Name: Colour Changing Thermochromic 2 Part Spray System
Functionality: Reversible Thermochromic Coating
Revision: 01
Last Revision: 03/06/2014

Description
This high performance waterborne 2-part system is made up of Thermochromic pigments and transparent lacquer ideally suited to spray application, offering excellent clarity, opacity and build. This 2 part Thermochromic water based system can be applied onto ceramics, glass, metal and wooden substrates.

Application
This product is supplied as a 2 part system and is design to be used and applied with conventional spray equipment onto wood, metal, ceramics and glass. This product exhibits a semi sheen finish when applied. Over lacquering with an industry standard coating is very important, this is t to protect the Thermochromic coating from scratching.

Thermochromic Properties
This 2 part Thermochromic water based system brings reversible colour changing properties to coated items. The Thermochromic coating is fully coloured 3 degrees below the activation temperature and virtually clear above the activation temperature.

Adhesion
This 2 part Thermochromic water based system can be applied onto ceramics, glass, metal and wooden substrates. Due to the wide variety of substrates it is always recommended to evaluate this product prior to use. Sometime an etching coat is needed to avoid speckling.

Substrate Preparation
The substrate must be clean, free from contaminates and grease. If small areas of contamination are evident then localised cleaning with surfactant wash is recommended. On highly contaminated surfaces, steam degreasing is advised.
Light fastness
Thermochromic coatings are inherently susceptible to damage by UV light. They should only be used in applications with minimal UV light. A UV protective varnish should be used to slow degradation caused by UV light.

Heat Behaviour
Reversible thermochromics are showing thermal hysteresis. This means temperature against colour curves on the heating cycle does not match the cooling cycle curve. Thermochromics consistently heated up at temperatures exceeding 50°C will slowly loose colour intensity below the activation temperature.

Mixing Instructions
It is recommended that a mechanical stirrer or a similar device should be used to mix the product effectively. Never use bead or ball mill to blend the parts together. Do not mix with other coating systems.

Mixing Ratio %
Part A Clear Lacquer 50
Part B Thermochromic Pigment 50

All parts should be mixed in the order above starting with PART A and finishing with water if needed.

Dilution
Once the Part A and Part B are mixed 50/50 water can be added for thinning to a maximum of 5%, if required. In winter months thinning to this degree is not recommended and may result in poor film formation.

Curing
10 minutes at 120°C in a convection oven. Due to the wide variety of substrates it is always recommended to evaluate this product prior to use. Curing temperatures may vary depending on the application.

Cleaning recommendations
Thermochromic water based products should be cleaned using either water or industry standard cleaners. Care must be taken not to contaminate the product with any cleaning solution as this can damage the Thermochromic functionality.
Handling and storage

This Thermochromic system is supplied in 2 parts and will remain stable for 6 months if stored away from solvents, sources of UV light and high temperatures, and kept in the original containers unopened.

This water based system should be mixed thoroughly prior to application.
Please consult MSDS prior to use.
As this product is water based it is important to keep containers tightly shut to avoid evaporation and skinning of the product.
Shelf life Unmixed Product: 6 Months
Shelf Life Mixed Product: 8 Hours
Do not store in temperatures in excess of 25C, do not freeze.

Safety Data Sheets:  5000 or 5002 CHROMAZONE DISPERSION SDS
SEVERE USE WATERBORNE LACQUER

The conditions of your use and application of our products, technical assistance and information (whether verbal, written or by way of product evaluations), including any suggested formulations and recommendations, are beyond our control. Therefore, it is imperative that you test our products, technical assistance and information to determine to your own satisfaction whether they are suitable for your intended uses and applications. Such testing has not necessarily been done by Good Life Innovations Ltd (Colour Changing Products). The facts, recommendations and suggestions herein stated are believed to be reliable; however, no guaranty or warranty of their accuracy is made. EXCEPT AS STATED, THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS OR OTHERWISE. GOOD LIFE INNOVATIONS LTD (COLOUR CHANGING PRODUCTS) SHALL NOT BE HELD LIABLE FOR SPECIAL, INCIDENTAL, CONSEQUENTIAL OR EXEMPLARY DAMAGES. Any statement inconsistent herewith is not authorized and shall not bind Good Life Innovations Ltd (Colour Changing Products). Nothing herein shall be construed as a recommendation to use any product(s) in conflict with patents covering any material or its use. No license is implied or granted under the claims of any patent. Sales or use of all products are pursuant to Standard Terms and Conditions stated in Good Life Innovations Ltd (Colour Changing Products) documents.