

NASi[®] PRODUCT GUIDE

Leaders in the Manufacturing of Specialty Chemicals



NASi[®]
INDUSTRIAL CHEMICALS

Because Quality
Creates Value[®]

NASi[®] is a division of

Nachurs
Alpine[®] SOLUTIONS[®]



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INDUSTRIAL CHEMICALS



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www.nasi-ic.com

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NASi® Industrial Chemicals Offerings:



Manufactured Products

Since 1946 we have built our business on quality, integrity, and innovation. We formulate, market, and distribute products through seven strategically positioned manufacturing sites in North America.

Our foundational chemistries include phosphorus, nitrogen, potassium, and calcium based products.

Custom Manufacturing

With 7 manufacturing facilities across North America, we are capable of custom blending or producing intermediates that may not be a core part of your production or business

Let's discuss your potential business opportunities to verify the fit.



Health & Safety

Our management driven team is committed to environmental sustainability, health and safety of all our customers and employees.



About the Company



WILBUR-ELLIS

- Established in 1946, celebrated 75 years in 2021!
- Acquired in 2019 - Now operating as a division of *Wilbur-Ellis*
- Chemical manufacturer serving the agriculture, transportation, energy, and diversified industrial sectors of North America
- Headquartered in Marion, OH

- Established and family owned since 1921
- Annual sales of over \$4 billion
- Dun & Bradstreet 5A-1 Rated (Investment Grade)
- Ranked in the Top 200 on Forbes 'America's Largest Private Companies'
- Headquartered in San Francisco, CA

Seven Business Units Providing Value

Nachurs Alpine Solutions® products are sold under seven business units

- **NASi® Industrial Chemicals**

- Markets and manufactures a line of chemicals and raw materials for industrial applications, such as catalysts for polymer production, flame proofing in insulation, water treatment, lubricants in metal working fluids, etc.

- **NASi® Global Chemicals & Ingredients**

- Markets a broad range of chemicals via our Wilbur Ellis Strategic Sourcing group for industrial applications, oil and gas applications, and raw materials for agriculture.

- **ALPINE®**

- Markets specialty precision liquid in-furrow starters, foliar fertilizers, and micronutrients for field and specialty crops in Canada.

- **NACHURS®**

- Markets specialty precision liquid in-furrow starters, foliar fertilizers, and micronutrients for field and specialty crops in the United States.

- **New Ag Markets**

- Markets similar NPK liquid fertilizer products into other agricultural markets such as turf. This business unit also sells products into the private label and international markets.

- **NASi® Energy**

- Markets a line of specialty chemicals into various oil and gas applications such as fracking and drilling fluids.

- **NASi® Transportation & Mining**

- Markets specialty liquids and solid deicing products to North American transportation and mining industries.

Strategically Positioned North American Facilities

Connected to our customers

With seven manufacturing locations across North America, each with railway access, NASi® is well positioned to service the growing markets of U.S., Canada and Mexico.

NASi's channels-to-market also includes successful relationships with many chemical distributors, offering yet another means of supply.

Additionally, NASi is an Affiliate Member of the National Association of Chemical Distributors (NACD)®, Responsible Distribution® Canada (RDC) and Society of Chemical Manufacturers and Affiliates (SOCMA).

Belle Plaine, Saskatchewan



Garretson, South Dakota



Red Oak, Iowa



St. Gabriel, Louisiana



New Hamburg, Ontario



Marion, Ohio



Corydon, Indiana



Manufacturing Plants ★

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Creating a Competitive Advantage

- **Leadership advantage**

- Large buyers of potassium hydroxide, phosphoric acid, and acetic acid in NA
- Competitive advantage of producing solution based potassium and phosphoric acid products
- The largest NA manufacturer of liquid potassium carbonate and importer of dry potassium carbonate

- **Quality control**

- Highest quality raw materials with exceptional low impurity levels
- Sourced from long term, trusted suppliers
- Manufactured to precise specification to ensure complete quality

- **Technical service**

- Problem solving, formulation, and new product alternatives

- **Multiple manufacturing locations**

- Seven strategic manufacturing facilities, all with railway access, allow close proximity to customers
- Assures continuity of supply from multiple locations

- **Superior customer service**

- Dedicated team to assist customer needs

- **Product / application range**

- Large variety of industrial applications from catalyst usage to flame retardants
- Custom blending and customer specified proprietary products

- **Packaging**

- Own / operate a fleet of over 240 railcars
- Various packaging sizes: rail cars, tank trucks, totes, and drums

Mission

We create a competitive advantage for our customers by achieving excellence in manufacturing high quality, value-added chemicals that is delivered in-specification and on time.



Manufactured Products:

- Acetic Acid Dilutions
- Alpine Ice Melt®
- Ammonium Acetate - 60%
- Ammonium Polyphosphate Solutions
- Ammonium Sulfate Solutions - 10%–41%
- Aqua Ammonia/Ammonium Hydroxide Solutions - 14.6%–29.4%
- Calcium Nitrate - 66% and 70%
- Diammonium Phosphate - 32%
- Dipotassium Phosphate - 50%
- Monoammonium Phosphate - 25%
- Monopotassium Phosphate - 18%
- Metal Chelates / Micronutrients
- Potassium Acetate - 35%–60%
- Potassium Bicarbonate - 20%
- Potassium Carbonate and Blends - 22–49%
- Potassium Formate and Blends - 50%–75%
- Urea Solutions - 21%–45%
- Zinc Acetate - 27%



Certified to
NSF/ANSI/CAN 60



Custom Manufacturing

Let us help you reduce the cost and complexity of your manufacturing supply chain

Why Use A Custom Manufacturing Service?

- To free-up your manufacturing capacity
- Reduce costly equipment expenditures
- Lower inventory costs and improve cash flow
- Increase your manufacturing flexibility
- Tap into our technical, engineering, manufacturing, and regulatory expertise



Why Use Nachurs Alpine Solutions?

- A 75 year history of producing the highest quality chemicals
- The process flexibility of a local company combined with the resources and outreach of a global leader
- The ability to competitively source your raw materials from anywhere in the world
- A full-service lab to provide confidence in the quality of your finished goods
- The strongest of commitments to the security of your formulation
- The training, processes and systems to ensure complete regulatory compliance

Our Strengths and Competitive Advantage Include Areas of Formulating With:

- Acetic acid
- Formic acid
- Phosphoric acid
- Potassium hydroxide

Consistent Quality In Every Drop: Quality Is The Hallmark Of Every Product We Manufacture

We begin by selecting the highest quality raw materials with exceptionally low impurity levels purchased from long term, trusted suppliers. Our products are then manufactured to precise specifications, ensuring every drop is the same.

Our manufacturing facilities are all equipped with automated technology, allowing us to produce identical products across several manufacturing sites. We adhere to rigorous quality control measures and laboratory testing ensuring that products are consistent from plant-to-plant. So, every product shipment meets strict quality assurance standards ensuring compliance with both product and customer specifications.

Technical Services & Product Development: Providing The Latest Innovations To The Industry

The growth of our Industrial segment owes much of its success to the efforts of our Product Development and Technical Service personnel. This team of chemists and engineers routinely assists our customers in many ways, from problem solving to formulating to offering new product alternatives.

Talk to us today about your most complex manufacturing challenges

Our goal is to satisfy your customer while reducing cost and complexity for your company

Manufacturing Capabilities

- Expertise in aqueous acid-base reactions between organic carboxylic (acetic / formic) and mineral (nitric / sulfuric) acids with alkaline earth / organic bases (KOH, ammonia, urea)
- Acid digestions
- Aqueous dilutions and aqueous concentration using steam heat
- Phosphonation or Lewis type acid-base reactions
- Transesterification reactions

Multiple Packaging & Shipping Options

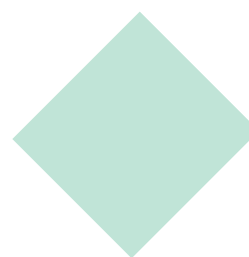
- Bulk delivery available in railcar or bulk tanker
- 240+ rail cars (general purpose, ability to handle light corrosive materials, insulated & non-insulated, insulated / coiled cars, etc.)
- 40+ tank trailers with additional contract carriers at each plant
- 60+ bulk terminals across the US and Canada
- Package delivery available in totes, drums and custom package sizes

Quality Assurance - Analytical Capabilities

- Atomic Absorption
- Differential Scanning Calorimetry
- Gas Chromatography
- High Pressure Liquid Chromatography
- Liquid Physics (viscometry, etc.)
- Ion Chromatography
- Auto-titrators
- Inductively Coupled Plasma
- Others

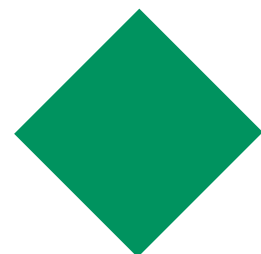
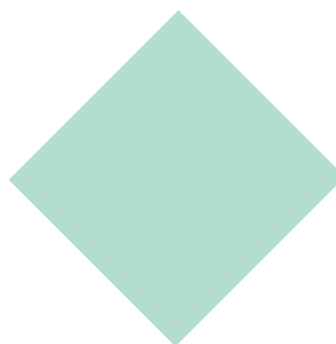
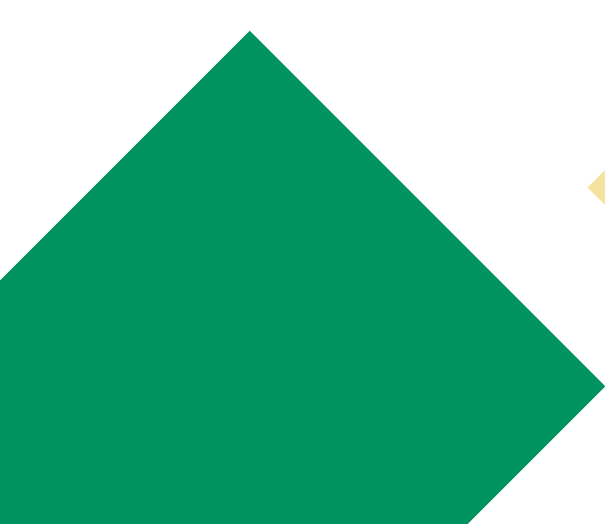
North American Manufacturing Facilities

- Seven sites located throughout the US and Canada, including St. Gabriel, LA which is close to many key raw materials
- Encompassing 35+ reactors, including glass and stainless steel reactors and jacketed reactors (cooling / heating)
- Processes include stripping, heat exchange, filter pressing and spray drying capabilities



Our Industrial Chemicals Products Are Used Across Many Markets

	Ammonium Acetate	Ammonium Sulfate	Aqua Ammonia	Calcium Nitrate	Diammonium Phosphate	Dipotassium Phosphate	Mono Ammonium Phosphate (liq.)	Mono Potassium Phosphate	Potassium Acetate	Potassium Carbonate (liq.)	Potassium Formate	Zinc Acetate
Anti-Freeze / Heat Transfer Fluids (LNG Gasification, etc.)						•			•		•	
Anti/Deicing									•		•	
Chemical Manufacturing												
Carbon Black Mfg									•	•	•	
Catalysts / Blowing Agents in Polymer Production (Acrylic, Alkyd, Phenolic, PVC, SBR, UPR, VAM)	•								•		•	
Gas Purification (EO, Ammonia, Direct Reduced Iron, Natural Gas - Liquefaction Plant)										•		
Metalworking Fluids / Metal Plating	•					•		•	•	•	•	
Reagent for NOx and SOx Treatment			•									
Styrene Butadiene Rubber										•		
Concrete Admixtures				•				•			•	
Fermentation / Enzyme Nutrition	•		•	•	•	•		•	•		•	•
Flame Fire Proofing												
Fire Extinguishers									•	•		
Insulation		•			•		•					
Household, Industrial & Institutional Cleaners	•		•			•	•	•	•	•	•	
Leather Tanning		•									•	•
Personal Care - Hair Care	•									•		
Photographic Film										•		
Textiles (Dying, Sizing, Finishing)	•	•			•		•					•
Water Treatment / Pulp & Paper	•	•		•						•		•



Certifications & Standards

Water Treatment Chemicals

SF / ANSI / CAN Standard 60 addresses the implications and health effects of water treatment chemicals and related impurities. This standard covers corrosion and scale control chemicals; pH adjustment, softening, precipitation, and sequestering chemicals; coagulation and flocculation chemicals; well-drilling products; disinfection and oxidation chemicals and many others for the treatment of drinking water.

Based on these standards NASi has the following products by location available with the NSF/ANSI Standard 60 approval:

PRODUCT:	PLANT(S):	INTENDED PROCESS(ES):
Ammonium Sulfate 10%, 20%, 41%	New Hamburg, ON	Disinfection and oxidation
Ammonium Hydroxide	New Hamburg, ON	Chloramination, Dechlorinator & Antioxidant
Aqua Ammonia Solution	New Hamburg, ON	Chloramination, Dechlorinator & Antioxidant
Potassium Carbonate 47%	Red Oak, IA Marion, OH	Corrosion and scale control, pH adjustment
Di-Potassium Phosphate 50%	Marion, OH	Corrosion and scale control, pH adjustment



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Continue to next page to learn more about
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THE INFORMATION SET FORTH IN THIS BROCHURE IS BELIEVED TO BE ACCURATE AS OF THE PRESENT DATE. SINCE THE ACTUAL USE BY OTHERS IS BEYOND OUR CONTROL, IT IS THE PURCHASER'S/USER'S RESPONSIBILITY TO DETERMINE THE SUITABILITY OF THE PRODUCT FOR THEIR OWN USE AND PURPOSE. NACHURS ALPINE SOLUTIONS MAKES NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESSED, IMPLIED OR FITNESS FOR A PARTICULAR PURPOSE. NACHURS ALPINE SOLUTIONS NEITHER ASSUMES RESPONSIBILITY REGARDING THE ACCURACY OR SUITABILITY OF SUCH INFORMATION OR PRODUCT FOR APPLICATION TO PURCHASER'S INTENDED USE OR PURPOSE NOR FOR THE CONSEQUENCES OF ITS USE. NO SUGGESTIONS FOR USE ARE INTENDED, AND NOTHING HEREIN SHALL BE CONSTRUED AS A RECOMMENDATION TO INFRINGE ANY EXISTING PATENTS OR TO VIOLATE ANY FEDERAL, STATE OR LOCAL LAWS, RULES OR REGULATIONS.

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Leveraging our Wilbur-Ellis Strategic Sourcing



Globally Sourced,
Quality Chemistry

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Global Chemicals & Ingredients Offerings:

NASi® handles the entire logistic puzzle - from the manufacturing sites to plant delivery! Let us help you find a reliable and secure alternative for your chemistries.



WILBUR-ELLIS

Sourcing Leverage

- Wilbur-Ellis Strategic Sourcing (WESS) is powering our imports - Leveraging our buying power across Wilbur-Ellis divisions to benefit you!
- WESS does supplier audits, vet suppliers, help suppliers with paperwork, and do due diligence to provide reliable source.

Ocean Logistics

- Ocean freight contracts with all vessel operators.
- We ship over 20,000 containers annually.
- Fixed ocean freight cost per pound, with notice regarding industry ocean freight adjustments.
- Reliable market source for ocean logistics and inventory planning.



Health & Safety

- We are committed to environmental sustainability, health and safety.
- Commitment to welfare of our employees and all our customers.
- Management driven.

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Our GC&I Products Are Used Across Many Markets

	Aluminum Sulfate	Ammonium Sulfate (dry)	Boric Acid / Sodium Borate	Calcium Carbonate	Caustic Soda Beads & Flake	Citric Acid	Copper Sulfate	EDTA Acid	Glycolic Acid	Guar Gum	(dry) Mono Ammonium Phosphate	PAC	Polyacrylamide (PAM)	Potassium Bicarbonate	Potassium Carbonate (dry)	Potassium Chloride	Persulfates (Ammonium, Potassium, Sodium)	Sodium Chloride	Sodium Formate	Sodium Metasilicate	Sulfamic Acid
Agricultural Raw Materials	•	•	•	•	•	•	•	•			•			•	•	•	•	•	•	•	•
Anti-Freeze / Heat Transfer Fluids (LNG Gasification, etc.)																				•	
Chemical Manufacturing																					
Carbon Black Mfg															•		•				
Catalysts / Blowing Agents in Polymer Production (Acrylic, Alkyd, Phenolic, PVC, SBR, UPR, VAM)																					•
Metalworking Fluids / Metal Plating					•	•	•	•							•		•				•
Styrene Butadiene Rubber								•							•		•				
Flame Fire Proofing																					
Fire Extinguishers				•										•	•	•		•			
Insulation		•	•								•										
Household, Industrial & Institutional Cleaners				•	•	•		•			•			•	•		•			•	•
Leather Tanning	•	•			•		•		•										•		
Oil & Gas	•		•	•	•	•				•	•	•	•		•				•	•	•
Personal Care - Hair Care					•			•		•		•		•	•	•	•	•		•	
Photographic Film						•		•							•						
Textiles (Dying, Sizing, Finishing)		•	•		•		•	•	•	•	•	•							•		•
Water Treatment / Pulp & Paper	•	•			•			•		•		•	•	•	•		•			•	•



Globally Sourced Product List:

Agricultural Raw Materials

- Aluminum Sulfate
- Ammonium Acetate (*dry*)
- Ammonium Chloride
- Ammonium Persulfate
- Butyl Lactate
- CAN - *Calcium Ammonium Nitrate*
- Calcium Chloride
- Calcium Formate
- Calcium Propionate
- Caustic Soda Bead & Flake
- Citric Acid
- Copper Sulfate
- Dicyandiamide
- EDDHA
- EDTA Acid
- EDTA & Derivatives
Ca, Cu, Fe, Mg, Mn, Zn
- Ferrous Sulfate
- Magnesium Chloride
- Magnesium Oxide
- Maleic Anhydride
- Manganese Sulfate
- Phosphites: *Calcium, Diammonium & Potassium*
- Phosphates:
DSP, MSP, TSP, MKP, STPP, DAP, SHMP, TSPP, MAP, SAPP
- Phosphoric Acid 75% & 85%
- Phosphorous Acid (P_2O_5)
- Potassium Carbonate
- Potassium Hydroxide (*90% Flake*)
- Potassium Nitrate
- Potassium Persulfate
- SOP - Potassium Sulfate
- Soy Protein Hydrosylate *16-0-0*
- Zinc Acetate
- Zinc Carbonate
- Zinc Chloride
- Zinc Oxide
- Zinc Sulfate

Oil & Gas Products

- Aluminum Sulfate
- Ammonium Acetate (*dry*)
- Calcium Carbonate
- Calcium Chloride
- Calcium Nitrate
- Catalyzed Sodium Sulphite
- Caustic Soda Bead
- Caustic Soda Flake
- Citric Acid
- CMC
- Copper Sulfate
- Glycolic Acid
- Guar Gum
- Magnesium Oxide
- Mica
- PAM (Polyacrylamide)
- PAC
- Phosphates:
DSP, MSP, TSP, MKP, STPP, DAP, SHMP, TSPP, TKPP, MAP, SAPP
- Phosphonates:
ATMP, PBTPCA, HEDP
- Potassium Carbonate Anhydrous
- Potassium Formate Anhydrous
- Potassium Hydroxide 90% Flake
- Sodium Citrate
- Sodium Erythorbate
- Sodium Formate Anhydrous
- Sodium Metasilicates
- Sulfamic Acid
- Xanthan Gum
- Welan Gum



Industrial Products

- Alcohol Ethoxylates
- Aluminum Chloride
- Aluminum Sulfate
- Amines - MEA, DEA, TEA
- Ammonium Acetate (*dry*)
- Ammonium Chloride
- Ammonium Persulfate
- Ammonium Sulfate
- Barium Chloride
- Barium Sulfate
- Benzoic Acid
- BHT
- Boric
- Borax
- Calcium Chloride
- Calcium Formate
- Calcium Propionate
- Caustic Soda Bead and Flake
- Citric Acid
- CMC
- DDBSA
- DTPA Fe 11%
- Dicyandiamide
- EDDHA
- EDTA Acid
- EDTA & Derivatives
Ca, Cu, Fe, Mg, Mn, Zn
- Ethylene Glycol
- Ferrous Sulfate
- Formic Acid
- Gluconic Acid
- Glycol Ether
- Guar Gum
- Isocyanuric Acid
- Isopropanol
- KCl (*muriate of potash*)
- Magnesium Chloride
- Magnesium Oxide
- Magnesium Sulfate
- Maleic Anhydride
- Manganese Sulfate
- Nonyl Phenol Ethoxylates
(NP4, NP6, NP9, NP12)
- Oxalic Acid
- PAC
- Phosphite: *Calcium, Diammonium & Potassium*
- Phosphates: *DSP, MSP, TSP, MKP, STPP, DAP, SHMP, TSPP, MAP, SAPP*
- Phosphoric Acid 75% & 85%
- Phosphorous Acid (P_2O_5)
- Plasticizer
- Potassium Acetate
- Potassium Carbonate
- Potassium Hydroxide, 90% Flake
- Potassium Nitrate
- Potassium Persulfate
- Propionic Acid
- Propylene Glycol
- Sebacic Acid
- Silicone Fluids & Emulsions
- Sodium Acetate
- Sodium Benzoate
- Sodium Citrate
- Sodium Erythorbate
- Sodium Formate
- Sodium Gluconate
- Sodium Lignosulfonate
- Sodium Metabisulfite
- Sodium Metasilicate Anhydrous
- Sodium Metasilicate Penta
- Sodium Nitrate
- Sodium Perborate
- Sodium Percarbonate
- Sodium Persulfate
- Sodium Sulfide
- Sodium Sulfite
- Sodium Thiosulfate
- Sodium Xylene Sulfonate
- Soy Protein Hydrosylate 16-0-0
- Stearic Acid
- Sulfamic Acid
- Tapioca Starch
- Taurine
- Tetrahydrofuran
- Tetrahydrofurfuryl Alcohol
- Triacetin
- Urea Prill
- Zinc Acetate
- Zinc Carbonate
- Zinc Chloride
- Zinc Oxide
- Zinc Sulfate



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