



# ColourFal



# Zero™

PRODUCT GUIDE

# VOC FREE

## UNIVERSAL COLOURANTS

For Machine Tinting



# THE BIRTH

*of something special*

THE **ENTHUSIASM** of the ColourFal Zero™ launch has reached a fevered pitch. It is truly a wonderful time for our company. The hard work that everyone in the Technology group has put forth for this product has been substantial, and because of it we excited to say that we have the best zero VOC universal colourant on the market.

The design of ColourFal Zero™ builds upon conventional VOC free technologies and refines them using innovative chemistry. We call this technology SmartTint™, a revolutionary development that utilizes patented chemistry to prevent blockage and excess dripping from the nozzle of colourant dispensing machines. It uses environmentally friendly products that contain no VOC's or harmful chemicals, yet provide maximum compatibility and cost efficiency.

The end result allows us to reproduce any colour VOC-free, and achieve excellent compatibility in a wide range of binder systems for water-based and solvent-based decorative paints and stains. The best part is that with ColourFal Zero™ paint manufacturers can continue to use their existing dispensing equipment manual or automatic. No other manufacturer has provided all those benefits in one environmentally friendly package.

Put simply, ColourFal Zero™ is just designed better.

The Strength of ColourFal™ products is their generation of clean colours accurately, with excellent dispensability and compatibility. Our brand style presents colours in a way that is fresh, fun, and professional.

It is my belief though, that the true strength of the ColourFal™ brand is the people of Falcon Technologies Inc. In fact, it is my belief that no other product we offer reflects the diversity of this company than ColourFal™.

It has been said that this company is like the United Nations: we have employees from all over the world, and as a result there is strong ethnic diversity throughout the company. By nature our organization has to be more open-minded and innovative just to make relationships work around the office, how much more can that help us in the laboratory providing solutions? Our expertise in thinking outside the box should be celebrated, and as products pass through development and enter into the market we should take comfort to know that knowledgeable, hard-working people who care have ensured that everything possible has been done to set the product up for success. It should come as no surprise that people in the paint industry have raved about ColourFal's quality.

Zero will be no different.

Andrew Burnett  
**Business Unit Director - Colourants**



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## *of VOC-Free Colourants*

**GLYCOLS** have long been a necessary component of universal colourants for use in the Point-of-Sale (POS) colour tinting system. They most noticeably contribute to good rheology, controlling drying rates, preventing drying out at the nozzles, and providing freeze-thaw stability. Consumer awareness and environmental legislation have pushed coatings manufacturers to eliminate VOC's from not only paint but universal colourants as well. Further health concerns with Ethylene glycol and alkylphenol ethoxylates led to restrictions and bans in European markets, with other countries around the world following suit.

The removal of ethylene glycol posed a challenge to the first generation VOC-free universal colourants. The colourants would dry out in the canister and dispensing machine nozzles frequently clogged with dried and thick colourant. The end results were mis-tints, uncontrollable product spray, mess, and damage to the dispensing machine. Furthermore, when added to paint containing associative thickeners, glycol-free colourants caused significant drops in paint viscosity.

Likewise removing alkylphenol ethoxylate surfactants for wetting and dispersion from colourant formulations meant greater expense, and decreased compatibility with the typical range of binder systems. While the benefits to the environment were undeniable, the impression of early generation VOC-free colourants was a legacy of high cost, reduced performance, less robust colourants with limited colour offerings relative to traditional glycol based colourants.

### DISPENSING MACHINE **ADJUSTMENTS**

Effectively traditional VOC-free universal colourants have rendered manual machines and older automatic machines unsuitable for use with the technology. Somewhere in the development process of universal VOC-free colourants colourant manufacturers managed to transfer the responsibility of improving the machine performance to the dispensing machine manufacturer. Even the most advanced tinting machine cannot correct poorly performing colourants placed in their canisters. Therefore it's not the machine that requires improvement but rather the colourant.



# THE ColourFal **SOLUTION**

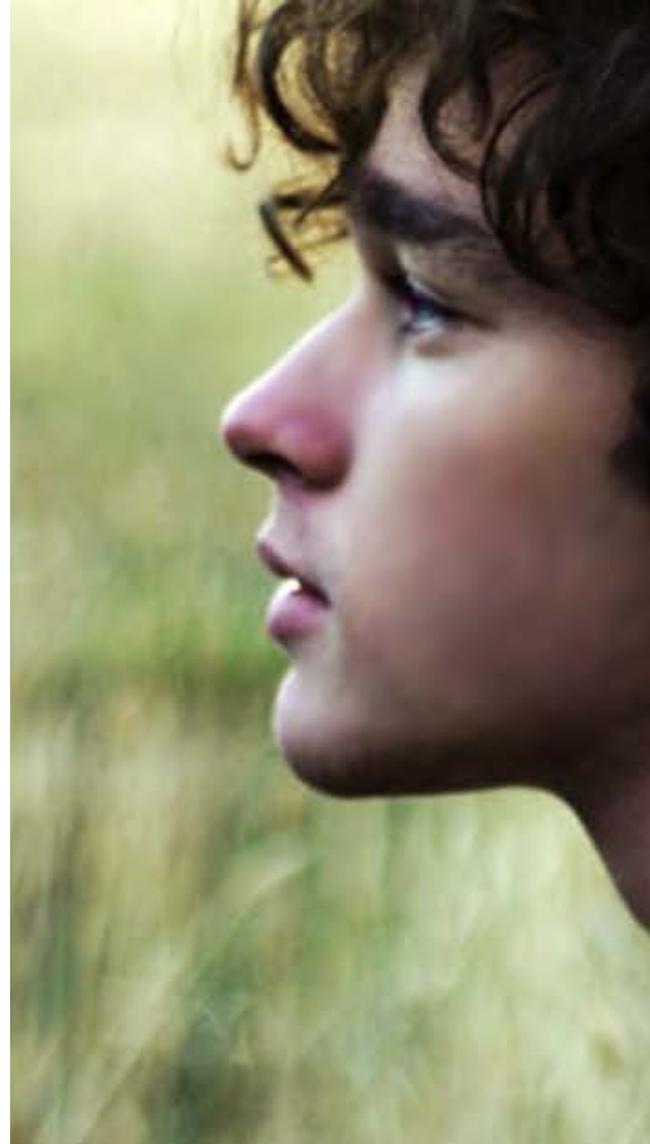
**WHERE CONVENTIONAL** VOC-free colourants have failed, **ColourFal Zero™** excels. Through innovative-patented chemistry, **ColourFal Zero™** allows paint manufacturers to tint with confidence knowing that the colourants are environmentally responsible, cost efficient, and have the performance the market has come to expect from glycol-based colourants. Sensitivity and scrub resistance need not be of concern, Falcon Technologies Inc. expertise and knowledge of chemistry ensures the best formulation and performance for maintaining exterior durability comparable to glycol-based colourants. Moreover, thanks to revolutionary SmartTint™ technology blockage of the dispensing nozzles is prevented and dripping is eliminated. Viscosity of the base tinted with **ColourFal Zero™** is stable ensuring the designed application properties are maintained. The delicate balance between good flow and open time properties of the colourant have been balanced and as a result **ColourFal Zero™** can be used with manual dispensing machines without the need for humidifier caps or trays.

In one laboratory study, red oxide and yellow oxide colourants for **ColourFal Zero™** and a VOC-free colourant from a leading manufacturer were placed in a manual dispensing machine canister for 14 days. The samples were covered and left undisturbed at ambient temperature. After 14 days, each colourant was dispensed into a tint base and checked for ease of dispensing, blockage, and dripping. In both the yellow oxide and red oxide, **ColourFal Zero™** demonstrated equivalent dispensability performance as the **ColourFal™** glycol-based line, no blockage, and no drips.

In contrast, the VOC-free colourants from the leading global manufacturer experienced blockage at the nozzle with the Red oxide and Yellow oxide colourants, which resulted in significant effort required to lower the piston, undesired spray, and dripping from the nozzle.

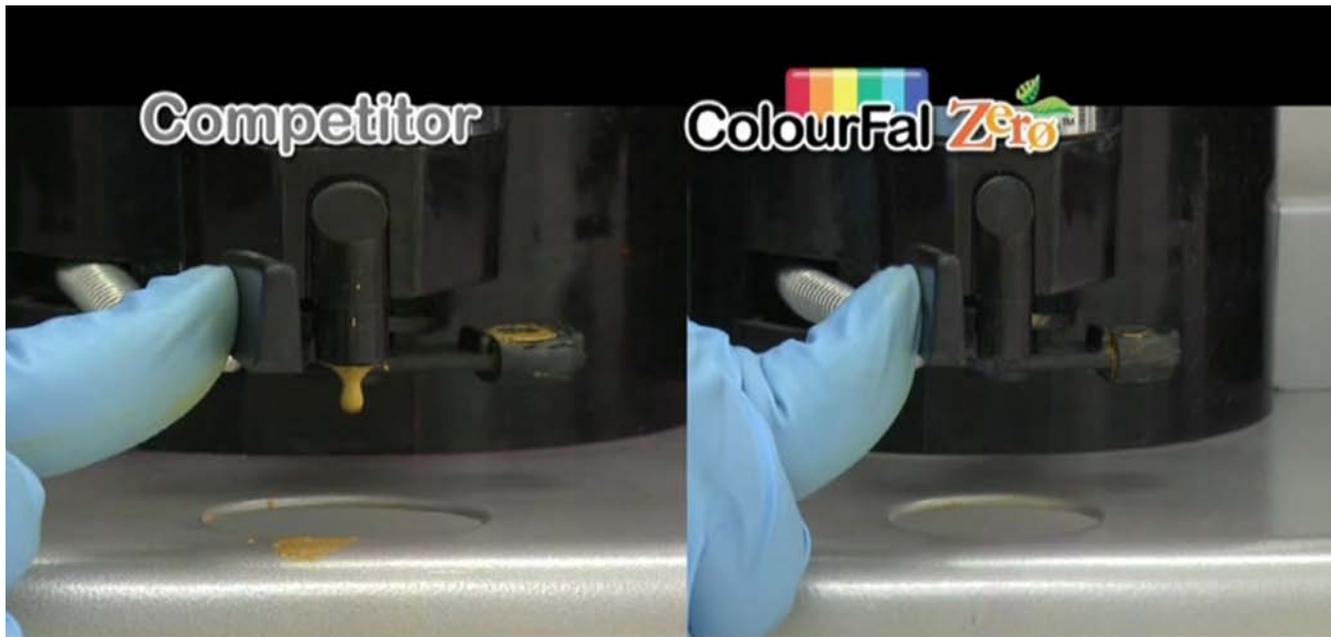
Avoiding mis-tints is critical to success of a colour system. When a customer obtains any colour other than the one they want, they will be dissatisfied. For paint manufacturers with trusted brand names and with brand recognition in the market, they cannot afford their brand to be tarnished by poor colour matches. By eliminating drying out at the nozzle and dripping after tinting, **ColourFal Zero™** with SmartTint™ technology ensures accurate colour reproduction every time in both manual or automatic tintometric dispensing machines. Plus it uses environmentally friendly products that contain no VOC's or harmful chemicals, yet provide maximum compatibility and cost efficiency.

Value, performance, compatibility, and accurate colour reproduction in environmentally friendly colourants and backed by technical support for colour matching and tint bases all in one package. Now that is smart. **ColourFal Zero™** will redefine performance expectations of VOC-free colourants.



WELCOME  
TO THE  
**NEW ERA** OF  
**ZERO  
VOC**





## WHAT IS **SMARTTINT™**?

SmartTint™ is a revolutionary technology that utilizes patented chemistry to improve flow and eliminate dry out, preventing dripping and blockage of the nozzle in colourant dispensing machines. It uses environmentally friendly products that contain no VOC's or harmful chemicals, yet provides maximum compatibility and cost efficiency.

By eliminating drying out at the nozzle and dripping after tinting, ColourFal Zero™ with SmartTint™ technology ensures accurate colour reproduction every time in both manual and automatic tintometric dispensing machines. At last, paint manufacturers can avoid increased dispensing machine maintenance and the machine replacement costs associated with switching to VOC-free colourants.

Put simply, ColourFal Zero™ is smart enough to flow and stop on demand in any tintometric machine. **Now that is smart.**

## THE NEXT LEVEL OF **REFINEMENT**

ColourFal Zero™ represents the next level of refinement. In production, ColourFal Zero™ was subject to extensive testing in conventional, low VOC, and VOC-free paints. The performance achieved was equivalent to conventional glycol based colourants.

Open time, dry time, rheology, and viscosity drop of tinted paint with ColourFal Zero™ closely match ColourFal's glycol based line. Scrub resistance, chemical resistance and general film properties of the finished paints with ColourFal Zero™ were also comparable to the glycol-based line.

Moving from VOC to zero-VOC colourants is easy with ColourFal™ and ColourFal Zero™. ColourFal Zero™ is fully compatible with glycol-based ColourFal™ and can be added on top in the canister for immediate low VOC phase-in options. Alternatively, fill an empty canister with ColourFal Zero™ to have a truly zero-VOC colourant.

Forget implementation hassles of changing dispensing machines, retrofit humidifier solutions, extensive machine recalibration or cleaning out of canisters; ColourFal Zero™ is ready to fulfill your VOC-free needs **immediately.**

# SMART TINT™ TECHNOLOGY

# KEY BENEFITS

## & Compatibility

We took the enhanced compatibility, easy incorporation, and thoughtful design of ColourFal™, and refined it to become the ultimate eco-friendly universal colourant. ColourFal Zero™ permits full colour reproduction, while meeting the most stringent health & safety and environmental standards around the world, in one cost-effective package.

- VOC free
- Alkylphenol ethoxylates (APE) Free
- Free from formaldehyde and formaldehyde donors
- No drying out or clogging of the dispensing machine nozzle
- Full reproduction of any colour
- Excellent compatibility in both waterborne and solventborne paints
- Outstanding rheology eliminates drips from the dispenser
- Superb freeze thaw stability
- Suitable for zero VOC, and low VOC paints
- 'Drop-in' replacement for ColourFal™ standard line
  - with equivalent tint strength and tone

ColourFal Zero™ colourants are designed for maximum compatibility in a variety of binders. Examples include, but are not limited to:

Latex paints based on:

- Acrylic
- PVA
- Styrene acrylic
- Styrene butadiene
- Vinyl acrylic and Veova
- Alkyd modified emulsions
- Water based wood stains
- Solvent-based decorative paints based on:
  - flat, semi-gloss and gloss oil
  - alkyd type house and trim paints
- High solid alkyds
- Solvent based wood stains
- Pliolites

**ColourFal Zero™** is the only universal colourant fully compatible with water-in-oil emulsions created with Lorama Polysaccharide Resin Technology (LPRT) for solvent-based alkyd paints. Colours tinted with ColourFal Zero™ exhibit superior colour acceptance, colour development, and no rub-up.



BREATHE  
EASY



# THE PERFECT COLOUR

*The importance of colour in our world cannot be understated, it can convey a message, make a statement, describe our emotion, and change our mood. Think about how colour is used in everyday life, in traffic red means stop. Green is a colour of prosperity, money, or can be used to make a simple statement of environmentally friendliness. Blue promotes a cool, relaxed feeling. Black can represent elegance, or dark and secretive.*

**COLOUR** is equally important in life and is critical to the paint industry. Gone are the days when you could choose any colour as long as it was black or white. Colour has become the tool of choice to establish uniqueness and identity between people and their possessions around the globe. Washing machines, household appliances, and even air conditioning units are now offered with a broader range of available colour choices.

Many have discovered that a fresh coat of paint can a drab, small, closed space, and make it feel, clean, fresh, and open. Today, the colours chosen for walls, floors, and doors are more a reflection of the owner's personality, stage in life, and design trend rather than arbitrarily selected from the colour offerings selected from a fandeck.

However there is a limit to the amount of colour choice the average human being can be exposed to before they experience choice paralysis caused by fear. In the recent past, many paint manufacturers made the mistake of introducing colour systems with 1500 to 2500. As a result consumers found it difficult to find a simple "blue" when wading through hundreds of shades within the same tone.

Clients feel obligated to look through all the colours of the pallet to find the right one. Too much colour choice increases the anxiety of selecting the wrong colour. For the paint manufacturer instead of having decision from the consumer in a day or two, the process takes several weeks, and becomes much more methodical.

## COLOUR EVEN AFFECTS OUR PHYSIOLOGY

Studies have shown that red and yellow have an effect on hunger. Several fast food restaurants such as McDonald's, Burger King, Wendy's, Pizza Hut, Denny's, etc. contain red and yellow in their logos.



# HOW MUCH COLOUR IS

# TOO MUCH?



*“By the time the consumer arrives home with the colour chips (or worse: tinted paint), the colour they thought they were getting looks completely different under fluorescent or natural light.*”

## TOO MANY COLOURS

Too many paint manufacturers exhaust their clients with the display of too many colours. Displaying thousands of colours at once is overwhelming, increases the level of anxiety for the consumer, and will cause the buying process to be frustrating. Our time is valuable so the experience of staring at a wall of colour one colour becomes a chore. By the time the right colour is chosen, the end user just wants to get a paint tinted and leave the store. The likelihood of engaging the tinting professional on the various paint lines offered by the manufacturer decreases with the increasing time spent selecting a colour.

Consider this, would you be willing to pay a premium for the highest quality paint line when you are unsure if you will have to re-paint the room in the near future? Many consumers would not. It also means that the average DIY'er will more often than not opt to keep an existing colour longer or settle for a safer neutral colour with more staying power. Going the safe route increases the time interval between interior painting projects and decreases the frequency of decoration through painting and will push the trend towards mid-range priced products that provide better value. When a customer settles they are not completely satisfied, the door is open for another manufacturer who can better meet their needs. These factors working in concert mean less profit for the paint manufacturer and reduced volume potential from repeat customers.

The sooner a consumer is able to make a colour choice will be the sooner they can buy the paint. Paint manufacturers should actually spend more time associating their desired brand of paint and its associated colours with a desired lifestyle, allowing the user to visualize themselves using the paint and colour in their preferred lifestyle. Designer colour selections exclusive to high-end products would help ensure the premium paint lines remain desirable and luxurious.



*easier*

## FLOOR SPACE IS **PREMIUM**

so maximizing the colours displayed in a store when space is limited is critical. Modern trends of colour display are for fewer colours but with increased chip size to make focus easier and colours appear richer. When designing displays for ColourFal's colour system we considered all the challenges to selecting colour and designed a display rack that addressed the issues. Our research told us that a display of about 800 colours provide a broad spectrum of colour to be displayed while allowing the selector to comfortably navigate and find the right colour without undue anxiety. Furthermore, traditional colour chip display racks typically leave 2.54 cm (one inch) of colour exposed for viewing. Our displays increase the exposure to 5.08 cm (two inches) making individual colours to be more distinguishable from each other. Meaning the viewer sees the difference between shades more readily and can better grab the removable chip. The full-length display is set at an optimal height, which makes the top colours accessible to someone who is 1.5 metres (5 feet).

## CHOOSING THE **RIGHT DISPLAY**

Our display rack is fully customizable and allows the client to replace slow moving colours, with increasingly trendy colours and also permits the store to adjust the orientation of the chip layout. Chips can be displayed by hue or by tone. Even the colours of the wood surrounding the display can be adjusted to suit brand colours and marketing campaigns.

Falcon Technologies has the expertise and knowledge of colour and can make building or expanding a colour system simple, straightforward, and cost-effective. Customers from around the world trust us everyday with their brands and colour systems because they find value in our products ColourFal™ and ColourFal Zero™ and our marketing materials and custom campaigns. Let us provide a total package of solutions for any colour system from display to application.



*“Customers from around the world trust us everyday with their brands and colour systems because they find value in our products ColourFal™ and ColourFal Zero™”*



# PAINTING THE BABY'S ROOM



*Andrew Burnett  
Business Unit Director - Colourants*

**THIS SPRING** my wife and I embarked on a mission to paint the baby's room prior to his birth. Being our first child we wanted to choose the colour that was perfect. We brought home colour chips and fandecks looking for some inspiration. My wife and I agreed that the colour should be fun for a child, but we still wanted a refined elegant look to enhance the rich dark woods of the baby's crib and dresser. We painstakingly browsed through hundreds of colours for 3 months! Finally, we made a choice "Robin's Egg" a blue with a green undertone.

I took the colour to a local Benjamin Moore store and asked them to match the colour. The attendant scanned my colour and the computer database found 40 different shades that were similar to my colour. She also pulled references from 7 different fandecks for me to review. Not one colour she pulled seemed as beautiful as "Robin's Egg".

AS **SWEAT** beads formed on my forehead my level of anxiety increased to new heights. I knew I could not return home without the right colour, but what if I picked the colour with the wrong undertone? What would my wife say? I do not believe it is right for a man to be under such pressure in the paint and décor store choosing a colour from 40 different colour swatches with similar colour shades. It was painful for me, and took upwards of 30 minutes, but I made an executive decision and went with the closest colour to what we had selected at home.



The funny thing is, **it took me a grand total of 30 seconds to select the washable, VOC-free base paint to be tinted.** The selection of paint in my mind was far less significant than the colour. However to paint manufacturer the choice of the base paint and product line is far more impactful to their profit margin and bottom line than the colour.

**IN THE END** I painted the room and the colour looks fantastic. Both my wife and I are very pleased and feel the colour reflects the bubbly character of my son, but what should have taken days, took months because of fear. I can assure you if this is happening to me then it is also happening to families throughout the country. Paint manufacturers should be very concerned with delayed sales bogged down by colour selection.

**IN MY OPINION,** trendy high demand colours should be first introduced in the premium and high profitability lines for an initial release period, and then made available to additional lines as necessary. Paint manufactures should be asking themselves if there are certain colours in the region associated with high-end homes or luxury, and whether or not it is possible to charge more for an exclusive look. The automotive industry has done an excellent job in creating an exclusivity and sense of luxury through colour.

At Falcon Technologies we have the expertise and knowledge of colour to make building or expanding a colour system straightforward and cost-effective for paint manufacturers. We can assist in simplifying the colour systems and can eliminate the fear of colour choice in the consumer through thoughtful system design. Customers from around the world trust us everyday with their brands and colour systems. They find value in our high quality ColourFal™ and ColourFal Zero™ and benefit from consultation with experts in the business. Falcon will provide a total package of solutions for any colour system from display to application.

- For more information on ColourFal visit [www.colourfal.com](http://www.colourfal.com) and [www.faltech.net](http://www.faltech.net) for further information on Falcon Technologies Inc.



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