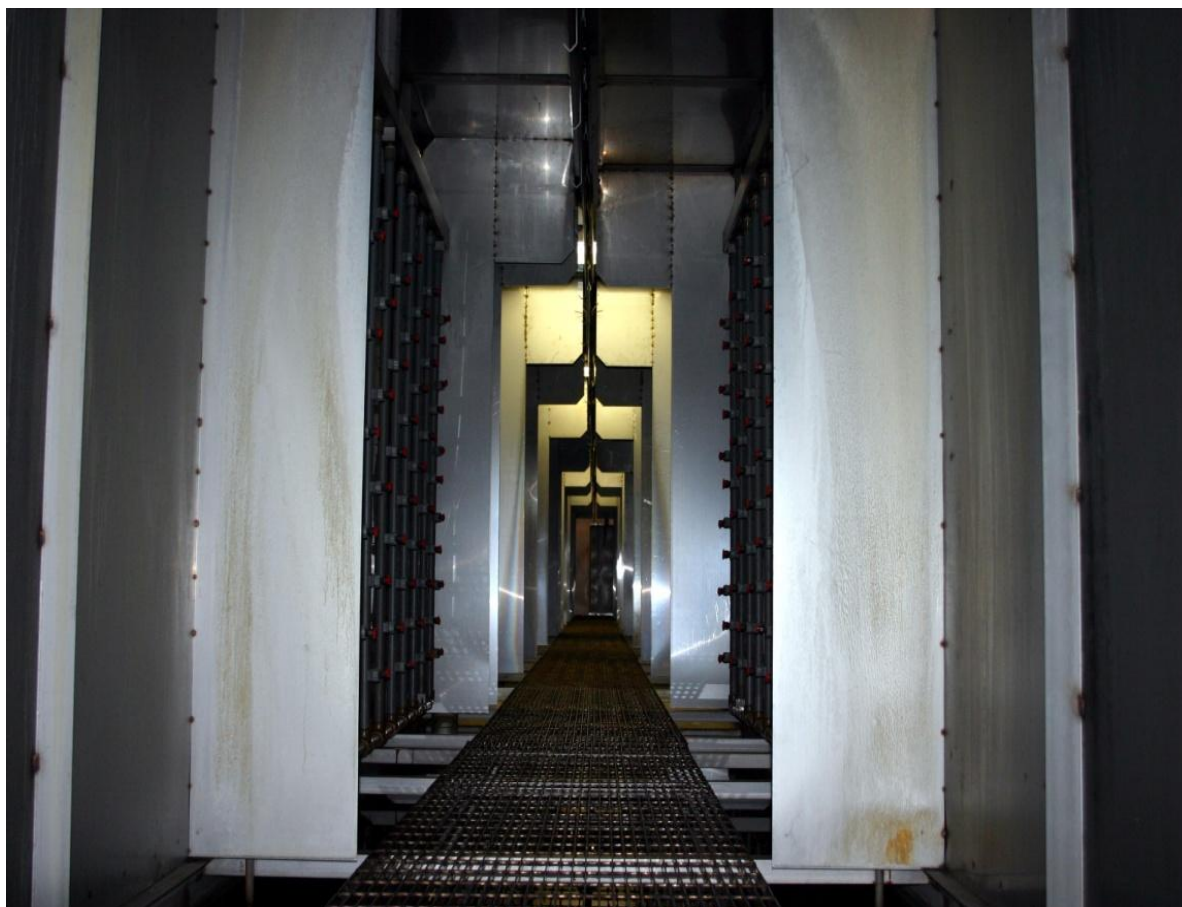


***EnviroServe Chemicals, Inc.***



***Industrial Chemicals Manufactured  
for the  
Paint Pretreatment Industry***



***Formulated for Performance***

# ***EnviroServe Chemicals: Expertly qualified to be your single source industrial chemical supplier!***

***EnviroServe has been a service-oriented supplier of industrial chemical products since 1996. No other company can match our wide range of products, service, support, and equipment!***

## ***CLEANERS***

Our ***EnviroClean™*** and ***EnviroWash™*** product lines were developed to clean the most tenacious soils. We have a wide variety of alkaline and neutral pH cleaners for practically any application.

***EnviroServe Chemicals*** has a cleaning product that can meet your toughest cleaning requirements - such as stubborn oils, grease, carbon-based soils, fatty acid soils, waxy corrosion inhibitors, and light corrosion.

We have a full line of multi-metal safe cleaners as well as products developed exclusively for ferrous alloys. Our products are designed for use in multi-stage spray systems, agitated immersions, soak tanks, and belt washers. The industry has proven our products to be highly effective in all of these types of operations.

Alkaline cleaners have long been the prevailing choice in the pretreatment industry. These cleaners are designed to remove the toughest, most tenacious soils with a lower concentration of product. Alkaline cleaners are the best type of cleaners in operations where soil loads fluctuate from day to day. These cleaners remove a variety of soils in a very cost effective manner. Conventional alkaline cleaners in the market today operate at temperatures of between 140 and 160 °F.

New technology low temperature cleaners have been developed that can be used in most applications to reduce energy costs without sacrificing cleaning results. These cleaners are very effective in multi-stage spray washers at significantly lower temperatures than those typically found in most paint pretreatment washers. They are an excellent choice when two rinse stages are available prior to applying our inorganic conversion coating products. This line of cleaners operates efficiently at temperatures of between 90 and 120°F, depending on soil levels and type.

Neutral pH cleaners are an ideal choice when cleaning light soils. These cleaners are based on surfactants that are designed to “lift” the soils off the parts without using aggressive caustic cleaners. That makes them more environmentally friendly, while at the same time making them safer for the operators than conventional cleaners.

Innovations such as low conductivity cleaners, neutral pH cleaners and rust removers will increase your plant safety without adversely effecting productivity.

***Routine Process Audits  
Short Lead Times  
Free Salt Spray Testing  
Premium Quality Products  
Continuous Improvement  
Service Oriented  
Free Troubleshooting***



## **CONVERSION COATINGS**

**EnviroServe Chemicals** is widely recognized as an industry leader in pretreatment technology through products such as our **EnviroPhos™** and **EnviroKote™** lines. These product lines are currently being used on all types of metal. We have products designed for ferrous and non-ferrous metals that provide outstanding corrosion resistance and enhanced paint adhesion.

Depending on your needs, we have the ability to provide the right product for the right application. These product lines are designed for multi-stage washers ranging from 2 stage and up. Some of our conversion coatings are preceded by a cleaner followed by rinse, while some of our other products are used as a cleaner/coater in the same stage.

### **Zirconium Pretreatment Technology**

Formulated to replace traditional iron phosphate, our **EnviroKote™** products require no or very little heat to deposit an inorganic conversion coating. These types of coatings provide a microcrystalline surface in the nanometer ( $10^{-9}$ m) range and require a short contact time of 15 to 30 seconds. The “nanocrystals” formed increase the surface area of the substrate thus enhancing paint adhesion, corrosion protection and consequently salt-spray results. These inorganic conversion coatings do not require a non-chrome post treatment seal to achieve high performance adhesion, under film corrosion and salt-spray resistance.

These new technology coatings contain no regulated heavy metals and they significantly reduce phosphate from the process bath. Sludge is also reduced to a minimum while waste treatment costs and other effluent issues are greatly diminished. Rinse water consumption is also minimized because of the lower amount of total dissolved solids present in these new coating baths.

### **Iron Phosphate**

The **EnviroPhos™** product line of iron phosphates is very diverse and well proven. We have products that contain a single accelerator and products that utilize the synergy generated when using one of our proprietary multi-accelerated packages. In many cases our **EnviroPhos™** products, when used in conjunction with our **EnviroSeal™** rinses and a top quality paint, have been proven to provide over 1000 hours of salt spray resistance on ferrous substrates and over 3000 hours on aluminum.

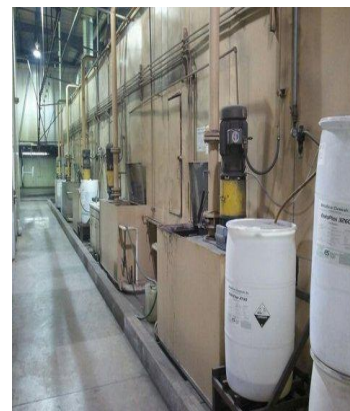
### **Zinc Phosphate**

The **EnviroZinc** product line is designed to provide a uniform microcrystalline zinc phosphate structure. This product line is capable of meeting the most stringent corrosion resistance requirements. The **EnviroZinc** product line provides a fine grain coating on ferrous and nonferrous metals, when used in conjunction with our specialized grain refiner.

## **FINAL SEALS / RINSES**

We have a full line of final seals and rinses to accommodate and complement any conversion coating process. Whether you are using an iron phosphate or an inorganic conversion coating, we have a sealer to enhance paint adhesion and increase corrosion resistance (salt spray results). Our sealers are used to eliminate flash rust.

**EnviroServe Chemicals' EnviroSeal™** brand consists of a variety of sealers and rinses including alkaline blends, amine blends, solubilized metal blends, and polymer blends.





## Customer Support Lab

Our R&D laboratory is very well equipped and staffed with highly qualified chemists and engineers to carry out research and product development, equipment design and to perform customer required testing as needed. Our R&D lab is ISO 9001:2000 certified for design requirements and is an integral part of our customer support activities. Below is a partial list of the equipment and testing available for our customer's benefits!



## Quality Assurance Lab

As part of our company being ISO 9001:2000 certified, all raw materials and finished products must meet our stringent quality specifications. Every batch of product we make is traceable to its raw materials. All reagents used are certified to the applicable NIST standards and each test we perform complies with the applicable ASTM methods or the generally accepted analytical chemistry methods.

## R & D, Customer Support, and Quality Assurance Equipment & Testing Capabilities

In-house 7 Stage Pilot Spray Washer Agitated Immersion Washers Powder Paint Booth Industrial Cure Oven Liquid Paint System Salt Spray Cabinets Humidity Chamber Ultrasonic Baths Vibratory Finishing Electronic and Analytical Balances pH and Conductivity Meters Viscometer Flash Point Apparatus (closed cup)	Scanning Electron and Atomic Force Micrography <i>(at NCSU and Duke University)</i> Conversion Coating Weights Paint Adhesion Testing & Measuring Dry Film Thickness Impact & Flexibility Tests Film Hardness Test Cross-Hatch Adhesion Testing Total Dissolved Solids Dispersion & Emulsification Tests Total and Active Acid or Alkalinity Tests Water Treatment Chemical Tests Customer Reagent Supply and Titration Kits
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Find out how **EnviroServe Chemicals** can improve your processes and provide a better solution for your needs.

- Call us at (910) 892-1791
- Visit us at [www.enviroservechemicals.com](http://www.enviroservechemicals.com)
- E-mail us at [sales@enviroserveinc.com](mailto:sales@enviroserveinc.com)

## **EnviroServe Chemicals, Inc**

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