

## Castor polyol D-1145

### General

Castor polyol D-1145 is a solventless, medium viscosity polyol with ether & ester groups.

### Standard specifications\*

appearance		yellowish liquid
colour	Gardner	max. 6
specific gravity (25°C)		approx 1,01
viscosity (25°C)	mPas	3.000 - 4.000
moisture	%	max. 0,2
acid value		max. 2
hydroxyl value		220 - 260
hydroxyl percent	%	6,6 - 7,9
equivalent Wt.		approx. 240
flash point (COC)	°C	min. 200

\* Different types of castor polyols are available on request.

### Applications

Castor polyol D-1145 in combination with castor polyol D-1150 can be cured with MDI and its variants or by aliphatic isocyanates like HDI. Various fillers (like calcium carbonate, barites, quartz, silicates, etc.), pigments and additives (defoamers, levelling aids, etc.) may be added to such formulations for preparing:

- adhesives.
- floor coatings.
- coatings.
- sealants.
- electrical casting applications.

### Properties

It is advised to be used in combination with castor polyol D-1150. The PU so prepared by curing with MDI and its variants shows good flow and levelling properties. It has outstanding water and acid resistance. It gives hard, tough films yet flexible and abrasion resistant films. It has good adhesion on various materials. It exhibits good pigment wetting characteristics.

## Cured Properties

The following properties exhibited when castor polyol D-1145 is fully cured with polymeric MDI:

Shore hardness 84D

Curing times with poly-MDI:

at 25°C 8-10 hrs.

at 40°C 90 min.

at 60°C 30 min.

at 80°C 10 min.

## Packing

Castor polyol D-1145 is supplied in:

- drums (200 kg)
- IBC (1.000 kg)
- bulk (ISO containers)



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## Castor polyol D-1150

### General

Castor polyol D-1150 is a solventless, medium viscosity polyol with ether & ester groups.

### Standard specifications\*

appearance		yellowish liquid
colour	Gardner	max. 6
specific gravity (25°C)		1.000 ± 0,003
viscosity (25°C)	mPas	3.000 - 4.000
moisture	%	max. 0,2
acid value		max. 2
hydroxyl content	%	approx 5
equivalent Wt.		approx. 340
flash point (COC)	°C	min. 200

\* Different types of castor polyols are available on request.

### Applications

Castor polyol D-1150 is cured with MDI. The addition and nature of fillers and additives may vary depending on the particular formulation for preparing:

- adhesives.
- floorings.
- coatings.
- electrical casting applications.

### Properties

The polyurethane polymer prepared by curing castor polyol D-1150 with MDI shows good flow and levelling properties.

It has outstanding water and acid resistance. It has a good balance between elasticity and hardness and a good adhesion on various substrates. Castor polyol D-1150 exhibits good pigment wetting characteristics.

## Cured Properties

Castor polyol D-1150, when fully cured (with Desmodur VL) shows following properties:

tensile strength	18 N/mm <sup>2</sup>	dielectric strength	25 kV/mm
elongation	89%	surface resistance	1.10 <sup>14</sup> ohm
shore hardness	68D	tracking resistance	KA 3c
flexural strength	5 N.mm <sup>2</sup>	dissipation factor	0.03
compressive strength	3.8 N/mm <sup>2</sup>	dielectric constant	3.4
glass transition temp.	47°C	volume resistivity	8.10 <sup>14</sup> ohm.cm
tear strength (angle tear)	68 kg/cm		

Curing times with poly-MDI:

at 25°C	8-10 hrs.
at 40°C	90 min.
at 60°C	30 min.

## Packing

Castor polyol D-1150 is supplied in:

- drums (200 kg)
- IBC (1.000 kg)
- bulk (ISO containers)



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## Castor polyol D-1155

### General

Castor polyol D-1155 is a solventless, medium viscosity polyol with ether & ester groups.

### Standard specifications\*

appearance		yellowish liquid
colour	Gardner	max. 6
specific gravity (25°C)		approx 1,01
viscosity (25°C)	mPas	400 - 700
moisture	%	max. 0,2
acid value		max. 2,5
hydroxyl value		160 - 175
hydroxyl percent	%	4,8 - 5,3
equivalent Wt.		approx. 340
flash point (COC)	°C	min. 150

\* Different types of castor polyols are available on request.

### Applications

Castor polyol D-1155 in combination with castor polyol D-1145 and D-1150 can be cured with MDI and its variants or by aliphatic isocyanates like HDI. Various fillers (like calcium carbonate, barites, quartz, silicates, etc.), pigments and additives (defoamers, levelling aids, etc.) may be added to such formulations for preparing:

- adhesives.
- floor coatings.
- coatings.
- sealants.
- electrical casting applications.

### Properties

It is recommended to use castor polyol D-1155 in combination with castor polyol types D-1145 and D-1150. The PU so prepared by curing with MDI and its variants shows good flow and levelling properties. It has outstanding water and acid resistance. It gives soft, flexible and abrasion resistant films. It has good adhesion on various materials. It exhibits good pigment wetting characteristics.

## Cured Properties

The following properties exhibited when castor polyol D-1155 is fully cured with polymeric MDI:

Shore hardness                      55A

Curing times with poly-MDI:  
at 25°C                              8-10 hrs.

## Packing

Castor polyol D-1155 is supplied in:

- drums (200 kg)
- IBC (1.000 kg)
- bulk (ISO containers)



## Polyol CI H-854

### General

Polyol CI H-854 is a castor based solvent free high quality polyol .

### Standard specifications\*

appearance		yellow liquid
viscosity (25°C)	centiPoise.	600 - 1.000
moisture	%	max. 0,2
acid value		max. 3
hydroxyl value		205 – 230
hydroxyl equivalent	wt	approx. 260
molecular weight.		approx. 800

\* Different types of (castor) polyols are available on request.

### Applications

Polyol CI H-854 is a castor based solvent free high quality polyol with great anti-hydrolysis and heat resistance for 2K PU system. Using Polyol CI H-854 with polyurethane elastomers will provide better heat stability, hydrolysis resistance, acid resistance and chemical resistance than general polyester or polyether based polyurethanes. Polyol CI H-854 gives also outstanding flexibility, insulation and mechanical properties such as abrasion or impact resistance.

Some of the common applications:

- 2K PU paints
- electrical sealants
- heavy duty coatings
- adhesives
- floor coating
- water proofing agents

## Cured Properties

The following properties exhibited when Polyol CI H-854 is fully cured with polymeric MDI

Tensile strength	13 MPa
Elongation	172%
Shore hardness	60D
Tear strength	27,7 N/mm
Water resistance	0,5%
Volume resistance	5,00E+15 ohm-cm
Potlife (time to reach 50.000 mPa.s at 25°C)	57 min.

## Packing

Polyol CI H-854 is supplied in:

- drums (200 kg)
- IBC (1.000 kg)
- bulk (ISO containers)





## Polyol-RF

### General

Polyol-RF is a reddish-yellow liquid castor oil based polyol with mild characteristic smell specially developed for the formulations for manufacturing rigid, closed-cell PU-foams.

### Standard specifications\*

appearance		reddish yellow
viscosity (25°C)	centiPoise	1500 - 2500
acid value		max. 5
hydroxyl value		425 - 480
equivalent weight		115 - 135
functionality		approx. 4

\* Different types of (castor) polyols are available on request.

### Guiding formulation

A-component	PBW	A-component	100 PBW
Polyol-RF	100.0	B-component	80-90PBW
Silicone Surfactant*	1.2-1.4	B-component is	pMDI with NCO:30-32%
Dibutyl Tin Dilaurate	0.00-0.20		e.g.Desmodur44V20
Triethylamine	0.0-0.5		
Water	0.0-0.5		
HCFC-141B	40-50		
*e.g. Union Carbide Type L5320			

The above is a guiding formulation. Other catalysts like DABCO-SE, Toyocat-B20/B54, Dimethylcyclohexylamine can also be used advantageously as per the desired effects and control required over cream, rise and tack-free times.

### Typical Foam Properties:

Nominal Density	30kg/cum
Thermal Conductivity	0.015kcal/hr.m.C
Compressive Strength	1.5kg/sq.cm
Closed Cell Content	90%

### Applications

- refrigeration
- cold insulation
- piping insulation
- ice-boxes
- hot-water tanks

## Packing

Polyol-RF is supplied in:

- drums (200 kg)
- IBC (1.000 kg)
- bulk (ISO containers)



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## Castor polyol 901

### General

Castor polyol 901 is a solventless, medium viscosity polyol, used in coatings, floorings and adhesives. It is based on plant-based renewable material viz. Castor oil.

### Standard specifications\*

appearance		yellowish liquid
colour	Gardner	max. 5
specific gravity (25°C)		0,960
viscosity (25°C)	Cts.	500 - 700
moisture	%	max. 0,2
acid value		max. 2
hydroxyl value		180 - 190
hydroxyl content	%t	5,6
equivalent weight.		approx. 300
flash point (COC)	°C	min. 200

\* Different types of castor polyols are available on request.

### Applications

Castor polyol 901 can be cured with MDI type isocyanates. Various fillers and additives may be added to such formulations for preparing adhesives, floorings, coatings & other such applications. Some of the typical fillers are calcium carbonate, barytes, quartz, silicates, etc. Some of the additives are defoamers and leveling aids. Also it is recommended to add molecular sieve (Type 3A) for moisture scavenging. Different pigments may be added to give the desired color and opacity e.g. in coatings.

### Cured Properties

When cured with polymeric MDI (Suprasec 5025) in unfilled system, when fully cured (after 7 days) exhibited following properties:

Tensile strength	5 N/mm <sup>2</sup>
Elongation	70%
Shore hardness	80A
Tear strength	120 kg/cm

It is expected that when cured with MDI variants like Suprasec 2496, the elongation will be higher (>100%) and hardness lower (40D) when formulated without fillers/extenders. In presence of

fillers/extenders, molecular sieves the hardness is expected to be higher & elongation lower for the same type of MDI.

### **Packing**

Castor polyol 901 is supplied in:

- drums (200 kg)
- IBC (1.000 kg)
- bulk (ISO containers)

