fatty Acid	-	22 max	254-260	-	2 max	98 min	-	-	0.5 max	2-5	2-5	44-52	13-18	7-11	1-3	13-18	3 max	-	Liquid	PD/SD/ISO/Bulk
CSFA	Split Undistilled Palm Stearine Fatty Acid	-	48 max	204-214	-	2 max	98 min	-	-	-	-	-	1 max	2 max	55-65	4-8	20-30	8 max	-	Liquid	PD/SD/ISO/Bulk
CCFA	Split Undistilled Coconut Fatty Acid	-	11 max	262-272	-	2 max	98 min	-	-	0.8 max	9 max	5-9	43-52	15-20	6-11	6 max	5 min	3 max	-	Liquid	PD/SD/ISO/Bulk
HRPS	Hydrogenated Refined Palm Stearine	58-61	1 max	1 max	195-205	0.5 max	-	3 max	30 max	-	-	-	-	-	-	-	-	-	-	Liquid/Solid	PB/JB/PD/SD/ISO/Bulk
HRPO	Hydrogenated Refined Palm Oil	56 min	1 max	-	-	0.2 max	-	3 max	30 max	-	-	-	-	-	-	-	-	-	-	Liquid/Solid	PB/JB/PD/SD/ISO/Bulk
HSFA	Hydrogenated Split Stearine Fatty Acid	-	2 max	204-214	205-215	-	98 min	10 max	50 max	-	-	-	-	-	-	-	-	-	-	Liquid/Solid	PB/JB/PD/SD/ISO/Bulk

PB = 25kg net PP laminated paper bag JB = 800kg net jumbo bag PD = 180kg PE drum SD = 180kg steel drum ISO = 20mt ISO tank

Esters

Table 7 / Specifications of Esters

Product Code	Description	Acid Value mg KOH/g	Sap. Value mg KOH/g	Iodine Value g I ₂ /100g	Hydroxyl Value mg KOH/g	Color APHA	Moisture %	Ash Content %	Unsap. Matter %	Peroxide Value meq/Kg	Viscosity mPa.s 20°C	Density g/cm ³ 20°C	Refractive Index 20°C	Flash Point °C	Cloud Point °C	Water Content %,m/m	Fatty Acid Composition %							Product Form	Packaging
																	C6	C8	C10	C12	C14	C16	others		
KR6810 (MCT)	Medium Chain Triglycerides	0.1 max	325-345	0.5 max	5 max	20 max	0.15 max	-	-	0.2 max	-	-	-	-	-	-	0.5 max	55-65	35-45	1.5 max	-	-	1.5 max	Liquid	SD/IBC/ISO
KR6830 (CCT)	Caprylic/Capric Triglycerides	0.1 max	325-345	0.5 max	5 max	-	0.15 max	-	-	1 max	25-33	0.93-0.96	1.440-1.452	-	-	-	-	55-65	35-45	-	-	-	2 max	Liquid	SD/IBC/ISO
KR7810 (MCT)	Medium Chain Triglycerides	1 max	335-360	0.5 max	5 max	70 max	0.15 max	0.1 max	0.5 max	1 max	25-33	0.93-0.96	1.440-41.452	-	-	-	-	65-75	25-35	-	-	-	2 max	Liquid	SD/IBC/ISO
KR2812 (IPL)	Isopropyl Laurate 99%	0.5 max	228-234	-	-	30 max	0.1 max	0.1 max	-	0.6 max	4-5	0.851-0.854	1.428-1.432	-	-	-	-	-	1 max	99 min	1 max	-	-	Liquid	SD/IBC/ISO
KR2814 (IPM)	Isopropyl Myristate 98%	1 max	202-212	1 max	-	colorless	-	-	-	-	5-6	0.850-0.855	1.434-1.437	ca.150	2 max	0.1 max	-	-	-	-	92 min	-	-	Liquid	SD/IBC/ISO
KR2816 (IPP)	Isopropyl Palmitate 98%	0.5 max	183-193	1 max	-	25 max	0.1 max	0.1 max	-	-	5-10	0.850-0.855	1.436-1.440	-	-	-	-	-	-	-	-	98 min	-	Liquid	SD/IBC/ISO
KR2616 (2-EHP)	2-Ethylhexyl Palmitate 98%	0.2 max	146-156	1 max	1 max	30 max	0.5 max	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Liquid	SD/IBC/ISO

SD = 180kg steel drum IBC = 900kg IBC tank ISO = 20mt ISO tank

Glyceryl Monoesters

Palm Wax

Table 8 / Specifications of Glyceryl Monoesters

Product Code	Description	Monoglyceride Content %	Alpha-monoglyceride %	Free Glycerol %	Acid Value mg KOH/g	Iodine Value g I ₂ /100g	Melting Point °C	Product Form	Packaging
DMG95	Distilled Monoglycerides 95%	95 min	-	1.2 max	3 max	2 max	65 appr.	White beads	PB
GMS40 SE	Glyceryl Monostearate - Self Emulsifying	40 min	-	7 max	3 max	2 max	-	-	PB
GMS40 NSE	Glyceryl Monostearate - Non Self Emulsifying	42 min	-	1 max	3 max	2 max	-	-	PB
GMS45	Glycerol Monostearate 95%	45 min	-	1.5 max	3 max	3 max	57 appr.	Off-white beads	PB
GMO85	Glycerol Monooleate 85%	-	85 min	1 max	4 max	80-110	25 appr.	White paste	PD/SD/Bulk
GMO50	Glycerol Monooleate 50%	50 min	48 min	2 max	2 max	-	-	Yellowish liquid	PD/SD/Bulk
GMO45	Glycerol Monooleate 45%	45-55	-	1 max	2 max	65-125	-	Yellowish liquid	PD/SD/Bulk

PB = 25kg PP laminated paper bag PD = 180kg PE drum SD = 180kg steel drum

Table 9 / Specifications of Palm Waxes

Product Code	Melting Point °C	Slip Melting Point °C	Free Fatty Acid (as Palmitic) %	Acid Value mg KOH/g	Color 5/4" Lovibond Cell	Moisture & Impurities %	Product Form	Packaging
					Red			
BW701	53-60	-	-	209-214	0.5 max	0.25 max	Solid	PB / JB
BW703	55-60	-	-	200-213	1.0 max	0.25 max	Solid	PB / JB
BW77	-	58 min	0.2 max	-	2 max	0.15 max	Solid	PB / JB
BW101	-	50-55	0.2 max	-	3 max	0.15 max	Solid	CB
BW105	-	48-52	0.2 max	-	3 max	0.15 max	Solid	CB
BW106	-	43-48	0.2 max	-	3 max	0.15 max	Solid	CB
BW302	-	58-63	-	2 max	3 max	0.5 max	Solid	PB / JB
BW8307	58 min	-	-	1 max	3 max	-	Solid	PB / JB
BW8308	55 min	-	-	1 max	3 max	-	Solid	PB / JB
BWC05	52-57	-	-	155-185	2.0 max	0.25 max	Solid	PB / JB
BWC07	60-66	-	-	165-195	2.0 max	0.25 max	Solid	PB / JB
BWC09	56-63	-	-	145-165	2.0 max	0.25 max	Solid	PB / JB
BWC16	59-65	-	-	210-230	2.0 max	0.25 max	Solid	PB / JB

PB = 25kg PP laminated paper bag JB = 650kg jumbo bag CB = 25kg carton box

Fatty Alcohol

Table 10 / Specifications of Fatty Alcohol

Product Code	Description	Acid Value mg KOH/g	Sap. Value mg KOH/g	Iodine Value g I ₂ /100g	Carbonyl Value mg/kg	Hydroxyl Value mg KOH/g	Moisture %	Melting Point °C	Color APHA	Fatty Alcohol Content %	Solidification Point °C	Hydro Carbon %	Methanol mg/kg	Fatty Alcohol Composition %										Product Form	Packaging	
														C6	C8	C10	C12	C14	C16	C18	C18:1	C18:2	C20			Others
FAL0810	Fatty Alcohol C0810	0.1 max	1.5 max	0.5 max	150 max	385-410	0.5	-	10 max	99 min	-	-	-	5.0 max	45-65	35-55	-	-	5.0max	-	-	-	-	-	Liquid	PD/SD/ ISO/Bulk
FAL0899	Fatty Alcohol C0899	0.1 max	0.5 max	0.1max	50 max*	428-434	0.1	-	10 max	-	-	0.5 max	10 max**	1 max	99min	1 max							Liquid	PD/SD/ ISO/Bulk		
FAL1099	Fatty Alcohol C1099	0.1 max	0.5 max	0.1 max	50 max*	352-356	0.1 max	-	10 max	-	-	0.5 max	10 max**	1 max	99 min	1max							Liquid	PD/SD/ ISO/Bulk		
FAL1214	Fatty Alcohol C1214	0.1 max	0.5 max	0.3 max	50 max	285-295	0.1 max	-	10 max	99min	-	-	-	-	-	2 max	68-78	20-30	2 max	-	-	-	-	-	Liquid	PD/SD/ ISO/Bulk
FAL1618	Fatty Alcohol C1618	0.1 max	1.0 max	0.5 max	150 max	210-220	0.3 max	-	10 max	99 min	-	-	-	-	-	-	3.0 max	22-32	66-76	-	-	-	3.0 max	Solid	PB	
FAL1498	Fatty Alcohol C1498	0.1 max	0.5 max	0.3 max	-	255-262	0.1 max	-	10 max	-	36-38	1.0 max	-	0-2			98 min	0-2-					Liquid	PD/SD/ ISO/Bulk		
FAL1699	Fatty Alcohol C1699	0.05 max	0.5 max	0.3 max	150 max	225-235	0.1 max	48-51	10 max	99 min	-	0.5 max	-	1.0 max			99 min	1.0 max					Liquid	PD/SD/ ISO/Bulk		
FAL1899	Fatty Alcohol C1899	0.05 max	0.5 max	0.3 max	150 max	200-210	0.1 max	55-61	10 max	99 min	-	-	-	1.0 max				99 min	-	-	1.0 max		Liquid	PD/SD/ ISO/Bulk		

PD = 180kg PE drum SD = 180kg steel drum ISO = 20mt ISO tank PB = 25kgs net paper Bag * At port of Loading ** If required

Fractionated Methyl Esters

Table 11 / Specifications of Fractionated Methyl Esters

Product Code	Description	Acid Value mg KOH/g	Sap. Value mg KOH/g	Iodine Value g I ₂ /100g	Moisture %	Color APHA	Color		Fatty Acid Composition										Product Form	Packaging
							5¼" Lovibond Cell		%											
							Red	Yellow	C6	C8	C10	C12	C14	C16	C18	C18:1	C18:2	Others		
ME0898	C8 Methyl Ester	0.3 max	352-358	0.5 max	0.1 max	-	0.2 max	-	2 max	98 min	2 max	-	-	-	-	-	-	-	Liquid	PD/SD/ ISO/Bulk
ME1098	C10 Methyl Ester	0.5 max	299-309	0.3 max	0.1 max	-	0.2 max	-	-	2 max	98 min	2 max	-	-	-	-	-	-	Liquid	PD/SD/ ISO/Bulk
ME1299	C12 Methyl Ester	0.5 max	260-263	0.3 max	0.1 max	-	0.2 max	-	-	-	1 max	99 min	1 max	-	-	-	-	-	Liquid	PD/SD/ ISO/Bulk
ME1498	C14 Methyl Ester	0.5 max	224-240	0.5 max	0.1 max	-	0.2 max	-	-	-	-	2 max	98 min	2 max	-	-	-	-	Liquid	PD/SD/ ISO/Bulk
ME1699	C16 Methyl Ester	1 max	200-206	1 max	0.1 max	-	0.2 max	-	-	-	-	-	1 max	99 min	1 max	-	-	-	Liquid	PD/SD/ ISO/Bulk
ME0810	C8-C10 Methyl Ester	0.5 max	320-335	0.5 max	0.2 max	80 max	-	-	4 max	50-58	35-50	1 max	-	-	-	-	-	-	Liquid	PD/SD/ ISO/Bulk
ME1214	C12-C14 Methyl Ester	0.4 max	250-260	0.4 max	0.1 max	-	0.2 max	-	-	-	2 max	70-75	22-30	2 max	-	-	-	-	Liquid	PD/SD/ ISO/Bulk
ME1618	C16-C18 Methyl Ester	1 max	185-195	56-74	0.1 max	100 max	-	-	-	-	-	0.5 max	1 max	20-35	65-80	-	-	1.5 max	Liquid	PD/SD/ ISO/Bulk
ME1218K	C12-C18 Stripped Palm Kernel Methyl Ester	1 max	230-240	16-20	0.1 max	-	0.5 max	-	-	3 max		47-54	15-19	7-11	1-3	14-20	2-4	0.5 max	Liquid	PD/SD/ ISO/Bulk
ME0818K	C8-C18 Palm Kernel Methyl Ester	1 max	238-248	14-19	0.2 max	-	0.5 max	-	1 max	1-5	1-5	45-50	14-18	7-10	1-3	12-19	2-4	0.5 max	Liquid	PD/SD/ ISO/Bulk
ME1218C	C12-C18 Stripped Coconut Methyl Ester	1 max	235-245	9-13	0.1 max	-	0.5 max	-	-	3 max		48-58	19-24	9-12	2-4	6-9	2 max	0.5 max	Liquid	PD/SD/ ISO/Bulk
ME0818C	C8-C18 Coconut Methyl Ester	1 max	245-265	7-12	0.2 max	-	0.5 max	-	1 max	2-10	5-8	45-53	14-21	7-13	2-4	3-9	2 max	0.5 max	Liquid	PD/SD/ ISO/Bulk

PD = 180kg PE drum SD = 180kg steel drum ISO = 20mt ISO tank

Soap Noodle

Table 12 / Specifications of Soap Noodle

Product Code	Color	TFM %	Moisture %	FFA % (as Palmitic)	Free Alkali % (as NaOH)	Titre °C	Chloride % (as NaCl)	Glycerine %	Chelating Agent	Packaging
6040	White	79.5-81.5	11-13	1.5 max	-	41 max	0.4-0.7	1 max	Present	PB/JB
7030	White	78.5-81.5	10.5-13.5	1.5 max	-	44 max	0.4-0.7	1 max	Present	PB/JB
8020	White	78.5-81.5	10.5-13.5	1.5 max	-	46 max	0.4-0.7	1 max	Present	PB/JB
8021	White	78.5-81.5	10.5-13.5	-	0.05 max	47 max	0.4-0.7	1 max	Present	PB/JB
9010	White	78 min	15 max	1.5 max	-	52 max	0.4-0.7	1 max	Present	PB/JB
9015	White	72 min	20 max	-	0.1 max	47 max	0.4-0.7	1 max	Present	PB/JB
9050	White	74 min	18 max	1.5 max	-	-	0.4-0.7	1 max	Present	PB/JB

PB = 25kg PP laminated paper bag JB = 800kg jumbo bag

Castor Oil & Its Derivatives

Table 13 / Specifications of Castor Oil & Its Derivatives

Product Code	Description	Melting Point °C	Iodine Value g I ₂ /100g	Acid Value mg KOH/g	Sap. Value mg KOH/g	Hydroxyl Value mg KOH/g	Color Gardner	Unsap Matter %	Ricinoleic Acid %	Product Form	Packaging
OH1800	Hydrogenated Castor Oil	85 min	3 max	3 max	177-185	155 min	2 max	-	-	Flakes	PB
OH1812	12-Hydroxyl Stearic Acid	72-78	3 max	178 min	180-190	155 min	5 max	-	-	Flakes	PB
OH1885	Ricinoleic Acid	-	82-91	175-185	177-186	150 min	6 max	1 max	85 min	Liquid	PD/SD/ISO/Bulk

PB = 25kg net PP laminated paper bag PD = 180kg PE drum SD = 180kg steel drum ISO = 20mt ISO tank

Animal Feed

Table 14 / Specifications of Animal Feed

Product Code	Melting Point °C	Total Fat Content %	Free Fatty Acid %	Ash Content %	Calcium %	Iodine Value g I ₂ /100g	Acid Value mg KOH/g	Sap. Value mg KOH/g	Color	Fatty Acid Composition %						Lecithin %	Moisture & Impurities %	Product Form	Packaging	
										C12	C14	C16	C18:0	C18:1	C18:2					Others
POLYFAT A600	54 min	99.5 min	1 max	-	-	25 max	-	-	Off-white	2 max	75 min	8 max	20 max			-	0.5 max	Solid	PB / JB	
POLYFAT A800	54-60	99.5 min	1 max	-	-	25 max	-	-	Off-white	2 max	75 min	8 max	20 max			-	0.5 max	Solid	PB / JB	
POLYFAT A822	55-60	99.5 min	5 max	-	-	28 max	-	-	Light Brown	2 max	65 min	8 max	15 max			2-5	0.5 max	Solid	PB / JB	
POLYFAT K200	54 min	-	-	-	-	8 max	210-222	211-223	White	-	-	80 min	-	-	-	10 max	-	0.5 max	Solid	PB / JB
												90 min								
POLYFAT K300	-	84-87	-	11-15	9 min	-	-	-	Yellow to Brown	0.5 max	1.5 max	40-50	3-8	35-42	8-10	-	-	Solid	PB / JB	
POLYFAT K500	53-58	-	-	-	-	2 max	205 min	-	White	4 max	58-63	35-39	3 max			-	0.5 max	Solid	PB / JB	
POLYFAT K700	53-58	-	-	-	-	2 max	205 min	-	White	4 max	68-72	26-30	3 max			-	0.5 max	Solid	PB / JB	

PB = 25kg PP laminated paper bag JB = 800kg jumbo bag

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