Normal Grades of Castor Oil: -

PRODUCT DESCRIPTION	Refined Castor Oil First Special Grade (FSG)	Castor Oil Pale Pressed Grade (PPG)	Castor Oil Commercial Grade		
	SPECIFICATION				
Appearance	Pale Yellow, clear liquid.	Pale Yellow, clear liquid.	Yellowish viscous clear liquid.		
Free Fatty Acid %	1 Max	0.75 Max	2 Max		
Acid Value mgKOH/g	2 Max	1.5 Max	4 Max		
lodine Value gl ₂ /100gm	82 - 90	82 - 89	82 - 90		
Hydroxyl Value mgKOH/g	160 Min	160 Min	160 Min		
Saponification Value mgKOH/g	177 - 187	177 - 187	177 - 187		
Unsaponifiable Matter %	0.70 Max	0.70 Max	1 Max		
Refractive Index At 40°C	1.477 - 1.481	1.477 - 1.481	1.470 - 1.481		
Relative Density At 20°C	0.958 - 0.969	0.958 - 0.968	0.954 - 0.968		
Ricinoleic Acid Content %	85 Min	85 Min	85 Min		
Moisture, Insoluble & Volatile %	0.25 Max	0.25 Max	0.5 Max		
Color In 5 1/4" Cell Lovibond tintometer	Y - 20.0, R - 2.0	Y - 10.0, R - 1.0	-		
Color In 1" Cell Lovibond	-	-	17 Unit Max (Y +5R)		
Odor	Characteristic	Characteristic	Characteristic		
PACKING	IBC, DRUM, FLEXI, ISO, BULK	IBC, DRUM, FLEXI, ISO, BULK	IBC, DRUM, FLEXI, ISO, BULK		
The Product Can Also Be Supplied as Per Client's Required Specifications.					
	(* As per Client's Requirer	nent)			

315, Gala Complex, Dindayal Upadhyay Marg, Siddharth Nagar, Mulund West, Mumbai - 400 080 Email:-kascochemtech1@gmail.com Contact No :- 91520 79907 / 98209 44330

Special Grades of Castor Oil: -

PRODUCT DESCRIPTION	Neutralize PPG Castor Oil (NCO-PPG)	Neutralize Castor Oil (NCO)	Deodorized Castor Oil			
	SPECIFICATION					
Appearance	Pale Yellow, clear liquid.	Pale Yellow, clear liquid.	Pale Yellow, clear liquid.			
Free Fatty Acid %	0.35/0.4 Max *	0.35/0.4 Max *	1 Max			
Acid Value mgKOH/g	0.7/0.8 Max *	0.7/0.8 Max *	2 Max			
Iodine Value gl ₂ /100gm	82 - 90	82 - 90	82 - 89			
Hydroxyl Value mgKOH/g	160 Min	160 Min	160 Min			
Saponification Value mgKOH/g	177-185	177-185	177 - 187			
Unsaponifiable Matter %	0.70 Max	0.70 Max	0.70 Max			
Refractive Index At 40°C	1.470-1.4740	1.470-1.4740	1.477 - 1.481			
Relative Density At 20°C	0.9540-0.9600	0.9540-0.9600	0.958 - 0.968			
Ricinoleic Acid Content %	85 Min	85 Min	85 Min			
Moisture, Insoluble & Volatile %	0.25 Max	0.25 Max	0.25 Max			
Color In 5 1/4" Cell Lovibond tintometer	Y-10 .0, R - 1.0 Max	Y-15.0, R - 1.5 Max	Y - 20.0, R - 2.0			
Odor	Characteristic	Characteristic	Odorless			
PACKING	IBC, DRUM, FLEXI, ISO, BULK	IBC, DRUM, FLEXI, ISO, BULK	IBC, DRUM, FLEXI, ISO, BULK			
The Product Can Also Be Supplied as Per Client's Required Specifications.						
(* As per Client's Requirement)						

315, Gala Complex, Dindayal Upadhyay Marg, Siddharth Nagar, Mulund West, Mumbai - 400 080 Email:-kascochemtech1@gmail.com Contact No :- 91520 79907 / 98209 44330

Special Grades of Castor Oil: -

PRODUCT DESCRIPTION		Low Moisture Castor Oil (100-200 PPM)	Low Moisture Castor Oil (1000 PPM)	Low Moisture Neutralized Castor Oil (NCO-LM)	Low Moisture PPG Castor Oil (PPG-LM)	Low Moisture Neutralized PPG Castor Oil (NCO-PPG-LM)
			SPECIFICATIO	N		
Appearance		Yellowish clear liquid.	Yellowish clear liquid.	Yellowish clear liquid.	Pale Yellow, clear liquid.	Pale Yellow, clear liquid.
Free Fatty Acid	%	1 Max	1 Max	0.4 Max	0.75 Max	0.4 Max
Acid Value	mgKOH/g	2 Max	2 Max	0.8 Max	1.5 Max	0.8 Max
Iodine Value	gl ₂ /100gm	82 - 89	82 - 89	82 - 89	82 - 89	82 - 89
Hydroxyl Value	mgKOH/g	160 Min	160 Min	160 Min	160 Min	160 Min
Saponification Value	mgKOH/g	175 - 187	175 - 187	177 - 187	177 - 187	177 - 187
Unsaponifiable Matter	%	0.7 Max	0.7 Max	0.7 Max	0.7 Max	0.7 Max
Refractive Index	At 40 ^o C	1.477 - 1.481	1.477 - 1.481	1.477 - 1.481	1.477 - 1.481	1.477 - 1.481
Relative Density	At 20 ⁰ C	0.957 - 0.961	0.957 - 0.961	0.958 - 0.969	0.958 - 0.968	0.958 - 0.968
Color In 5 1/4" Cell Lovik tintometer	ond	Y - 20.0, R - 2.0	Y - 20.0, R - 2.0	Y - 20.0, R - 2.0	Y - 10.0, R - 1.0	Y - 10.0, R - 1.0
Ricinoleic Acid Content	%	85 Min	85 Min	85 Min	85 Min	85 Min
Moisture	%	0.01/0.02* Max (100/200 PPM)	0.1 Max (1000 PPM)	0.01/0.02* Max (100/200 PPM)	0.01/0.02* Max (100/200 PPM)	0.01/0.02* Max (100/200 PPM)
PACKING		IBC, DRUM, FLEXI, ISO	IBC, DRUM, FLEXI, ISO	IBC, DRUM, FLEXI, ISO	IBC, DRUM, FLEXI, ISO	IBC, DRUM, FLEXI, ISO
The Product Can Also Be Supplied as Per Client's Required Specifications.						
			(* As per Client's Req	uirement)		

315, Gala Complex, Dindayal Upadhyay Marg, Siddharth Nagar, Mulund West, Mumbai - 400 080 Email:-kascochemtech1@gmail.com Contact No :- 91520 79907 / 98209 44330

Grades of Derivatives: - Hydrogenated Castor Oil (HCO)

PRODUCT DESCRIPTIO	N	Hydrogenated Castor Oil Powder	Hydrogenated Castor Oil Flakes	Hydrogenated Castor Oil Flakes (MP-80°C)	Hydrogenated Castor Oil Flakes (MP-76°C)	Hydrogenated Castor Oil Liquid		
			SPECIFICATION					
Appearance		White Powder/Granules	Off White Flakes	Off White Flakes	Off White Flakes	White Liquid		
Free Fatty Acid	%	1.5 Max	1 Max	1 Max	1 Max	1.5 Max		
Acid Value	mgKOH/g	3 Max	2 Max	2 Max	2 Max	3 Max		
Iodine Value	gl ₂ /100gm	3 Max	3 Max	Between 12 -14	Between 18 - 22	3 Max		
Hydroxyl Value	mgKOH/g	155 Min	155 - 165	155 Min	155 Min	155 Min		
Saponification Value	mgKOH/g	177 - 183	180 Min	180 Min	180 Min	177 -183		
Color (Gardner Scale)		3G max	2G max	2G max	2G Max	2G Max		
Melting Point	°C	84 Min	84 - 88	80	76	84 Min		
Particle Passing Throug	gh 20 Mesh Size	99 % Passing	-	-	-	-		
PACKING		25/500/1000 Kg Bag Palletised & Unpalletised	ISO Tank					
	The Product Can Also Be Supplied as Per Client's Required Specifications.							
	(* As per Client's Requirement)							

Major Uses

- Lubricants: HCO is used to make calcium and lithium lubricating greases that are resistant to water, oils, fats, and solvents.
- Personal care: HCO is used as a thickening agent and emollient in cosmetics, deodorants, ointments, and hair care products. HCO is also used in creams and lipsticks.
- Plastics: HCO is used as a release agent and lubricant for PVC. It also improves the grease resistance, dispersion, and processing of sheeted polyethylene.
- Waxes: HCO is used as a binding agent in petroleum and synthetic waxes.
- Paper coatings: HCO is used to make hot melts for food packaging paper coatings.
- Hot melt adhesives: HCO is used to make hot melt adhesives for packaging, footwear, carpet backing, book binding, and product assembly.
- **Polishes**: HCO is an ingredient in polishes for cars, shoes, and furniture.

Grades of Derivatives: - 12-Hydroxy Steric Acid (12-HSA)

PRODUCT DESCRIPTION	12-Hydroxy Stearic Acid (Unbleached) Grade-1	12-Hydroxy Stearic Acid (Unbleached) Grade-2	12-Hydroxy Stearic Acid (Bleached) Grade-1	12-Hydroxy Stearic Acid (Bleached) Grade-2		
	S	PECIFICATION				
Appearance	White Creame Flakes	White Creame Flakes	White Creame Flakes	White Creame Flakes		
Acid Value mgKOH/g	175 Min	175 Min	175 Min	175 Min		
Iodine Value gl ₂ /100gm	3 Max	4 Max	4 Max	4 Max		
Hydroxyl Value mgKOH/g	155 Min	155 Min	155 Min	155 Min		
Saponification Value mgKOH/g	180 - 190	180 - 190	180 - 190	180 - 190		
Unsaponifiable Matter %	1 Max	1 Max	1 Max	1 Max		
Color In Gardner Scale	4/5/6 Max*	4/5/6 Max *	2 Max	3 Max		
Melting Point °C	72 Min	72 Min	72 Min	72 Min		
Moisture %	0.75 Max	0.75 Max	0.75 Max	0.75 Max		
PACKING	25/500/1000 Kg Bag Palletised & Unpalletised	25/500/1000 Kg Bag Palletised & Unpalletised	25/500/1000 Kg Bag Palletised & Unpalletised	25/500/1000 Kg Bag Palletised & Unpalletised		
The Product Can Also Be Supplied as Per Client's Required Specifications.						
(*As per Client's Requirement)						

Major Uses

- **Cosmetics**: 12-HSA is used in cosmetics as an emollient in products like creams, lotions, gels, and underarm deodorants. It can also be used to enhance SPF and in sun care products.
- Greases: 12-HSA is used in high-performance greases, including lithium complex grease, for automotive and industrial applications.
- **Rubber**: 12-HSA is used as an accelerator or activator in rubber.
- Adhesives: 12-HSA is used in hot melt adhesives.
- Lubricants: 12-HSA is used as a lubricant for natural and synthetic rubbers.
- Pharmaceuticals: 12-HSA is used as an intermediate in pharmaceuticals.
- Other products: 12-HSA is also used in wax blends, polishes, inks, paint production, plastic products, drilling fluid additives, and food packaging.

Grades of Derivatives: - Ricinoleic Acid (RA)

PRODUCT DESCRIPTION	Ricinoleic Acid Grade-1	Ricinoleic Acid Grade-2					
	SPECIFICATION						
Appearance	Yellow/Red Clear Viscous Liquid	Yellow/Red Clear Viscous Liquid					
Acid Value mgKOH/g	175 Min	175 Min					
Iodine Value gl ₂ /100gm	82 - 90	82 - 90					
Hydroxyl Value mgKOH/g	155 Min	155Min					
Saponification Value mgKOH/g	180 - 190	180 - 190					
Unsaponifiable Matter %	1Max	1Max					
Relative Density At 27°C	0.935-0.945	0.935-0.945					
Color (Gardner Scale)	4/5/6G max*	4/5/6G max*					
Ricinoleic Acid Content %	85 Min	85 Min					
Moisture %	0.25 Max	0.75 Max					
PACKING	IBC, DRUM, FLEXI, ISO.	IBC, DRUM, FLEXI, ISO.					
The Product Can Also Be Supplied as Per Client's Required Specifications.							
(*As per Client's Requirement)							

Major Uses

- Skincare: Ricinoleic acid is a common ingredient in skincare products because it moisturizes, reduces inflammation, and treats dry skin, acne, and irritation.
- Medicinal: Ricinoleic acid has anti-inflammatory, analgesic, and antibacterial properties, and is used to treat a variety of health problems. Castor oil, which is high in Ricinoleic acid, has been used as a laxative for thousands of years.
- Industrial: Ricinoleic acid is used as a lubricant and plasticizer in the production of plastics, rubbers, and coatings. It's also used in high-performance lubricants for engines, machinery, and aerospace equipment.
- Pharmaceutical: Ricinoleic acid is used in formulations to increase medication absorption through the skin.
- Other: Ricinoleic acid is also used in printing ink, textile finishing, chemical intermediates, detergents, and amphoteric surfactants.

Grades of Derivatives: - Poly Ricinoleic Acid (Poly RA) & Blown Castor Oil

PRODUCT DESCRIPTION		Poly Ricinoleic Acid Grade-1	Poly Ricinoleic Acid Grade-1	Blown Castor Oil		
		SPECIFICATIO	N			
Appearance		Yellow/Red Clear Liquid	Yellow/Red Clear Liquid	Pale Golden Yellow Liquid		
Free Fatty Acid	%	26 - 28	26 - 28	2.5 - 13		
Acid Value	mgKOH/g	52 - 55	52 - 55	5.0 - 25		
Iodine Value	gl ₂ /100gm	85 - 95	85 - 95	60 - 90		
Saponification Value	mgKOH/g	190 - 210	190 - 210	190-230		
Viscosity in Poise		3 - 4.5 (at 40°C)	3 - 4.5 (at 40°C)	10 - 200 (at 25°C)		
Moisture, Insoluble & Vo	olatile %	0.30 Max	0.30 Max	0.30 Max		
Odor		Characteristic	Characteristic	Characteristic		
Color in Gardner Scale		6G Max	8G Max	-		
PACKING		IBC, DRUM, FLEXI, ISO,	IBC, DRUM, FLEXI, ISO	IBC, DRUM, FLEXI, ISO		
The Product Can Also Be Supplied as Per Client's Required Specifications.						

Major Uses:

Poly Ricinoleic Acid

- Lubricant: PRA is a natural, green lubricant used in mechanical lubricants and brake oils. It can improve the anti-wear property, low temperature fluidity, and biodegradability of base lubricating oil.
- Emulsifier: PRA is used in the food industry as an emulsifier to reduce the viscosity of chocolate and similar coatings and compounds.
- Coolant: PRA is used as a coolant in metal working.
- Thermosetting elastomers: PRA is used to manufacture thermosetting elastomers.

Blown Castor Oil

- Plasticizer: Used in lacquers, inks, adhesives, and leathers. It's also used in paint, varnish, and sealants.
- **Hydraulic fluids**: Used as a lubricating additive in hydraulic fluids.
- Leather: Used to make leather more flexible and permanent.
- Wood and metal polish: Used to make wood and metal look glossy.
- **Sealants and caulks**: Used for flexibility, adhesion, and penetration.
- **Synthetic rubber**: Used to make synthetic rubber.
- Lubricants: Used in lubricants for heavy machinery.
- Coatings: Used to make coatings because of its film-forming qualities.

Grades of Derivatives: - Dehydrated Castro Oil Fatty Acid

PRODUCT DESCRIPTION		Dehydrated Castor Oil Fatty (Low conjugation)	Dehydrated Castor Oil Fatty (Medium conjugation)	Dehydrated Castor Oil Fatty (High conjugation)		
		SPECIFICA	TION			
Appearance		Clear liquid.	Clear liquid.	Water White to Pale Yellow liquid.		
Free Fatty Acid	%	97 - 103	97 -103	97.0-103.0		
Acid Value	mgKOH/g	195 - 205	195.0-205.0	195.0-205.0		
lodine Value	$gl_2/100gm$	130 Min	130.0 Min	130.0 Min		
Hydroxyl Value	mgKOH/g	5 Max	5.0 Max	5.0 Max		
Saponification Value		198 - 208	198.0-208.0	198.0-208.0		
Relative Density	At 30°C	0.903 - 0.905	0.903 - 0.905	0.903 - 0.905		
Colour (Gardner Scale)		1/ 2G Max*	1/ 2G Max*	1/ 2G Max*		
Presence Of Break		Break Free and not turn hazy	Break Free and not turn hazy	Break Free and not turn hazy		
Refractive Index		1.473-1.477	1.473-1.477	1.473-1.477		
Conjugation% By UV Spectrop	ohotometer	30 Min	40 Min	50 Min		
PACKING		IBC, DRUM, FLEXI, ISO.	IBC, DRUM, FLEXI, ISO.	IBC, DRUM, FLEXI, ISO.		
	The Product Can Also Be Supplied as Per Client's Required Specifications.					
(*As per Client's Requirement)						

Major Uses:

- Industrial: As a plasticizer or stabilizer in poly(vinyl) compounds, DCOFA can replace epoxidized soybean oil. DCOFA is also used in paints, varnishes, primers, inks, and more.
- **Medicinal**: DCOFA is a natural laxative that increases muscle movement in the intestines. It can also be used to moisturize skin, promote wound healing, reduce acne, fight fungus, and keep hair and scalp healthy.
- Other: DCOFA is used in adhesives, sealants, perfumes, fragrances, cosmetics, biocides, air care products, plant protection products, pharmaceuticals, polishes, waxes, and washing and cleaning products.

Grades of Derivatives: - Dehydrated Castro Oil

PRODUCT DESCRIPTION		Dehydrated Castor Oil Commercial Grade	Dehydrated Castor Oil Pale Grade	Dehydrated Castor Oil Extra Pale Grade	Dehydrated Castor Oil Stand Oil	
SPECIFICATION						
Appearance		Reddish Yellow Clear Liquid	Pale Yellow Clear Liquid	Pale Yellow, clear liquid.	Yellowish Viscous liquid	
Free Fatty Acid	%	2.5 Max	2.5 Max	2 Max	13 Max	
Acid Value	mgKOH/g	5 Max	5 Max	4 Max	25 Max	
Iodine Value	gl ₂ /100gm	130 <u>+</u> 5	130 + 5	128 Min	100-200	
Hydroxyl Value	mgKOH/g	25 Max	25 Max	22 Max	160 Min	
Saponification Value	mgKOH/g	192 - 200	192 - 200	192 - 200	192 - 200	
Relative Density	At 30°C	0.922-0.935	0.922-0.935	0.922-0.935	0.935-0.995	
Color (Gardner Scale)		8 Min-10 Max	6 Max	4 Max	8 Max	
Presence Of Break		Break Free and not turn hazy	Break Free and not turn hazy	Break Free and not turn hazy	Break Free and not turn hazy	
Viscosity Poise at 30	°C	1.6 - 4	1.6 - 4	1.6 - 4	20-200	
PACKING		IBC, DRUM, FLEXI, ISO	IBC, DRUM, FLEXI, ISO	IBC, DRUM, FLEXI, ISO	IBC, DRUM, FLEXI, ISO	
The Product Can Also Be Supplied as Per Client's Required Specifications.						

Major Uses:

- Cosmetics: DCO is used as a binding agent and emollient in cosmetics like lipsticks, creams, and lotions.
- Pharmaceuticals: DCO is used in the production of laxatives, antifungal creams, and as a lubricant in pharmaceutical manufacturing.
- Plastics: DCO is used as a plasticizer in the production of plastics like PVC and polyurethane.
- Lubricants: DCO is used as a lubricant in industrial applications like metalworking and textile manufacturing.
- Paints, varnishes, and coatings: DCO is used as a primary binder in house paints, enamels, caulks, sealants, and varnishes.
- Medicinal uses: DCO is used as a natural laxative, moisturizer, and to promote wound healing. It also has anti-inflammatory effects, can reduce acne, and fight fungus.
- Other uses: DCO is used in pH regulators, water treatment products, leather treatment products, polymers, fillers, putties, plasters, modeling clay, finger paints, inks and toners, and textile treatment products and dyes.