CBC (EUROPE) Ltd.
Chemical Division

RIF.:	CBC IT
DATA:	09/06/2005
COD:	No.HK/1/I

CASTOR OILS AND SEBACIC ACID

DATA SHEET

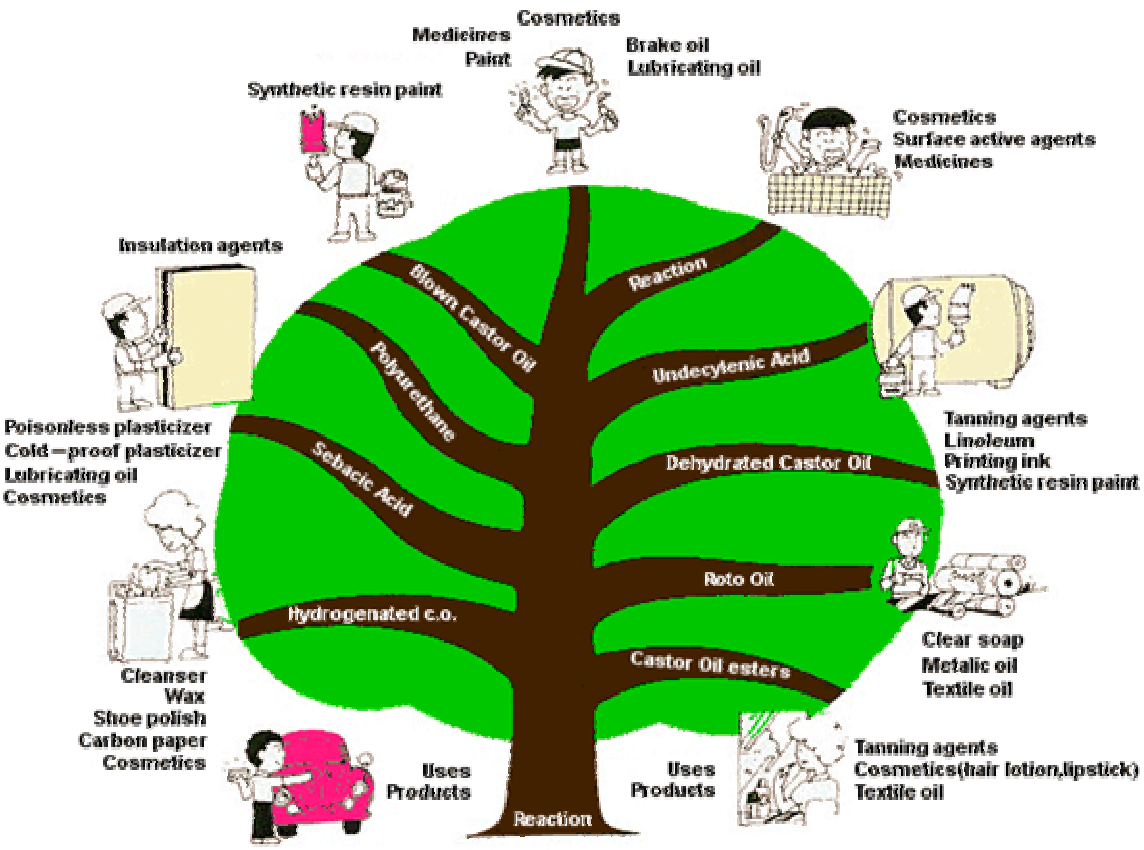
CASTOR OIL (or ricinus oil) is a nonvolatile fatty oil extracted from plants. It comes from the seeds of the castor bean. It is extracted by either pressing or solvent extraction.

SEBACIC ACID is a white flake or powdered crystal. It is resolved in ethanol, ether and soluble slightly in water. Sebacic Acid was named from the Latin sebaceus (tallow candle) or sebum (tallow) in reference to its use in the manufacture of candles.

Castor oil and Sebacic acid have a lot of derivatives.

Products Index						
	Castor Oil	Castor Oil's Derivatives	Sebacic Acid	Sebacic Acid and it's Derivatives	Undecylenic Acid and it's Derivatives	Chemical Materials
Fatty Acids		■	■		■	■
Esters	■	■		■	■	■
Polyesters		■		■		■
Salts		■		■	■	
Others		■		■	■	■

Castor oil , Sebacic acids and their derivatives have a lot of application.



CBC (EUROPE) Ltd. Ufficio di Milano
Via E.Majorana 2 - 20054 - Nova Milanese (MI)
Tel. +39 (0)362 365079 Fax. +39 (0)362 41273
E-Mail: chemical@cbc-europe.it www.cbc-europe.it

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CASTOR OIL AND ITS DERIVATIVES

Castor Oil

Cosmetics, Medicines, Printing ink, Plasticizer, Lubricant, Resin material

GRADE\SPEC	Lovibond 5 1/4cell		ACID VALUE max	IODINE VALUE	OH VALUE	SAPON. VALUE	MOISTURE max %	VISCOSITY Gardner
	Y	R						
D.R.	8	0.8	0.8	83-88	158-167	180-187	0.1	U-V
R.	10	1	1	80-90	155-170	180-187	0.15	U-V
NO.1-H	20	2	2	80-90	155-170	176-187	0.2	U-V
Extra Pale	5	0.5	0.8	83-88	158-167	180-187	0.1	U-V
Extra Pale-S	2	0.2	0.8					
Extra Low Acid	8	0.8	0.3					

Castor Oil's Derivatives (Fatty acids)

Lubricant, Surface active agents, Paint, Cosmetics

POPULAR NAME	BRAND	CHEMICAL NAME
Fatty Acid	DCO-FA	Dehydrated Castor Oil Fatty Acid
	CO-FA	Ricinoleic Acid
Castor oil Fatty acid	HSC-32	Condensated Ricinoleic Acid
	HSC-47	
	HSC-95	
	HSC-134	
Hydrogenated Castor Oil Fatty Acid	HC-12WX	12-Hydroxystearic Acid

Castor Oil's Derivatives (Esters)

Plasticizer, Lubricant, Disperse agents for pigment, Cosmetics

POPULAR NAME	BRAND	CHEMICAL NAME
Esters of Castor Oil	HS-CM	Methyl Ricinolate
	HS-DCM	Refining Methyl Ricinolate
	HS-DCE	Refining Ethyl Ricinolate
	HS-DCIP	Refining Iso Propyl Ricinolate
	HS-DCB	Refining Butyl Ricinolate

Castor Oil's Derivatives (Sulfonated oil)

Emulsifying agent, Washing agent, Dyeing assistant, Disperse agent, Cutting oil, Deodorant

POPULAR NAME	BRAND	CHEMICAL NAME
Sulfonated Castor Oil	ROTO OIL 20	Na, K, Amine, Ammonium Salts
	ROTO OIL 40	
	ROTO OIL 50	
	ROTO OIL 60	
	ROTO OIL 80	
Zinc Ricinolate	CO-Z	Zinc Ricinolate

Castor Oil's Derivatives (Others)

Printing ink, Paint, Plasticizer, Adhesive,Lubricant

	BRAND	CHEMICAL NAME
Dehydrated Castor Oil	DCO	Dehydrated Castor Oil
	BDCO	Polymerized Dehydrated Castor Oil
Blown Castor Oil	BLOWN-CO	Blown Castor Oil
Hydrogenated Castor Oil	HC-WX	Castor Wax
Lubricant	MA	Lubricant
	MC-100	
	CMHV-40	

Castor Oil's Derivatives (Polyols)

Urethane elastomer, Form, Paint, Adhesive

POPULAR NAME	BRAND	CHEMICAL NAME
Castor Oil Based Polyols	TLM	Polyol
	LAV	
	LM-R	
	ELA-DR	
	HS 3G-100M	Diol
	HS 3G-500B	
	HS PPE-12H	Triol
	HS KA-001	
	HS CO-MG	

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SEBACIC ACIDS AND ITS DERIVATIVES

$HOOC(CH_2)_6COOH$

Chemical name	Sebacic Acid
M.W	205.25
CAS No.	111-20-6
EINECS No.	2038455
RTECS No.	VS 0875000

Specifications:

Physical properties:

Appearance	White beads
Odor	Slight odor
Specific gravity	1.110 (25/15 ℃)
Boiling point	295 ℃ (100mmHg)
Melting point	133 ℃
Flash point	221 ℃ (OC)
Solubility	
water solubility	0.1g/100g water (15 ℃)
soluble	alcohol, ester, ether etc.

Chemical properties:

Molten color (APHA)	30 max
Color (APHA) 20%w/v in Ethanol	25 max
Neutralization value (KOHmg/g)	552 min
Purity (%)	99.5 min
Melting point (℃)	132 min
Ash content (%)	0.005 max
Moisture (%)	0.05 max

Toxicity

LD50	(oral-rat)	14,300 mg/Kg
	(oral-mouse)	6,000 mg/Kg

Packing

paper bags (20Kgs net)
flex containers (250Kgs or 500Kgs net)

Applications

* Nylon resins
* Synthetic lubricant
* Polyester resin
* Plasticizer
* Alkyd resin
* intermediate for perfumery

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SEBACIC ACID POLYESTER POLYOL

SEBACIC ACID POLYESTER POLYOLS provides polyurethane of higher quality and tenacity in comparison with other dibasic acid.

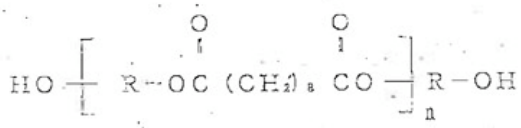
The polyurethane based on the above polyols has the following characteristics:

- excellent stability against hydrolysis and moisture
- excellent heat resistance
- excellent resistance to solvents and chemicals
- excellent low temperature characteristic
- excellent prevention of coloration at time of application

This polyurethane could be widely applied as follows:

* Hot-melt adhesives * Laminate adhesives * Textile adhesives
* Ink binder * Paint * Synthetic leathers
* Spandex

We back up these special polyester polyols with solid technical service and product support data obtained from our laboratory.



($R = C_6H_{12}$, C_9H_{18})

Product Name	Component	Function	Typical Values						
			Hydoroxy Value	Acid Value	Color Gardner	Moisture Content(ppm)	Average Molecular Weight	Melting(pour) Point(℃)	Viscosity (mPa.s/℃)
HS 2H-200S	HD/SA	2	53 – 59	0.3 Max	1 Max	300 Max	2000	65	500/80
HS 2H-350S	HD/SA	2	29 – 35	0.3 Max	1 Max	300 Max	3500	65	2200/80
HS 2H-500S	HD/SA	2	20 – 25	0.3 Max	1 Max	300 Max	5000	70	6000/80
HS2H-1000S	HD/SA	2	11.0–12.0	0.3 Max	2 Max	300 Max	10000	69	60000/80
HS2F-304S	SA:IPA NPG:HD	2	31.5–37.5	0.3 Max	1 Max	300 Max	3000	–	4500/80
HS2F-305S	SA:IPA NPG:HD	2	33.0–39.0	0.3 Max	1 Max	300 Max	3100	–	5500/80
HSPP-830S	PPG/SA	2	12.5–15.5	2.0 Max	4 Max	1000 Max	8000	12 (coagulating point)	160000/25
HS2N-220S	Branched ND/SA	2	53–59	0.3 Max	1 Max	300 Max	2000	(0)	9000/25

Remarks:

Curing Conditions 1) NCO=pureMDI 2) NCO/OH=1.20 3) 80℃/30hrs

CASTOR OILS AND SEBACIC ACID

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ADIPIC ACID POLYESTER POLYOL

HS SERIES

Product Name	Component	Function	Typical Values						
			Hydoroxy Value	Acid Value	Color Gardner	Moisture Content(%)	Average Molecular Weight	Melting(pour) Point(°C)	Viscosity (mPa.s/°C)
HS2H-201A	HD/AA	2	53-59	0.3 Max	1 Max	0.03 Max	2000	55	500/80
HS2H-351A	HD/AA	2	27-33	0.3 Max	1 Max	0.03 Max	3500	55	2200/80
HS2H-451A	HD/AA	2	22-28	0.3 Max	1 Max	0.03 Max	4500	57	4200/80
HS2H-851A	HD/AA	2	10-16	2.0 Max	2 Max	0.03 Max	8500	57	21000/80
HS2F-131A	NPG:HD/AA	2	97-107	0.5 Max	1 Max	0.03 Max	1000	-	4000/25
HS2H-179A	HD/IPA:AA	2	60-70	0.5 Max	3 Max	0.05 Max	1750	-	40000/25
HS2E-581A	EG:NPG/AA	2	18-24	2.0 Max	3 Max	0.03 Max	5500	(-5)	4000/80
HS2F-431A	NPG:HD/AA	2	27-34	3.0 Max	2 Max	0.05 Max	3500	-	2000/80
HS2F-136P	PA/NPG	2	100-120	2.0 Max	2 Max	0.1 Max	1000	-	144000/80

HOKOKUOL SERIES

Product Name	Component	Function	Typical Values						
			Hydoroxy Value	Acid Value	Color APHA	Moisture Content(%)	Average Molecular Weight	Melting(pour) Point(°C)	Viscosity (mPa.s/°C)
HT-110	BD/AA	2	106-118	0.8 Max	100 Max	0.03 Max	1000	50	200/75
HT-210	BD/AA	2	53-59	0.8 Max	100 Max	0.03 Max	2000	54	600/75
HT-250	BD/AA	2	42.7-47.2	0.5 Max	100 Max	0.03 Max	2500	54	1200/75
HT-40M	PD/AA	2	25-31	1.0 Max	100 Max	0.03 Max	4000	(5)	20000/40

MANUFACTURED BY

豊国製油株式会社
HOKOKU CORPORATION

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