



BAERLOCHER



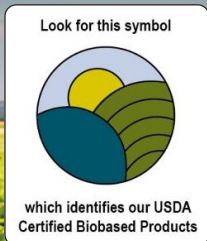
# Bio-based Plasticizers

Baerlocher has partnered with Innoleics USA Corp to offer a complete portfolio of IP-protected, primary plasticizers for PVC based on vegetable oils.

The Innoleic™ products have been commercially successful in various segments for more than 15 years. These materials are a combination of esters of chemically modified vegetable oils, tailored to be used as general-purpose plasticizers in many different applications. These bio-plasticizers present great compatibility with PVC, resulting in compounds with long-term durability.

Furthermore, the Innoleic™ product line is listed under the USDA BioPreferred® program with more than 98% bio-based content. This enables the inclusion of flexible PVC articles in the BioPreferred® program, as the total renewable carbon content exceeds the required minimum in many applications.

In addition, the Innoleic™ product line also helps formulators to significantly reduce the carbon footprint of final compounds.



# Performance

The Innoleic™ GPs product line is more adequate for suspension PVC applications, while the Innoleic™ GPe product line is optimized for plastisol applications.

## Emulsion PVC

Innoleic™ GPe products fully replace fossil-based plasticizers, including DOTP and DINP, offering higher plasticizing efficiency and lower plastisol gel and fusion temperatures. Innoleic™ FF is a fast fuser plasticizer, replacing mono-benzoates with lower volatility and lower gel temperatures.

## Suspension PVC

Innoleic™ GPs products present higher efficiency and lower flow indexes for s-PVC extrusion and calendared films, while providing higher thermal stability and lower volatility when compared to traditional, fossil-based plasticizers (including DOTP, DINP and DINCH).

Baerlocher USA has developed a novel vegetable-based bio-plasticizer composition which combines vegetable-based bio-plasticizer with other bio-based thermally active ingredients and modifiers. These modifications improve color hold without the loss of long-term heat stability. They also address other issues such as fusion temperature, compatibility, and viscosity while maintaining the high bio-content.

Incorporating Baerlocher stabilizers as part of a customizable bio-plasticizer One Pack can allow for a more cost efficient completely solvent free liquid product. Along with the improved color hold they can also be completely phenol-free and lower toxicity.

# Sustainability

Innoleics™ products, due to their bio-based nature and low energy consumption process, result in carbon sequestration, contributing to not only reduced greenhouse gas emissions, but to actually reduce their presence in the atmosphere.

Furthermore, the chemical process used to produce Innoleics™ products, demand lower energy and present lower emissions when compared to petroleum-based alternatives. Our process also results in very little volume of effluents.



## Applications

Low tension cables

Synthetic leather

Flooring

Roofing

Injection molding

Sheets and films

Textile coating / Coated fabrics

Tents / Sun protection fabrics

Tarpaulins

Billboards / Mega poster

Screens / Movie screens / Beamer screens

## Our Portfolio

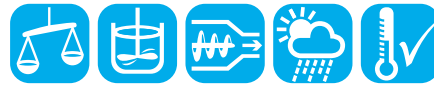
Innoleic™ Products

Baerlocher Modified Products

Customizable Stabilizer/Bio-Plasticizer One Packs

## Advantages of Our Additives

- Higher efficiency
- Higher heat stability
- Low volatility
- Excellent electrical properties
- Excellent mechanical properties
- Good rheology for plastisols
- Lower gel and fusion temperatures



## Sustainability Claims

- Bio-based content (BioPreferred® program)
- Processability improvement: reduced energy
- Low carbon footprint
- Excellent indoor air quality (low VOCs)

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