

INNOLEIC™ FF

PRODUCT DESCRIPTION

Innoleic™ FF is a fast-fusing sustainable USDA Certified Biobased (≥98%) plasticizer for S-PVC compounds and plastisols, manufactured under state-of-the-art vegetable oil chemical modification processes to result in a phthalate alternative plasticizer with similar or better performance when compared to other fast-fusing plasticizers without the typical compatibility issues of ESO-type plasticizers.

BENEFITS

Reduced gelation and fusion temperatures when used as a partial plasticizer replacement in plastisols with slow-fusing plasticizers	<ul style="list-style-type: none"> ○ Increased throughput, reducing unit manufacturing costs ○ Lower oven temperatures, reducing energy costs ○ Wider array of heat-sensitive substrates and components
Improved thermal stabilization due to its inherent Epoxy groups	<ul style="list-style-type: none"> ○ Allows the complete replacement of ESO as a co-stabilizer, simplifying the formulation and reducing raw material inventory and SKUs
Lower volatility compared to fast-fusing plasticizers such as mono-benzoates	<ul style="list-style-type: none"> ○ Longer service life of final goods ○ Reduced VOC (Volatile Organic Compounds)
Improved dry-up time for S-PVC resin compounds	<ul style="list-style-type: none"> ○ Reduced dry-blend cycle time
Reduced fusion temperatures when used as a partial replacement for petroleum-based plasticizers	<ul style="list-style-type: none"> ○ Increased clarity and surface gloss of final products
Reduced carbon footprint	<ul style="list-style-type: none"> ○ Phthalate-free alternative, vegetable-based product providing a lower carbon footprint

PROPERTIES

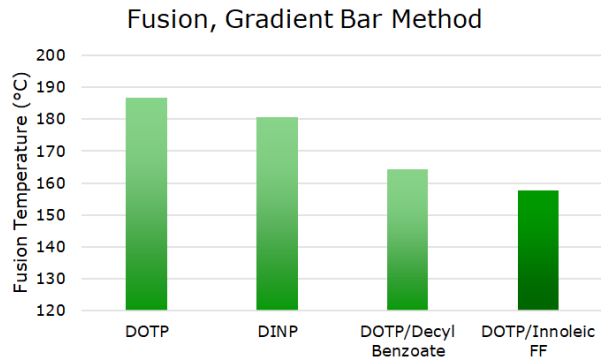
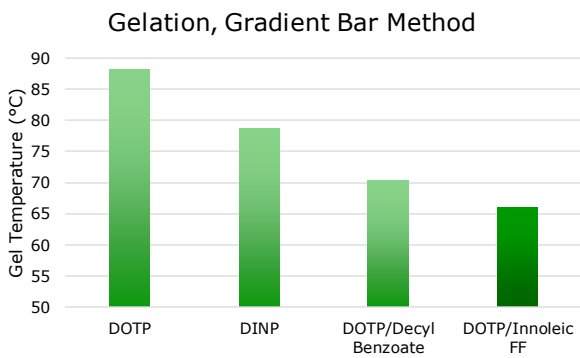
Characteristic	Method	Specification	Typical Values
Color	PE 0006	Light yellow	Pass
Spec. Gravity (25°C), g/cm ³	PE 0005	0.944 – 0.959	0.951
Acidity, (1g KOH/g)	PE 0004	3.00 max.	1.05
Iodine Index, cg I ₂ /g	PE 0002	4.00 max.	1.90
Oxirane Index, weight%	PE 0001	5.00 min.	5.90



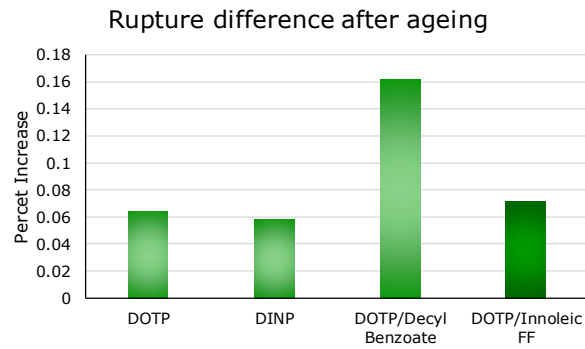
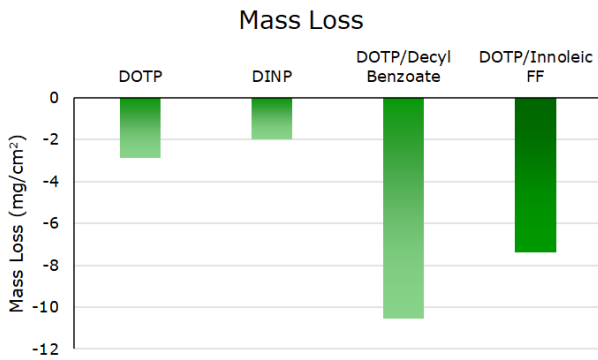
Innoleics USA Corp has earned the U.S. Department of Agriculture (USDA) Certified Biobased Product label. The product INNOLEIC™ FF has earned the USDA Certified Biobased Product Label: INNOLEIC™ FF with 98% biobased content.

PERFORMANCE

Innoleic™ FF outperforms decyl benzoate at the same concentrations, providing plastisols with reduced gel and fusion temperatures and reduced volatility.



Note: Plastisols were formulated with 100 parts e-PVC resin (K=75), 60 parts plasticizer, 2 parts stabilizer (CaZn). For the blends, 50 parts DOTP and 10 parts fast fuser plasticizer.



Notes: Compounds formulated with 100 parts s-PVC resin (K=65), 60 parts plasticizer, 5 parts ESO, 2 parts stabilizer (CaZn). Blended plasticizer formulations, 50 parts DOTP and 10 parts fast fuser plasticizer. Oven aging @ 100 °C, 12 air exchanges/hour

PACKAGING

Material can be acquired in bulk, 275 gal totes, or 55 gal drums.

SHELF LIFE

24 months when properly stored in accordance with good warehousing practices in tightly sealed containers to avoid contamination. To maintain workable plasticizer viscosities, the temperature should be maintained above 50°F (10 °C).