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Issue 3

# Powder Coating







**Powder coating is a solid synthetic resin powder coating composed of solid resin and pigment, filler and auxiliaries. Completely different to ordinary coatings, it is VOC free, and offers the benefits of 100% film formation and low energy consumption.**

Powder coatings are divided into two categories according to their film forming properties: thermoplastic powder coatings and thermosetting powder coatings.

The resins for thermoplastic powder coatings include polyethylene, polypropylene, polyester, polyvinyl chloride, chlorinated polyether, polyamide, cellulose and polyester. Thermoplastic powder coating only needs heating, melting, leveling, cooling or extraction to solidify into a film, without the need for complex curing. However, thermoplastic powder coatings do have some shortcomings, such as a high melting temperature, a low coloring level, and poor adhesion to metal surfaces.

The resins for thermosetting powder coatings include epoxy resin, epoxy-polyester, polyester, polyurethane, acrylic, etc. Thermosetting powder coating refers to the use of thermosetting resin as a film-forming material. With the addition of a cross-linking curing agent, this can form an insoluble hard coating after heating. Thermosetting powder coating offers superior leveling properties, high gloss, a plump paint film and a better decorative effect. In addition, after curing, the low-molecular weight pre-polymer can form mesh cross-linked macromolecules, which means metal adhesion is strong, so the coating has better corrosion resistance, mechanical properties and greater endurance. Thermosetting powder coating development is particularly rapid, but the disadvantages are uneven powder distribution on corners, and it is difficult to cover up the defects of cured film. Curing furthermore requires high temperatures.

Trust Chem is committed to being our customers' preferred partner for organic pigment solutions. We have developed the following varieties of organic pigment for customers to use in powder coating applications.

Color Type	Low Performance <sup>I</sup>	Mid-Range Performance <sup>II</sup>	High Performance <sup>III</sup>
YELLOW 	TCY01302, TCY01702, TCY06201	TCY07402O, TCY08305P, TCY19101	TCY09761, TCY11002, TCY13862, TCY13902, TCY15101, TCY15402, TCY15502, TCY18001E, TCY18101, TCY18301, TCY18501L, TCY19401
RED 	TCR48204, TCR48303, TCR53101, TCR57110	TCR11205, TCR17001E, TCR17002E	TCR12203, TCR14401, TCR14901, TCR17602, TCR17701, TCR17902, TCR18501, TCR24202, TCR25402
ORANGE 	TCO01301	TCO03402	TCO03602, TCO04301, TCO06201, TCO06401, TCO06701
BLUE 		TCB15105A, TCB15321K	TCB06002
VIOLET 			TCV01901, TCV01903, TCV02301
GREEN 		TCG00731K	

They do not release any buyer from making his own tests and assessments because of the many possible factors which can affect the use and application of our products. For all further technical information, please ask for our detailed technical data sheet.

# INTRODUCTION-EHS

Plastics used in the manufacture of items in short contact with food, or packaging materials in long-term contact with food must meet a range of requirements related to health hazards. These possible health hazards can be due to food contamination caused by plastic components. Because there is currently no EU directive governing the requirements for colorants used in food exposure applications, national regulations are implemented in various countries. The requirements for colorants in food contact materials are mainly derived from the EU AP(89)1 resolution. AP(89)1 is a resolution on the use of colorants in plastic materials which was adopted by the Council of Europe Committee of Ministers at its 428<sup>th</sup> meeting of Ministers on September 13, 1989. To a large extent, the resolution focuses on the migration of colorants, which is of great significance to dyes, organic and inorganic pigments, and provides corresponding limitations on the dissolution values of related heavy metals, aromatic amines and polychlorobiphenyls in pigments.

The content of heavy metal and nonmetal dissolved in 0.1 m hydrochloric acid, that is, the amount of pigment dissolved in 0.1 mol/L hydrochloric acid must not exceed:

Antimony ( Sb ) : 500 ppm	Chromium ( Cr VI ) : 1000 ppm	Arsenic ( As ) : 100 ppm	Lead ( Pb ) : 100 ppm
Barium ( Ba ) : 100 ppm	Mercury ( Hg ) : 50 ppm	Cadmium ( Cd ) : 100 ppm	Selenium ( Se ) : 100 ppm

The content of PCBs must not exceed 25 ppm, in the form of dichlorobenzene.

Dissolved in 1 mol/L hydrochloric acid, the content of unsulfonated aromatic primary amine in aniline must not exceed 500 ppm.

The contents of benzidine,  $\beta$ -naphthylamine and 4-aminobiphenyl (single or total) must not be greater than 10 ppm.

The sulfonated aromatic amine content shall not exceed 500 ppm (aniline sulphonic acid).

AP(89)1 also has related requirements for carbon black and inorganic cadmium pigments.

Trust Chem attaches great importance to this resolution and sends samples for inspection every quarter, spending \$2 million in testing fees to date.





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## Latin American Coatings Show 2019

Trust Chem participated in the Latin American Coatings Show held in Mexico City from June 19 through June 21, 2019. The show is held every two years and is one of the most important international exhibitions for the paint and ink industry in Latin America.

Mexico's paint industry plays a major role in Latin America. The two drivers of the Mexican paint market are construction output and the growth of local manufacturing.

During the exhibition, we conducted fruitful negotiations with many group customers, and showcased our international image, professional capabilities and industry know-how to local small and medium-sized customers. By offering our customers a wide range of products, flexible logistics and a high-quality service, we further strengthen our relationship and promote new cooperation opportunities. Trust Chem is certain to bring great luster to Latin America.

## Trust Chem Initiates Oracle NetSuite Project

On July 8, 2019, the Oracle NetSuite Project prepared by Trust Chem was officially launched. This is the third update of the ERP system for Trust Chem. All senior executives, middle management and key employees of the company as well as Oracle sales team members attended the conference.

Based on the company's existing Oracle ERP, this project will conduct process sorting and business restructuring aimed at the structural diversity, business complexity and growing demand of the business. NetSuite ERP will integrate global business to simplify collaboration, enable the mobile office, reduce internal friction, and provide real-time data and reports that enable business managers to make decisions faster and more efficiently.



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