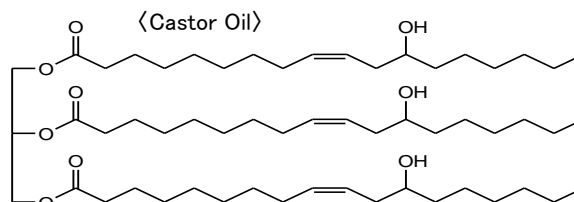
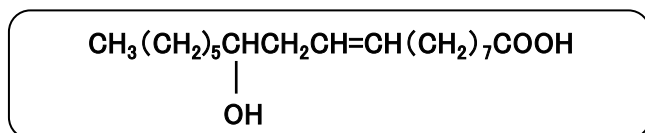


## Refined Castor Oil

◆ As the pioneer of castor oil manufacturer in Japan, we have been engaged to improving the quality and stable supply of castor oil, which is used for a wide variety of application since the establishment.

● Castor Oil is extracted from castor seeds. This oil is an ester consisting of glycerin and fatty acid. Because ricinoleic acid occupies fatty acids at 90%, castor oil displays unique characteristics which is different from other plant oils.



● This light yellow viscous nondrying oil, castor oil is compatible in most organic solvents (except for aliphatic hydrocarbon solvent) and even in ethyl alcohol.

Castor Oil has good enough compatibility to be used as plasticizer for nitrocellulose, ethyl cellulose, polyamide, butylated melamine or carbamide, formalin resin, rosin, shellac. It is compatible even with polyvinyl butyral, vinyl chloride/vinyl acetate/vinyl alcohol copolymer, and chlorinated rubber.

● Because castor oil has good stability, color retention, flexibility, pigment dispersibility, wettability, lubricate ability, low temperature characteristics and psysiological characteristics, it is compounded with lacquer, leather, printing ink, calking material, lubricant, writing material, cosmetics, electrical insulating material, and medication.

● Using hydroxyl group, double bond and ester bond, castor oil can be performed many chemical reaction. Such obtained compounds are intended to use in wide industries, such as paint, plastic, rubber, construction material, metal and machine industry.

Product	Color Lovibond5¼ Inch		Moisture %	Acid Value mgKOH/g	Saponification Value mgKOH/g	Iodine Value gI <sub>2</sub> /100G	Hydroxyl Value mgKOH/g	Others	Package
	Y	R							
LAV	Max 9	Max 0.9	Max 0.08	Max 0.5	176~187	83~89	156~165	low acid value, low moisture	17kgCN,190kgDM
Refined Castor Oil Special Grade A	Max 9	Max 0.9	Max 0.15	Max 1.5	176~187	83~89	156~165	less odor, light color	17kgCN,190kgDM
Refined Castor Oil A	Max 10	Max 1.0	Max 0.2	Max 2.0	176~187	83~89	156~165	light color	17kgCN,190kgDM
Refined Castor Oil	Max 12	Max 1.2	Max 0.2	Max 2.5	176~187	83~89	156~165	less odor	17kgCN,190kgDM
Castor Oil Industrial Grade A	Max 20	Max 2.0	Max 0.2	Max 2.0	176~187	83~89	156~165	-	17kgCN,190kgDM
Castor Oil Industrial Grade	Max 20	Max 2.0	Max 0.2	Max 4.0	176~187	83~89	156~165	-	17kgCN,190kgDM

●Common Specification : Specific Gravity (25°C/25°C) 0.959      Refractive index ( $n_D^{25}$ ) 1.477

Pour Point -22°C

Flash Point 292°C

Ignition Point 449°C

Viscosity (25°C) 680mPa·s



### The composition of fatty acid in castor oil

Fatty Acid		Content (%)
Palmitic Acid	16:0	0.5-1.5
Stearic Acid	18:0	0.5-1.5
Oleic Acid	18:1	2.5-4.0
Linoleic Acid	18:2	3.5-5.0
Linolenic Acid	18:3	0.5-1.0
Ricinoleic Acid	18:1, OH	87.0-91.0
Dihydroxy Acid	18:0, (OH) <sub>2</sub>	0.5-1.5