LiquiSol™

Liquid Colorant and Additive Solutions from PCC

Plastics Color CORPORATION

The Art & Science of Color

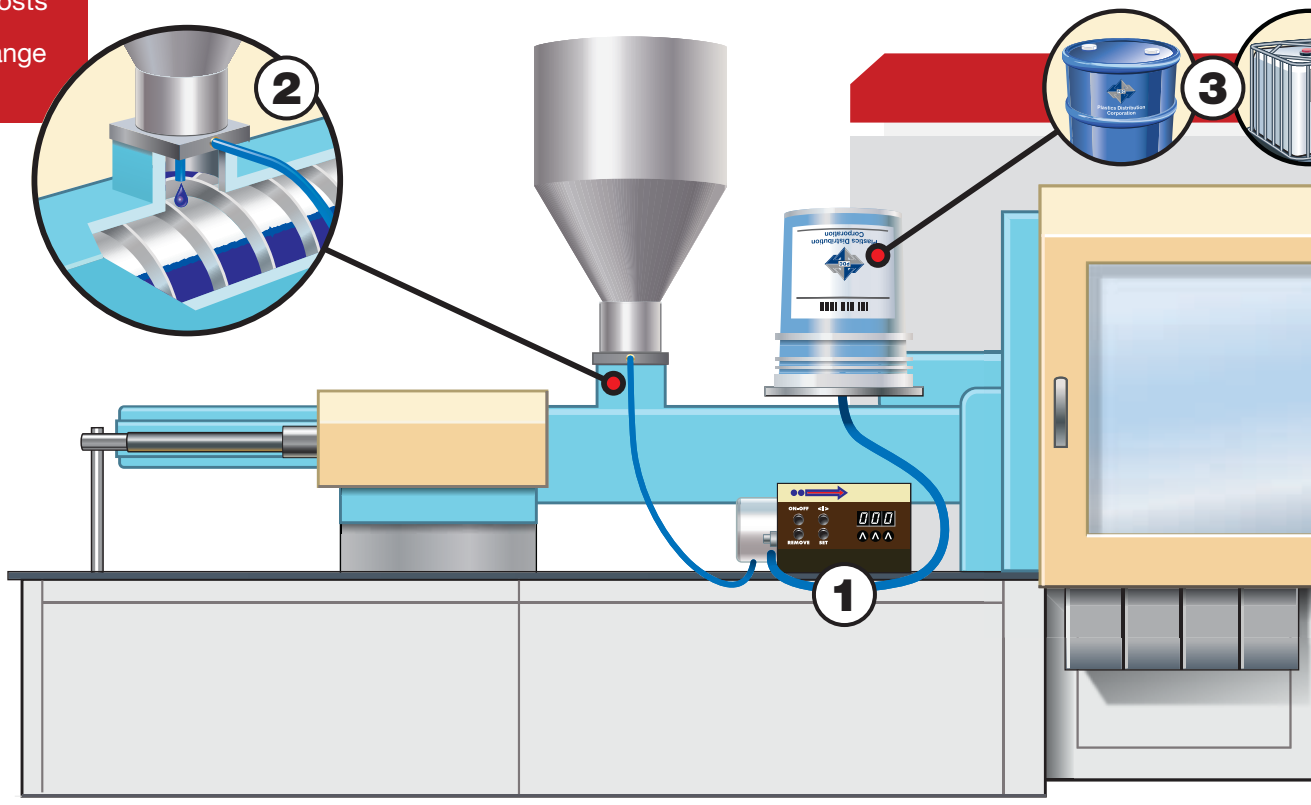
Planning. Product. Process.

Liquid colorant and additive solutions offer these benefits:

- Low let down ratios
- Accurate dosing
- Reduced inventory costs
- Quick, easy, color change

Did You Know...

Liquid colorant is a dispersion of pigments and/or dyes in specially selected liquid vehicles, which can be customized to the polymer and process of our customer. These specialized vehicles guarantee the colorant will have total compatibility with the polymer. It also promotes rapid and complete distribution of the liquid color concentrate into the polymer, leading to fewer processing problems.



Market Applications

LiquiSol™ colorant and additive technologies are engineered to improve the aesthetics, sustainability, performance and processing of plastic products related to your particular applications. Since every manufacturing situation is different, it's important to review all the variables of environment, before deciding which type of color and additive system is best for you. PCC offers many options, so your representative can help you in the decision without bias toward any color or additive system.

LiquiSol is Successfully Employed in These Processes

- PET Packaging Technology
- Injection Molding Products
- PVC Extrusion Foaming Agent for PVC Sheet
- Rigid PVC Pipe
- Colorants for Sheet Extrusion

Is LiquiSol Right for Your Operation?

There are a number of issues to consider before you begin the process of using LiquiSol. Some of the key elements to examine include:

- LiquiSol is a system, not just a product. You must consider pumps, delivery and inventory when deciding to switch.
- Cleanliness is key!
- LiquiSol will not solve all color or processing issues.
- A blend of concentrates and liquids are ideal for maximizing efficiencies in any operation.

How is LiquiSol Added to a Polymer?

A peristaltic pump (**inset 1**) feeds LiquiSol into the feed throat, or into an intermixer above the feed throat, through a flexible, polymer tube (**inset 2**). The pump manipulates the outside of a flexible feed tube, pushing the liquid colorant through the tube assemblies. These pumps are extremely accurate and can feed at addition levels of <.01 grams per cycle and can move product with viscosities up to 12,000 CPS. Metering of color levels to very precise accuracy is achievable with no interruption in processing cycles.

Because the colorant is metered into the processing machine mechanically, the process requires minimal human interface. LiquiSol products are custom-engineered to be compatible with all resin types. PCC's LiquiSol line is easily incorporated into any molding or extrusion application very efficiently. The process will be mapped-out by our sales professionals so that you know exactly what you are getting with the LiquiSol system.

LiquiSol can help to reduce inventory and creates minimal waste in processing. LiquiSol products come in a variety of packaging sizes to fit Into virtually any production environment (**inset 3**).

PCC has everything you need to use LiquiSol in your molding operation including materials, equipment and expertise to get you started.

- A complete analysis of your manufacturing center by our liquid experts
- The latest in liquid color technology including pumps, vessels, storage and supply systems
- Training for your production staff to ensure immediate benefit to your operations
- Customized products that include colors, multiple additive dispersions, functional and performance enhancers

The Art & Science of Color

Why Consider LiquiSol™ in Your Operations?

While liquid color processing may be beneficial to many plastics molders, it is not a right for everyone. The best way to determine this is to speak to one of our account representatives who understands the ins and outs of both liquid color and color concentrates to compare the features and benefits of each.

Process and Product Form Comparison

Consideration	Concentrates	Liquid Color	Comments
Let down ratio		X	Typically lower with liquid
Reproduction of colorants	X	X	No further development of color due to heat or shear
No drying of colorant or additive system		X	Color has no resin so drying unecessary
Speed of color changes		X	Screws and barrel inherently much cleaner
Scrap rates	X	X	Product specific
Extruder or mold machine wear		X	Less shear on internal machine parts
Clean-up ease		X	Typically less purging required
Finished goods inventory space requirement		X	Less mixed inventory on hand
Production lead times	X	X	
Inventory acquisition costs		X	Not buying and shipping resin
Supply of small and large lot sizes	X	X	PCC can supply virtually any need
Small production runs	X	X	
Intricate mold designs		X	Overall flow of color can be better
Specialized additive packages	X	X	Design systems based upon additive forms

Process	Concentrates	Liquid Color	Comments
Injection molding	X	X	
Blow molding	X	X	
Structural foam	X	X	
Rotational molding	X	X	
Compression molding	X	X	
Dip molding		X	
PET processing	X	X	Both single and multi-stage processes
Rubber processing		X	
Sheet extrusion	X	X	Depending upon resin, liquid can provide benefit
Profile extrusion	X	X	Depending upon resin, liquid can provide benefit

For more information or to speak with a representative, please visit www.plasticscolor.com or call 800-922-9936.

Plastics Color CORPORATION
www.plasticscolor.com

NSF INTERNATIONAL
The Public Health and Safety Organization™

AMERICAN ASSOCIATION OF LABORATORY ACCREDITATION
Testing Laboratory Certificate Number 2974.01/02

ISO 9001:2008
Registered

PCC OF CALIFORNIA
12243 Branford Street
Sun Valley, CA 91352
855-502-2347

PCC OF ILLINOIS
14201 Paxton Avenue
Calumet City, IL 60409
800-922-9936

PCC OF NORTH CAROLINA
1134 Highway 49 South
Asheboro, NC 27203
800-247-7428

PCC OF CHINA
299 Kia Yuan Road
Jiangning Nanjing, 211100
China +86-25-5792-8777

PLASTICS DISTRIBUTION CORP
60 East Rio Salado Parkway
Tempe, AZ 85281
855-502-2347

VISIT US ONLINE TO JOIN THE PCC NETWORK

REV 02/12