

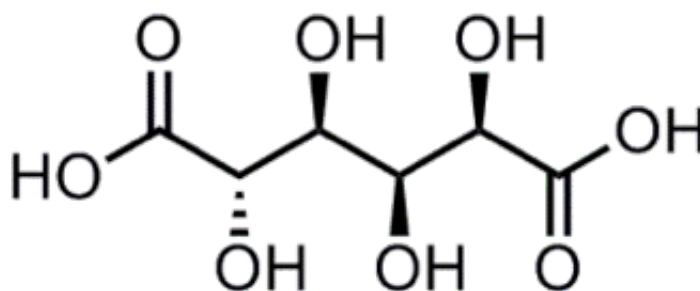


Biobased Glucaric Acid

Intermediate for Rennovia's biobased adipic acid

A world scale biobased adipic acid plant will consume about 500 million pounds per year of glucaric acid

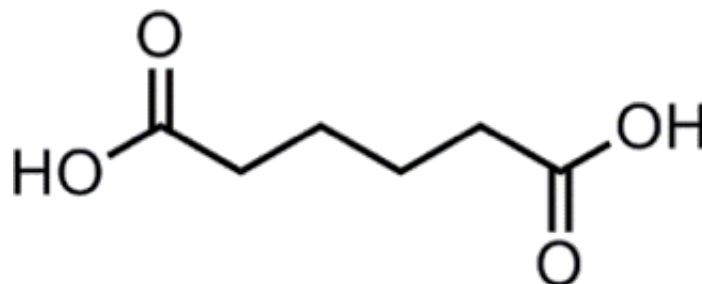
Additional addressable global market for glucaric acid predicted to be over \$500 million per year



Biobased Adipic Acid

Global adipic acid market is approximately \$6 billion per year, predicted to grow at 3 to 4 % CAGR to 2022

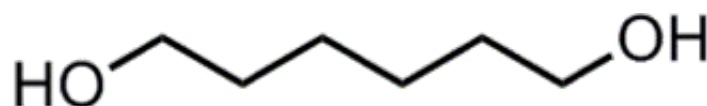
Adipic acid is used to produce nylon-6,6 engineering resins and fibers, plus polyurethanes, non-phthalate plasticizers, and new polyesters (including biodegradable products)



Biobased 1,6-Hexanediol (1,6-HDO)

Global 1,6-Hexanediol (1,6-HDO) market is approximately \$500 million per year, predicted to grow at 8 to 9 % CAGR

1,6-HDO is used in polyurethanes, especially in the high-value Coatings, Adhesives, Sealants and Elastomers (CASE) applications, and for diol acrylates and polycarbonate diols for coatings applications

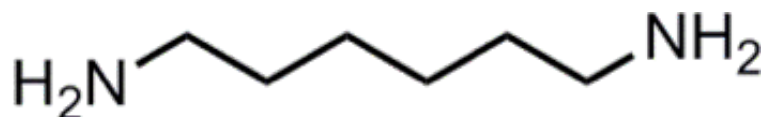


Biobased Hexamethylenediamine (HMD)

Global Hexamethylenediamine (HMD) market is approximately \$5 billion per year, predicted to grow at 3 to 4 % CAGR to 2022

Major application is as the second monomer for nylon-6,6 (along with adipic acid), for engineering resins and fibers

HMD is also used in specialty engineering resins, and in high value polyurethane applications, especially coatings



Pipeline of Future Products

Rennovia is leveraging its platform technologies to develop efficient chemical process technology for additional biobased products

Rennovia is establishing partnerships to co-develop and commercialize future products

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