

Providing Creative Solutions



# Custom Manufacturing

Hydrite Chemical Co.





Established in 1929, Hydrite Chemical Co. is one of the largest and most respected providers of chemicals and related services in the United States. We are proud to partner with hundreds of companies to help make the best products in the world. In addition to custom and toll manufacturing, we offer expertise in chemical distribution, food and dairy sanitation, food ingredients, liquid sulfur products, water treatment, graphic arts, foam control, and compliance management.

One of Hydrite Chemical Co.'s strengths is the technical capacity of our people and the experience they bring to our organization, and ultimately, yours. With each employee fully supporting our mission - which is to be accountable for 100% customer satisfaction - we are able to give you the technical expertise and personal attention you deserve. Our focus is on our customers, and that's the difference you'll feel.

#### **OUR PRIMARY AREAS OF EXPERTISE - INDUSTRIES**

- Paints and coatings
- Adhesives and sealants
- Graphic arts
- Plastic additives
- Electronics
- Personal care
- Printing
- Agriculture

#### **OUR PRIMARY AREAS OF CONCERN - SAFETY**

*The health and safety of people is valued above all else.*

All occupational injuries and illnesses can be prevented. Excellence in safety is compatible with excellence in other business parameters such as quality, productivity and profitability. They all support each other. Safe, healthy employees have a positive impact on all operations and customers, and enhance credibility in the community. Safety is an integral and essential part of everything we do. Good safety practices is a direct result of attitudes and beliefs.





*Our industry-leading manufacturing facility,  
combined with our experience and passion to please,  
will impress even the toughest critic.*

Whether its organic toll reactions, or separation and distillation of difficult-to-process organic products, Hydrite Chemical Co.'s capabilities and expertise will give you a superior result. We have the ability to process a wide variety of special needs materials. Our commitment includes using the latest technology to provide a valuable service to you and the environment, and our scheduling and processing flexibility will meet your strict processes and procedures.

# Organic Processing

At Hydrite Chemical Co.'s Cottage Grove, Wisconsin facility, we operate a combination of stainless steel and glass reactors, as well as distillation columns. We can operate our packed columns at high vacuum levels, lowering process temperatures so there is less chance of degradation. Our storage tanks are engineered to ensure complete drainage and product batches are moved directly from equipment to clean storage tanks, eliminating risk of contamination. Our facility capabilities include:

- > Reactive organic chemistry
  - Solvent and water-based polymerization
  - Acrylate chemistry
    - Polyester chemistry
    - Transesterifications
    - Esterification
    - Monomeric chemistry
    - Alkylations
    - Amidations
    - Acetylation
- > Epichlorohydrin reactions (Expoxidations)
- > Solvent recycling
- > ISO 9001:2008 Standard
- > QA/QC lab 24/7
- > Thermal oxidizer for controlling facility emissions
- > EH&S staff
- > State-of-the-art lab instrumentation
- > SOCMA ChemStewards

# Organic Processing

## PLANT REACTION EQUIPMENT

- Ten stainless steel reactors (2,700 - 15,000 gal.)
  - Pressure rated full vacuum to 150 psig
  - Utilities including steam, hot oil, chiller and cooling tower water
  - Multiple agitated feed tanks (e.g. monomers, initiators)
  - Solids addition
  - Distillation capabilities
  - Centrifuge and filtration capabilities
- Two glass-lined reactors (4,000 gal. each)
  - Pressure rated full vacuum to 100 psig
  - Utilities - steam, external recirculation oil heat exchanger, tempered water
  - Multiple agitated feed tanks (e.g. monomers, initiators)
  - Overhead condenser



## DISTILLATION CAPABILITIES

- High temp batch fractionation
- Thin film evaporators
- Semi-continuous
- Hot oil heating
- External vaporization
- Deep vacuum
- Heat sensitive intermediates
- High melt point handling
- Monomer and reactive distillations

## DISTILLATION EQUIPMENT

- Three thin film evaporators
  - 316 L stainless steel construction
  - Two with 37 sq. ft. heating surface area
  - One with 57 sq. ft. heating surface area
  - Vacuum as low as 2mm Hg absolute
  - Hot oil or steam utility heating to 575° F
  - Distillation column
- Three batch distillation systems
  - 316 L stainless steel construction
  - Pot sizes of 4,500, 6,500 and 9,500 gal.
  - Column diameters of 2 - 3 ft.
  - Structured packing of 15 - 30 ft.
  - 40 theoretical stages
  - Pressures from 10mm Hg to 70 psig
  - Hot oil heating to 555° F
- Lectrodryer AXR 6500
  - Engineered to remove water and impurities from solvents

## BENEFITS

- > Add capacity to meet demand spikes
- > Defer capital expenditures with bridge strategy
- > Process improvement
- > Asset light manufacturing option
- > Safe product handling with a reputable, customer focused partner

# Custom Blending



## Products

Acid base neutralizations

Acid/Alkaline blending, dilution and packaging

Higher level corrosive handling

Biocide and preservative handling

Esterification

Solid to liquid conversions

Water and oil based emulsions

Pure and denatured alcohol blending

Specialty toll packaging

Personal care solutions

Surface cleaners

Flammable blending



## **INORGANIC BLENDING FACILITY MILWAUKEE, WI**

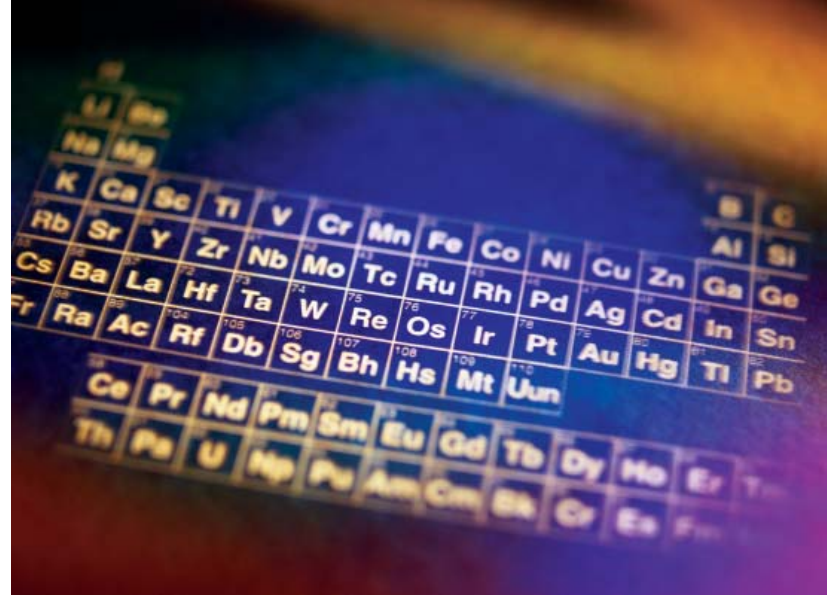
- Industrial blending, food, cGMP
- USP purified water
- 25 atmospheric blend stainless steel mix vessels
  - Heated and non-heated
  - 100 - 10,000 gal.
  - 316 SS, polyethylene, polypropylene
- 3,000 gal. glass-lined steam heated vessel
- Eight poly mix vessels
  - Heated and non-heated 110 - 10,000 gal.
- Utilities including cooling water, low pressure steam and hot oil
- Drum, totes, tanker and rail filling

## **ORGANIC BLENDING FACILITY UNIVERSITY PARK, IL**

- Cosmetic, API and EPA registered manufacturing
- Two flammable tanks for custom blending
- Solvent tank farm
- 28 storage tanks with dedicated fill lines and pumps



*In 2012, Hydrite Chemical Co. manufactured 1.6 billion pounds of product for our customers.*



#### VALUE-ADDED SERVICES

- > Technical service and development centers
- > Development and technical support staff
- > Compliance management services
- > Hazardous waste management programs
- > Air emissions inventories and Title V permitting
- > SPCC plans
- > SARA reporting
- > TSCA compliance plans
- > Quality control labs

# Manufactured Products

## GRAPHIC ARTS

With a commitment to quality and customer responsiveness, our goal is to service the North American graphic arts market with superior products and innovative solutions. We are a full-service, customer-oriented supplier of styrene/acrylic emulsion polymers and solutions to the water-based ink and over print varnishes industry. Our Lucidene™, Morcryn™ and HydriPrint™ product lines offer the formulator a wide range of performance attributes in meeting application requirements.

Our dedicated R&D and technical service staff has extensive knowledge and experience in solving your most challenging formulating problems.

## FOAM CONTROL

Hydrite Chemical Co. is an integrated manufacturer and supplier of foam control technology for both industrial and food processing. Our chemists are well-versed in this technology and eager to help you solve issues associated with foam and entrained air. We provide fully integrated lab services designed to help solve the toughest foaming issues, and a professional report detailing the results and solution recommendations.

## SULFUR PRODUCTS

Hydrite Chemical Co. is a national producer and leader in the manufacturing of bisulfite solutions. We currently operate two facilities that specialize in the production of sodium bisulfite, magnesium bisulfite, ammonium bisulfite and potassium sulfite. With over 25 years in the sulfur salts business, our products are proven in a variety of industries and applications.

- Food
- Wet corn milling
- Pulp and paper
- Water treatment
- Ethanol
- High fructose corn syrup
- Fertilizer
- Oil drilling

## EPOXY

The Cottage Grove epoxy resin facility was designed to manufacture epichlorohydrin derivatives including liquid epoxy resins. It can produce a wide range of mono and multi-functional resins. Our organic processing equipment compliments the epoxy facility with downstream processing of epoxy resins and purification by fractional distillation and/or thin film evaporation.

# Industrial Chemical Distribution



## INDUSTRIAL CHEMICAL DISTRIBUTION

See the Hydrite advantage with an unsurpassed chemical distribution system. Our “Just in Time” inventory management and delivery network will reduce your operating cost. We maintain uncompromising standards, screening our suppliers through our demanding qualification program. The quality of all incoming materials is verified to assure it meets strict product specifications to give you the best quality. And we go beyond normal distribution, to offer custom compounding and reacting, special intermediate products and custom solvents blending.

Our investment in training, quality control, research, custom blending and manufacturing equipment allows you to feel comfortable knowing we do whatever we can to give you the best value for your chemical-buying dollar. Our commitment to supporting your needs is evident in our facilities which boast:

- 10 facilities with over \$28 million in total inventory
- 850,000 sq. ft. of total warehouse space
- Seven million gal. of bulk storage and 80 production vessels
- More than 7,000 products
- Private fleet of 255 units including tractors, van trailers, tankers and railcars



If you're looking for a comprehensive chemical partner with your profitability in mind, call 608-839-4571 and learn how we will help you simplify your chemical program, streamline logistics and reduce your operating costs.

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