

## IS IT HEX-FREE OR NOT?

### "FALSE-POSITIVES" FROM TRIVALENT CHROMATES ON ZINC

By Rick Holland, V.P. Technology, Columbia Chemical Corp.

More and more, zinc platers are being required to certify through independent testing laboratories that the trivalent chromates they are using are producing coatings that are completely free of hexavalent chrome. The problem is that the presence of hexavalent chrome can be falsely indicated by the laboratory, causing the plating shop difficulties with customers and the added expense of retesting. These "false positives" are increasingly common. Ask any lab manager or technical service representative who is responsible for meeting strict automotive requirements for hex chrome-free plating, such as GM 3034 and Delphi 900359.

There are four probable reasons for a "false-positive" reading (and one case for a legitimate positive reading) on coatings produced from trivalent chromates that are certified to contain no Cr6+, such as Columbia Chemical SpectraMate 25, Tri-V 120 and Tri-V 121:

#### Interference From Topcoats/Sealers

Organic and inorganic topcoats can interfere with testing and result in false-positives. Ideally, parts really should not be subjected to testing for hexavalent chrome after a sealer has been applied. The sealers that cause the most problems are:

- Organic- Lacquers
- Inorganic- Silicates
- Lubricants- Waxes, torque modifiers

#### Use of Old/Contaminated Reagents

Using old or contaminated diphenyl carbazide can cause inaccurate results. This is the indicator used as the tracer to identify the presence of hexavalent chromium in the test solution.

#### Lack of Filtration

In some cases, the test solution may require filtration due to turbidity. Improper filtration or lack of filtration can cause false-positive results.

#### Excessive Boiling

Boiling the test part is included in the testing procedure; however, excessive boiling and concentrating the test solution can cause false-positives.

#### Use of a Hexavalent Chromate in the Same Plating Line

The practice of running both hexavalent and trivalent chromates in the same plating line is still very common worldwide. This can cause parts processed with the trivalent chromate to show the presence of hex-chrome and fail the test. It only takes a few ppm of hex-chrome in a common rinse tank to cause problems. In this case, the test may be accurately reporting the presence of hex-chrome and not reporting a "false- positive."

Being aware of these pitfalls that can occur when testing parts for hexavalent chrome may help to avoid the panic that sets in when a "false-positive" reading is reported. Testing laboratories are generally interested in obtaining the most accurate results possible for their customers. Therefore, they will usually discuss the finer points of the testing methods along with ways to improve what they are doing.

Copyright © 2009 Columbia Chemical Corporation. All rights reserved.

## In this issue

**Is It Hex-Free or Not? "False-Positives From Trivalent Chromates on Zinc**

**Representatives From Ebara-Udylite Mexico Attend Training Seminar at Columbia Chemical's Technical Center**

**Meet the Zinc Plating Experts: Ryan Vierheller**

**Columbia Chemical Employees Join AlphaGraphics in Mission to Stock Shelves at Local Food Banks**

## Contact us

**Columbia Chemical Corporation  
1000 Western Dr.  
Brunswick, OH 44212  
330-225-3200**

[info@columbiachemical.com](mailto:info@columbiachemical.com)

[www.columbiachemical.com](http://www.columbiachemical.com)

## Technical Sales Representative Wanted

**Illinois/Wisconsin • Texas  
West Coast • St. Louis  
Mississippi/Alabama**

Columbia Chemical is seeking Technical Sales Representatives to sell and service our products for the regions noted above.

Ideal candidates will reside within the territory and have a minimum of 3 to 5 years of technical exp. & must be familiar with metal finishing, zinc plating, products and processes.

Bachelor's degree in science or business preferred.

Email resumé to:

[careers@columbiachemical.com](mailto:careers@columbiachemical.com)

**COLUMBIA**  
CHEMICAL  
The Zinc Plating Experts

**For complete details visit:  
[www.columbiachemical.com/career.htm](http://www.columbiachemical.com/career.htm)**



**Ghalib Bachooali (left) with Martin Gall**

## In Remembrance

All of us at Columbia Chemical give our condolences to the family of Mr. Ghalib G. Bachooali, who passed away on July 9th. Mr. Bachooali founded Consolidated Metal Finishing Pvt. Ltd. in the mid 1970's, which has been our partner company in India since 1996. Ghalib was a visionary and a good friend, and leaves his capable son, Mr. Ali Bachooali to carry on the company's fine reputation in the Indian metal finishing community.

## TECHNICAL NEWS

### REPRESENTATIVES FROM EBARA-UDYLITE MEXICO ATTEND TRAINING SEMINAR AT COLUMBIA CHEMICAL'S TECHNICAL SUPPORT CENTER

Columbia Chemical recently hosted three representatives from Ebara-Udylite Mexico to an intensive three-day training session at the facility's technical support center. Jeff Grodecki and Kristen Melnek lent their expertise in assisting Saul Angel Dominguez, Elena Gpe. Lozano Palacios and Adira Guadalupe Ramirez Delgado with the technical training.

The Ebara-Udylite Mexico team's objective was to gain the highest level of efficiency in serving their customers' needs within their own lab, from answering questions to troubleshooting and fast sample turnaround. Special emphasis was placed on updated methods applied to analytical procedures.



**Upon completion of their visit, Ebara-Udylite Mexico representatives received certificates for advanced analytical and product training. Pictured from left to right: (front row) Kristen Melnek, Elena Gpe. Lozano Palacios, Adira Guadalupe Ramirez Delgado, Saul Angel Dominguez, Tom Alderson, Katie Reagan (back row) Rick Holland and Jeff Grodecki.**

Columbia Chemical's technical team also provided the Ebara-Udylite Mexico representatives with training to strengthen their core product knowledge which concentrated on COLZINC ACF II, COLSID AP, COLDIP TRI-V products and SpectraMATE 25. Additionally, information was provided on the Zinc Nickel processes which include COLLOMA AZN 100 and COLLOY Ni-Z-Posit.

"The Ebara-Udylite Mexico representatives were extremely focused and results driven," comments Kristen Melnek, Technical Service Representative. "They can return and share this knowledge with their colleagues and begin applying it for immediate effectiveness within their lab."

## MEET THE ZINC PLATING EXPERTS

### Ryan Vierheller

*Quality Control / IT Technician*

Columbia Chemical welcomes Ryan Vierheller to the position of Quality Control / IT Technician. Formerly employed as a skilled laboratory technician at Dover Chemical Corp., Ryan joins Columbia with over two years of quality control testing experience. He has also completed coursework towards a degree in Computer Science at Kent State University and Mt. Union College.

Ryan will oversee testing of raw materials, intermediates and finished goods. He will also be responsible for testing of certificates of analysis and specification sheets for all new, changed and tested products.

Ryan shares his after-work time with his wife, Kyle Anne, and one year old daughter, Aivree. A Canton, Ohio area native, he is a devoted Cleveland Browns fan. Ryan's other interests include weightlifting, working in the yard, reading and taking his Boston Terrier out for runs.



**Ryan Vierheller, QC - IT Technician**

### *Congratulations to Brett Tilberg, Sales Manager Europe*



Brett Tilberg, Sales Manager Europe, and his fiancé, Angie, were married on July 11th.

***Congratulations Brett and Angie!***

### *Farewell and Best Wishes as They Move On . . .*

Columbia Chemical bids farewell to Michael Bennington. After a six-year career with Columbia Chemical as a Quality Control/IT Technician, Mike has decided to relocate to his wife's hometown of Nova Scotia. Ryan Vierheller has been named as his replacement and can be contacted at 330/225-3200 ext. 183 or at [ryan.vierheller@columbiachemical.com](mailto:ryan.vierheller@columbiachemical.com).

Columbia Chemical regrettfully announces that former Technical Sales Representative, Mindy George, is no longer with the company. George, who was with Columbia Chemical for five years, has relocated to Arizona to join her long-time boyfriend and to explore new opportunities.

***From all of us at Columbia Chemical, we thank Mindy and Mike for their years of service and wish them the best in all of their future endeavors!***

## COMMUNITY INVOLVEMENT

### Columbia Chemical Employees Join AlphaGraphics in Mission to Stock Shelves at Local Food Banks

AlphaGraphics, a print, graphics and marketing communications provider located in Strongsville, OH is collecting non-perishable food from about 60 clients to donate to local food banks. When owner Rob Kammer approached Columbia Chemical, employees gladly donated many needed items such as peanut butter, cereal, canned vegetables and soups.

Due to a decrease in donations, many food banks are struggling to keep their shelves stocked in this recent economic downturn resulting in an ever-increasing challenge to assist those in need. With current job layoffs and salary cuts, they are reporting that the need is higher than ever.

Please join us in supporting local food banks in this time of need. For more information or a list of donation items most needed, visit [AlphaGraphics.com](http://AlphaGraphics.com) at 440/878-9700 or contact your local food bank.