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# Oxidized Derivatives of Hydroxymethyl Furfural (HMF)

## SUMMARY

Hydroxymethylfurfural (HMF) derivatives are newly developed biorenewable chemicals that could potentially be used in a broad array of industrial products and chemical manufacturing applications. This potential has long been recognized. Now, several HMF derivatives can be successfully produced via catalytic oxidation.

HMF oxidation occurs sequentially through several intermediate products. The challenge is to selectively produce a single one—which one depends on the desired application—in preference to all of the others. Methods now have been developed to form the various oxidation products with good selectivities and in high yields using continuous catalytic processes with air as oxidant.

## ADVANTAGES

- \* Biorenewable source material
- \* May facilitate production of chemicals with properties similar to terephthalate polymers
- \* Continuous process capability

## STATE OF DEVELOPMENT & AVAILABILITY

Potential applications include:

- \* Chemical manufacturing
- \* Surfactants
- \* Adhesives
- \* Sealants
- \* Composites



\* Coatings

\* Binders

\* Casting agents

\* Foams

\* Curatives

\* Monomers

\* Resins

### Patents & Intellectual Property

» Patent Application #: 2007-0287845

» Patent #: 7,700,788

### Technology Portfolio(s)

» Chemical Processing and Catalysis

### Potential Industry Applications

» Chemicals

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