enabling sustainable polyurethanes

biosuccinium®
sustainable succinic acid

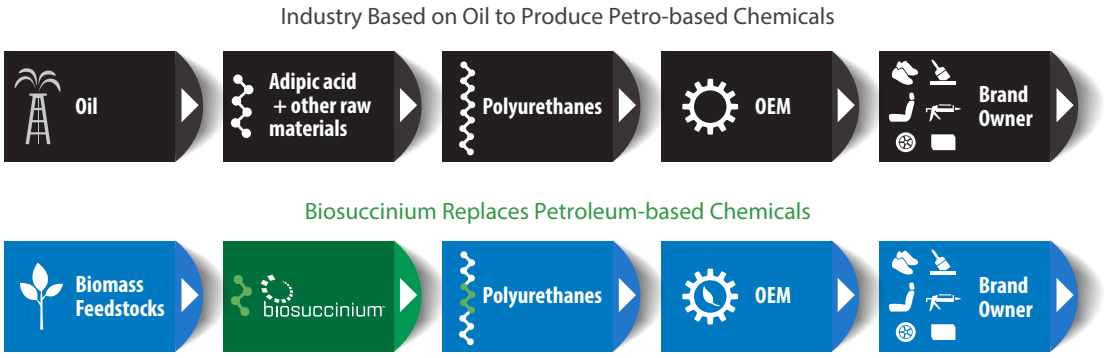
Biosuccinium, a 100% bio-based succinic acid, enables polyester polyol-based polyurethane products with substantially lower environmental footprints

A UNIQUE RENEWABLE RAW MATERIAL

A 100% biobased alternative to traditional raw materials for polyurethanes

Biosuccinium sustainable succinic acid is produced by Reverdia from renewable, plant-based resources. It is a viable and more eco-friendly alternative to conventional chemical raw materials used for the production of polyester polyols and polyurethanes such as fossil-based succinic acid and adipic acid (see figure 1). Thus, Biosuccinium enables the opportunity for polyester polyol and polyurethane producers to provide unique and more sustainable polyurethanes.

Figure 1: Bio-Based Biosuccinium is an Alternative to Fossil-Based Chemicals



BIOSUCCINIUM IN POLYURETHANES

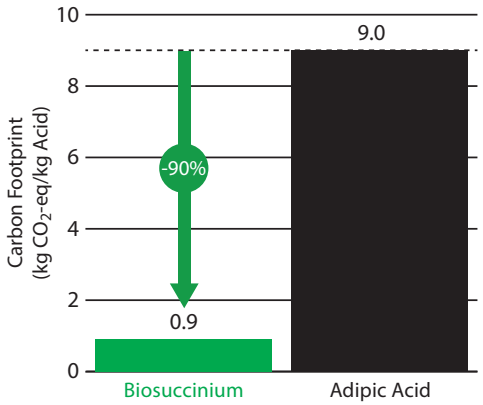
A green di-acid for polyester polyols

Polyurethanes are manufactured from isocyanates and polyols. Polyester polyols are one of two types of polyols used in polyurethanes and they are typically made from di-acids, such as adipic acid, and glycols.

By using Biosuccinium as a "green" di-acid to produce the polyester polyol, polyurethane made from this more sustainable polyol has a greatly improved environmental footprint. Subsequently, polyurethane products containing Biosuccinium are at least partially bio-based, requiring less from the earth's limited fossil resources, as well as delivering a reduction in greenhouse gas emissions (see figure 2).

Polyurethanes are formulated for performance in their respective applications and the successful use of Biosuccinium-based polyester polyols has been demonstrated in many polyurethane applications.

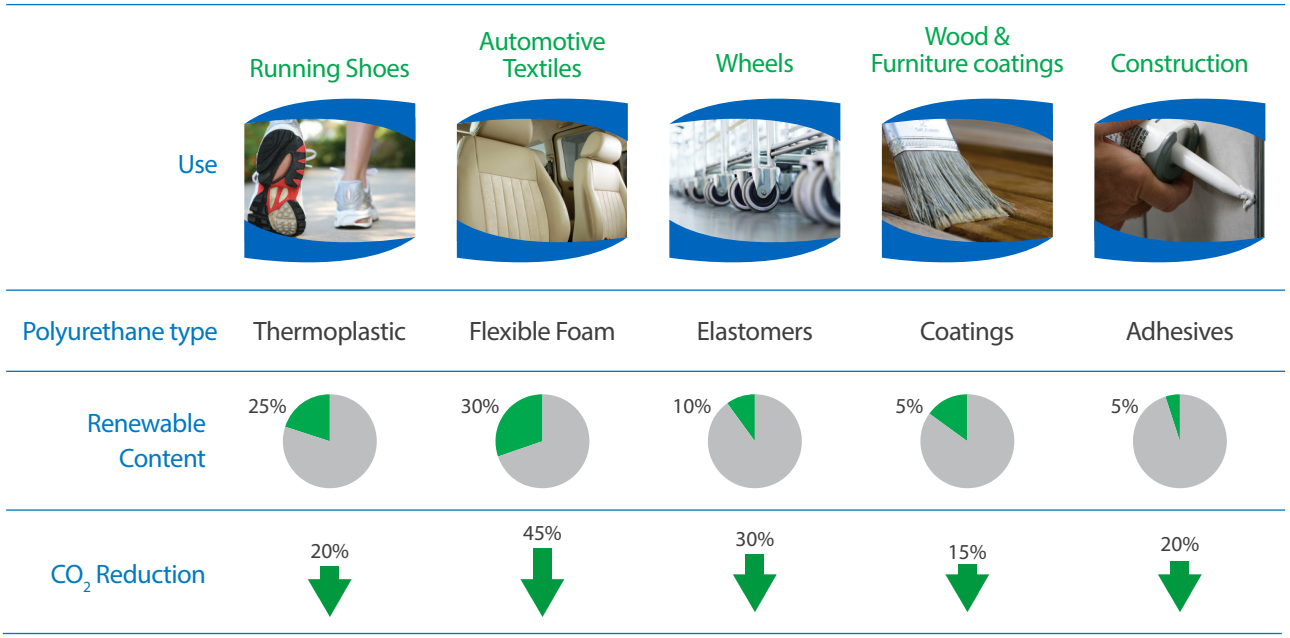
Figure 2: Reduction of the Carbon Footprint Using Biosuccinium vs. Petrochemical Adipic Acid(1)



ENVIRONMENTAL IMPACT

Figure 3 shows examples with indications of the potential sustainability improvements through the use of Biosuccinium in polyurethane materials.

Figure 3: Examples of Biosuccinium Improving the Environmental Footprint of Polyurethane-based Products(2)



HOW TO ORDER BIOSUCCINIUM

Please contact Reverdia at info@reverdia.com or via www.reverdia.com.

Footnotes:
(1) Executed by the Copernicus Institute at Utrecht University, the Netherlands. Data is published as an early view (August 2013). The adipic acid data is reflects a best in class plant with 98% N_2O abatement.
(2) Reverdia data on file

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