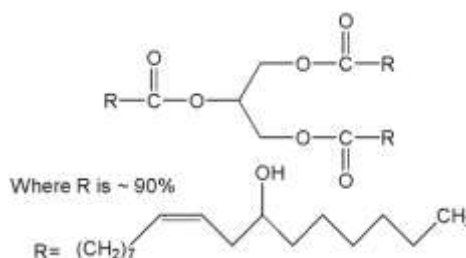


**Crystal\* O**  
**Crystal\* Crown**  
**Crystal\* LC-USP**  
**Technical Data Sheet**

**Product Identification**

Crystal\* castor oils are expressed from the seeds of the ricinus communis plant. They are triglycerides conforming to the following structure:



<b>INCI Name</b>	Ricinus Communis (Castor) Seed Oil
<b>Chemical Abstracts Registry Number</b>	8001-79-4
<b>EINECS</b>	232-293-8
<b>J.C.I.D.</b>	001515

**Product Features**

- Superior pigment wetter
- Able to solvate a wide variety of solutes
- Non-comedogenic
- Vegetable-derived
- Stable
- Moisturizing
- Approved for cosmetic applications

**Typical Attributes**

<b>Property</b>	<b>Crystal* O</b>	<b>Crystal* Crown</b>	<b>Crystal* LC USP</b>
<b>Appearance</b>	Clear liquid	Clear liquid	Clear liquid
<b>USP grade</b>	Yes	No	Yes
<b>Antioxidant</b>	None	BHA	None

\*Indicates a trademark registered in the US and elsewhere

**Crystal\* O**  
**Crystal\* Crown**  
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**Technical Data Sheet**

**Typical Physical Properties**

<b>Property</b>	<b>Crystal* O</b>	<b>Crystal* Crown</b>	<b>Crystal* LC USP</b>
<b>Appearance</b>	-	-	Clear, viscous liquid
<b>Hydroxyl Number</b>	164	164	164
<b>Acid Number</b>	2 maximum	2 maximum	1.5 maximum
<b>Specific Gravity</b>	0.959	0.959	0.959
<b>Iodine Value</b>	86	86	86
<b>Color, Gardner</b>	2 maximum	2 maximum	2 maximum
<b>Saponification Value</b>	179	179	179
<b>Moisture Content, %</b>	-	-	0.25 maximum
<b>Heavy Metals, %</b>	0.001 maximum	0.001 maximum	0.001 maximum
<b>Free Fatty Acid</b>	Meets USP	Meets USP	Meets USP
<b>Fixed Oils Distinction</b>	Meets USP	Meets USP	Meets USP
<b>ml 0.1N NaOH/10g</b>	3.5 maximum	-	3.5 maximum

**Storage**

Vertellus' CRYSTAL\* castor oils have a shelf life of 24 months from the date of manufacture in unopened containers. There are no temperature restrictions for storage, but it is recommended to store the product in a cool, dry environment.

**Applications**

Vertellus' line of CRYSTAL\* castor oils is the standard by which all other castor oils are measured. CRYSTAL\* castor oils are staple items in the formulation of lipsticks and pigment grinds. Castor oil is also an efficient emollient, moisturizer and lubricant that is utilized in the formulation of a variety of creams, lotions, and pigmented products.

**Solubility**

Deionized Water	Propylene Glycol	Cyclo-methicone	SD-40 Alcohol	Isopropyl Myristate	Castor Oil	Light Mineral Oil
insoluble	insoluble	insoluble	miscible	miscible	miscible	dispersible

**Recommended Use Levels**

Pigment Grinds	45-70%
Lipsticks	15-40%
Creams and Lotions	2-5%

For toxicity or regulatory information please consult the Safety Data Sheet.

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