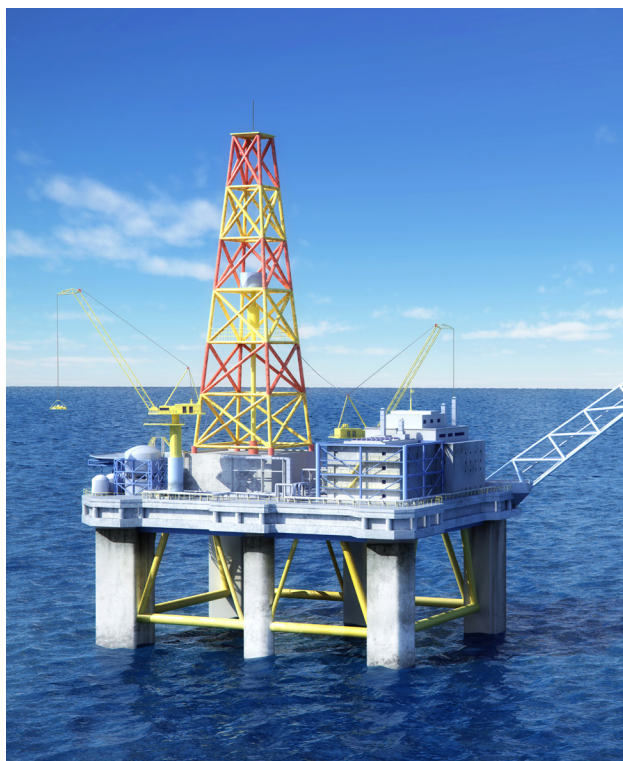


Milliken®

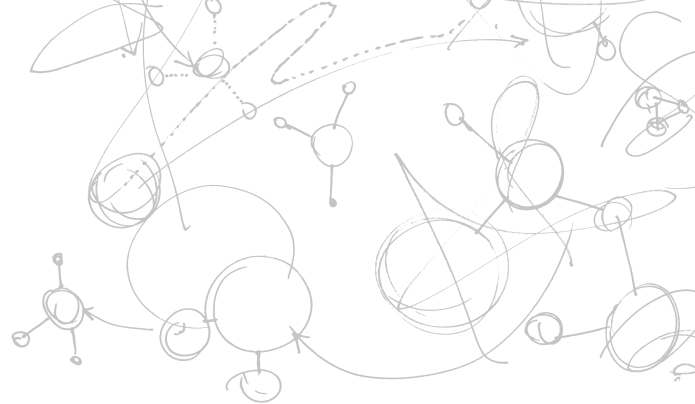
# Specialty Chemicals and Intermediates

## Anhydrides and Custom Blends

Milliken offers a variety of alkenyl succinic anhydrides, which may be used as curing agents for epoxy resins, corrosion inhibitors for lubricating oils, intermediates in the preparation of alkyd or unsaturated polyester resins and as intermediates in chemical reactions. In addition these alkenyl succinic anhydrides can be modified to their free acid versions useful in the fuel additives market as corrosion inhibitors and water removing agents.



Milliken™



## Innovation and Manufacturing Excellence

For more than 50 years, Milliken & Company has been developing and manufacturing specialty products for our industrial partners. Our broad chemistry portfolio encompasses anhydrides, esterification, alkoxylation, and emulsion polymerization. We pride ourselves on working closely with customers to deliver unique products and solutions that fit their needs and exceed their expectations. Milliken's laboratory facility uses the latest research tools and prepares product sample for customer testing, optimization and qualification. Our manufacturing facilities offer flexible capabilities over a broad range of equipment, with a fully dedicated pilot plant staff and equipment for scale up.

## Anhydride Applications

- Corrosion inhibitors
- Epoxy curing
- Fuel additives
- Oil additives
- Plasticizers
- Starch modifiers
- Toner resins
- Unsaturated polyester resins

# Specialty Chemicals and Intermediates

## Anhydrides and Custom Blends

### Anhydride Products

- Dodecyl Succinic Anhydride (DDSA), C-12 branched
  - commonly known as tetrapropenylsuccinic anhydride (TPSA)
- Octenyl Succinic Anhydride (OSA), C-8 linear
- Octadecyl Succinic Anhydride (ODSA), C-18 linear
- Undistilled DDSA (DDSA-B)
- DDSA Residue (DDSA-2B)
- Hexahydrophthalic Anhydride (HHPA)



### Anhydride Free Acid Products

- DDSA Free Acid in Aromatic 150
- DDSA Free Acid in Xylene
- OSA Free Acid



### Specialty Chemicals

Milliken serves its customers with specialty products in many applications and across several industries for a variety of uses, from coatings and electronics to personal care including:

- Surfactants
- Emulsifiers
- Dispersants
- Solubilizers
- Film Formers
- Lubricants/Emollients
- Gelling Agents
- Wetting Agents

*Many of these products are sold under the trade names Syn Fac and Syn Lube.*

One of Milliken Chemical's strengths is to use its broad chemical expertise and experience in developing products for a variety of industries to provide our customers with innovative solutions. We welcome specialty applications and will work with you to create differentiated, custom solutions. For further product information, custom applications, samples, or technical service, contact your Milliken Chemical representative.

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