



## Sartomer Bio-Sourced Resins

There are many different application markets where there is a strong interest in using materials which are either partially or totally based on bio-sourced raw materials.

Sartomer can help its customer to select the appropriate products to maximize the content of bio sourced products in their formulation. The backbones of the products that Sartomer have been selected and are presented in this bulletin are derived from a renewable vegetable source or biomass, such as soy beans or linseed.

Several ways to calculate the bio-sourced content of a resin can be used. Sartomer has decided that the calculation will count renewable carbon content for each product:

$$\% \text{ Bio sourced} = \frac{\text{Bio sourced Carbon}}{\text{Bio sourced Carbon} + \text{Fossil Carbon}} \times 100$$

The table below shows the list of the products that have a significant bio-sourced content in our product range:

Product	Product Description
CN111	Epoxidized Soybean Oil Acrylate
CN1300	Epoxidized Soybean Oil Acrylate
CN113	Modified Epoxy Acrylate
CN116	Modified Epoxy Acrylate
CN224	Polyester Acrylate Oligomer
CN293	Acrylated Polyester Oligomer
CN294E	Acrylated Polyester Oligomer
CN2295	Polyester Acrylate Oligomer
SR203	Tetrahydrofurfuryl Methacrylate
SR285	Tetrahydrofurfuryl Acrylate
SR423D	Isobornyl Methacrylate
SR506D	Isobornyl Acrylate
SR9020	Propoxylated Glycerol TriAcrylate

Many of the products that are based on renewable backbones are used in UV/EB ink formulations.

The CN111 and CN1300 are epoxy acrylate of soybean oil. They impart flow and pigment wetting to ink formulations and are often used in coating formulations to decrease the T<sub>g</sub> and to increase flexibility.

CN113 and CN116 are fatty acid- modified epoxy acrylates. The fatty acid modification improves the pigment wetting of the oligomer

and reduces the shrinkage and brittleness of the cured system.

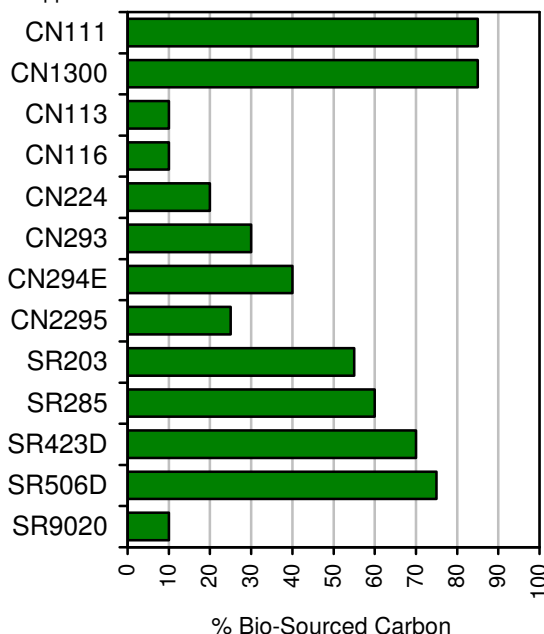
The acrylated polyester oligomers CN293 and CN294E and the polyester acrylate oligomers CN224 and CN2295 and are mainly used in ink formulations. These oligomers impart good pigment wetting, water balance, and cure speeds to UV/EB inks.

SR203, SR285 are all (meth)acrylates of tetrahydrofurfuryl (THF) alcohol. Generally THF monomers are used to improve adhesion to a variety of non-porous substrates.

SR423D and SR506D are isobornyl (meth)acrylates. Isobornyl-based monomers have a high T<sub>g</sub>, a low shrinkage. They offer an excellent balance between adhesion and hardness.

SR9020 is a tri functional monomer. The propoxylated units provide improved pigment wetting and enhanced water balance for offset applications. Its high functionality help increase reactivity, hardness and chemical resistance.

■ Approximate Bio-Sourced Carbon Content



The (meth)acrylated products based on renewable raw materials can offer excellent performance for both formulators and end-users. Sartomer is committed to the development and use of renewable content in our product offerings and is working to develop the next generation of products to fill our customers' needs.