

PELEMOL[®] P-1263

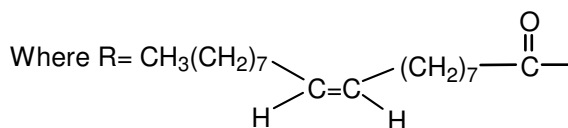
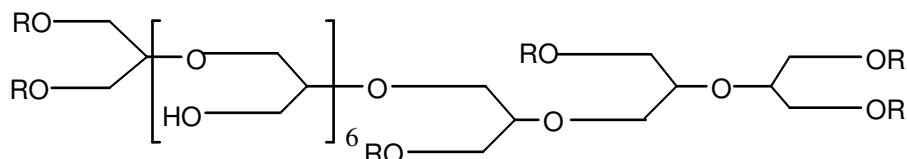
(INCI: Polyglyceryl-10 Hexaoleate (and) Polyglyceryl-6 Polyricinoleate)

PELEMOL[®] P-1263 is a versatile polymeric water-in-oil emulsifier for creams and lotions. **PELEMOL[®] P-1263** is 100% active, easy to handle liquid, all vegetable sourced/derived polyester.

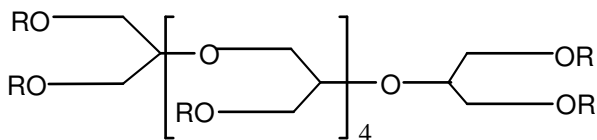
PELEMOL[®] P-1263 structurally has many free hydroxyl groups on the molecules to provide considerable hydrophilic functionality and the long chain oleic and ricinoleic moieties to provide balanced hydrophobicity.

PELEMOL[®] P-1263 with such a carefully selected structure balanced combination offers an excellent alkylene-oxide free water-in-oil emulsifier.

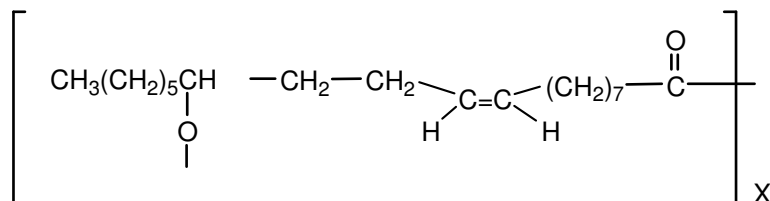
PELEMOL[®] P-1263 conforms to the following blended-structure:



and



Where R =



BENEFITS of PELEMOL® P-1263

Effective w/o Emulsifier

- W/O Emulsions formed with single emulsifier
- Produces w/o emulsions with light skin feel
- Excellent emulsion stabilization due to its high molecular weight
- (Large enough size) with multiple anchor points.
- Emulsification characteristics at low usage levels allows high internal phase.
- Also suitable as co-emulsifier with high HLB emulsifiers for o/w emulsions.

Compatibility with actives/formulation ingredients

Compatible with:

- Electrolytes
- Sunscreens (organic and physical particulates)
- Flexibility of formulations

Easy Emulsion Processing

- Can be used in both room temperature and hot emulsification
- No need to pre-melt or preheat being a liquid at room temperature
- Production of low to medium viscosity emulsions with excellent heat stability.

Applications of PELEMOL® P-1263

- Can be used in combination with glycerol, glycols, sorbitan esters.
- Can be used in wide variety of oil phases as long as all of the oil phase or a major portion of it in which **PELEMOL® P-1263** is soluble.
 - This allows **PELEMOL® P-1263** to emulsify and stabilize oil phases without co-emulsifiers.
- For pure silicone emulsions, **PELEMOL® P-1263** can be used as a co-emulsifier together with silicone co-polyols to increase stability of emulsions and to simplify emulsification process.
- **PELEMOL® P-1263** emulsified system allows incorporation of wide range of chemical types of actives such as salts, sunscreens, glycols, pigments, high and low pH ingredients.

COMPARATIVE FORMULATION EFFICACY

In this study, a W/O Hydrating Cream was used for comparing the efficacy/functionality against a competitive product.

The formulation was:

A. Oil Phase		%
	Emollient Ester Pairs	18.0
	Emulsifier	2.0
B. Water Phase		
	Water	73.4
	Butylene Glycol	4.0
	Magnesium Sulfate	0.7
C. Preservative		
	Germaben II	1.0

Procedure:

1. Oil Phase and Water Phase were heated to 70°-75°C separately.
2. Phase B was added to Phase A using prop mixer at 550 rpm.
3. Emulsion was cooled to 30 C with same speed mixing and using water bath.
4. Phase C was added with mixing.

Emulsifier variables were: **PELEMOL® P-1263** vs. PEG-30

Dipolyhydroxystearate
(PEG-30DPHSA)

The pairs of Emollient Ester Blends were used in 1:1 ratio to make 18% of the formulation:

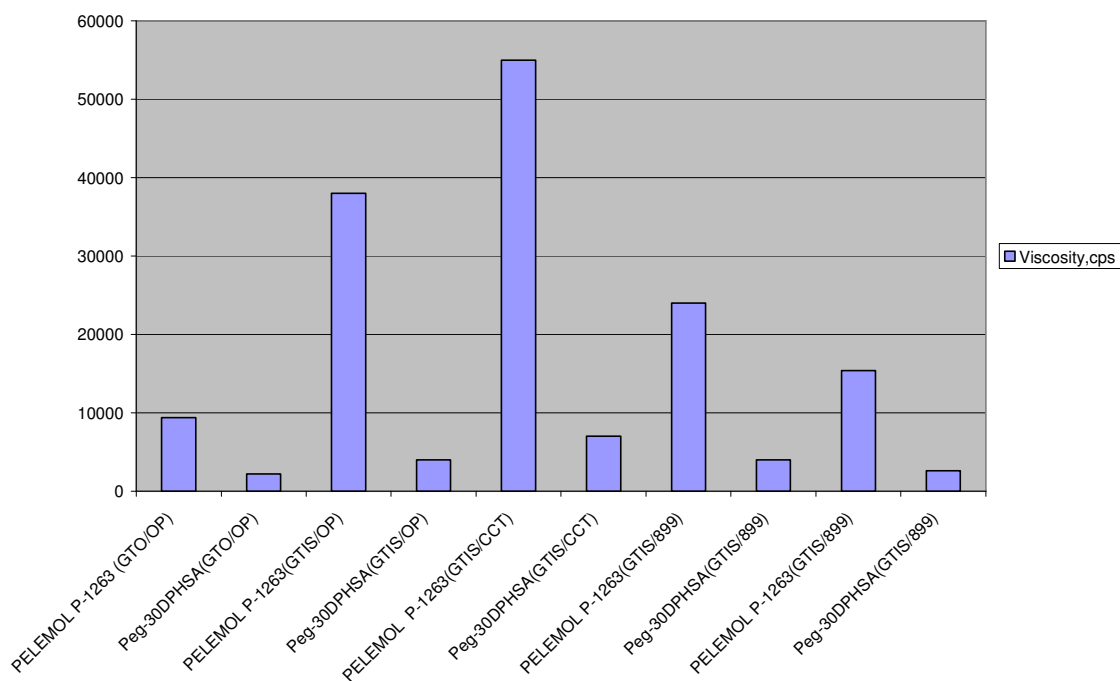
- A. PELEMOL® GTO (Glyceryl Triethylhexanoate)/
PELEMOL® OP (Ethylhexyl Palmitate)
- B. PELEMOL® GTIS (Glyceryl Triisostearate)
PELEMOL® OP (Ethylhexyl Palmitate)
- C. PELEMOL® GTIS (Glyceryl Triisostearate)
PELEMOL® CCT (Caprylic/Capric Triglyceride)
- D. PELEMOL® GTIS (Glyceryl Triisostearate)
PELEMOL® 899 (Ethylhexyl Isononanoate/Isononyl
Isononanoate)

Emulsions so prepared were compared for Appearance, Viscosity and Stability parameters. They are tabulated below.

Emulsifier	Oil Phase	Appearance	Viscosity, cps.	Stability	Freeze Thaw
			Spindle/ RPM	RT / 45C	3 Cycles
				3 months	
PELEMOL[®] P-1263	A	Milky Cream Emulsion	2200 (Sp3/6 rpm)	+ +++/+++	+++
PEG-30DPHSA	A	Milky Emulsion	9400 (Sp3/6rpm)	+++ /+++	+++
PELEMOL[®] P-1263	B	Milky Cream Emulsion	38000 (Sp4/6 rpm)	+++ /+++	+++
PEG-30DPHSA	B	Milky Emulsion	4000 (Sp4/6rpm)	+++ /+++	+++
PELEMOL[®] P-1263	C	Milky Cream Emulsion	55000 (Sp4/6rpm)	+++ /+++	+++
PEG-30DPHSA	C	Milky Emulsion	7000 (Sp4/6rpm)	+++ /+++	+++
PELEMOL[®] P-1263	D	Milky Cream Emulsion	24000 p	+++ /+++	+++
PEG-30DPHSA	D	Milky Emulsion	4000	+++ /+++	+++
PELEMOL[®] P-1263	D	Milky Cream Emulsion	15400 (Sp3/6 rpm)	+++ /+++	+++
PEG-30DPHSA	D	Milky Emulsion	2600 (Sp3/6 rpm)	+++ /+++	+++

Viscosity Comparisons of Emulsions		
Emulsifier	Oil Phase	Viscosity, cps
PELEMOL® P-1263	A	9400
PEG-30DPHSA	A	2200
PELEMOL® P-1263	B	38000
PEG-30DPHSA	B	4000
PELEMOL® P-1263	C	55000
PEG-30DPHSA	C	7000
PELEMOL® P-1263	D	24000
PEG-30DPHSA	D	4000
PELEMOL® P-1263	D	15400
PEG-30DPHSA	D	2600

Viscosity Comparisons



Trade Name	PELEMOL[®] P-1263
INCI	Polyglyceryl-10 Hexaoleate (and) Polyglyceryl-6 Polyricinoleate
CAS #	114355-43-0, 65573-03-7
EINECS	Polymer exempt

TENTATIVE SPECIFICATIONS

Appearance @ 25°C	Viscous liquid
Color	Yellow to amber
Acid Value, mg KOH/gram	10.0 Maximum
Saponification Value,mgKOH/gram	150-185

SOLUBILITY

Water	i
Propylene glycol	d
Ethanol 200 Proof	i
Ethanol 190 Proof	i
Mineral Oil	i
Isododecane	i
Isopropyl Myristate	m
Castor Oil	m
Cyclomethicone	i
Dimethicone	i
Isononyl Isononanoate	m
Pentaerythrityl Tetraethylhexanoate	m

m= miscible (soluble in all portions)

d= dispersible

i= insoluble

SAFETY

*An RIPT study (50 human subjects) has provided very favorable results for PELEMOL P-1263 .	
*Skin Irritation	NON-PRIMARY SKIN IRRITANT
*Skin Sensitization	NON-PRIMARY SKIN SENSITIZER
PELEMOL P-1263 can be described as hypoallergenic.	

* Studies conducted by AMA Labs. , 216 Congers Rd., New City, NY 10956.

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