



AN INTERNATIONAL STANDARD FOR MIXED PRINTING INKS

certified by T.A.O. Bangkok Corporation Ltd.

Issue 25 :
January - March 2026
Quarterly Company
Newsletter

T.A.O. NEWSLETTER



OEKO-TEX® ECO PASSPORT



ECO
PASSPORT

**“Rigorously
tested for a
cleaner planet.”**

ECO PASSPORT

is an international certification that verifies chemicals, colorants, and auxiliaries are safe for human use and environmentally friendly. For manufacturers and distributors of chemicals used in the textile, leather and footwear industries.



Sustainability & Safety Standards

Ensures products meet strict global requirements



Lower Environmental Impact

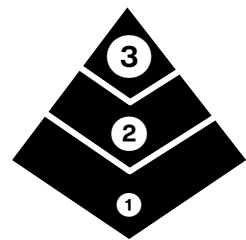
Reduces the chemical footprint in production



Safer Work Environment

Promotes safety for manufacturers and end-users

Relationship with ZDHC MRSL Level 3



OEKO-TEX® announces that its ECO PASSPORT certification has been recognized as a LEVEL 3 ZDHC MRSL Conformance Indicator, which is the highest level of **chemical management** in the **Textile & Footwear industry** supply chain. It provides transparency, traceability, and full assurance to global brands.

ECO PASSPORT certified chemical substances meet the ZDHC MRSL's guidelines for **safer textile chemistries** that are also verified as being responsibly manufactured. T.A.O., as an ink distributor and supplier for the textile and footwear industry, has therefore taken steps towards obtaining the Eco Passport certification.





Leading Brand's demand

Now, the global brands in Textile & Footwear are raising the bar for sustainability and chemical safety. By accessing the **Eco Passport** and **ZDHC MRSL Level 3** modules as the link :
<https://www.roadmaptozero.com/brands-to-zero>.

T.A.O. is officially **Eco Passport**—certified and registered on the ZDHC Gateway for pad printing ink for textile & footwear. With the objective of providing full transparency in chemical management and ensuring the safety and sustainability of all color-matching ink production processes in accordance with **OEKO-TEX® Eco Passport** requirements and also recognized as achieving **ZDHC MRSL Conformance Level 3**.



How important is an Eco passport for color matching?

The textile and footwear printing process is crucial for decoration process. Therefore, a wide range of colors is required to enhance the decoration and product's uniqueness.

Moreover, as almost all types of printing inks serve as chemical inputs in the product finishing processes of the textile and footwear industries, Eco Passport therefore plays a significant role in ensuring the control of chemical restrictions for printing inks from the beginning of the manufacturing process.

As a manufacturer of ink-mixing solutions for textile and footwear customers, T.A.O. adheres rigorously to product certification requirements and the Eco Passport compliance process, supported by formal certification as evidence of full compliance.

Benefits for Customers

By choosing T.A.O.'s Eco Passport certified color inks, customers gain:

Full compliance with ZDHC MRSL Level 3 — enabling use with leading global brands. And everyone can monitor T.A.O. on ZDHC Gateway.

Product confidence and safety — under strict chemical restrictions control aligned with Eco Passport standards.

Environmentally sustainable — process proven to be environmentally friendly and sustainable for the printing process.

Process advantages — exemption from chemical inspection when applying for OEKO-TEX® Standard 100 or other chemical regulation standards.

ECO PASSPORT is more than just a certification — it is a strong indicator of **safety, sustainability, and compliance with global standards**. T.A.O.'s certified solutions for color matching ink can help customers build trust to printing process. To enhance brand reputation, and implement the future towards sustainable production of textile and footwear.

For more information about the product, please get in touch with Mr. Kitiraj Sonso at email: kitirajs@taobangkok.co.th



IN TODAY'S
CREATIVE PRINTING ERA,
COLOR IS NO LONGER
JUST ABOUT AESTHETICS

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Unlocking Innovation with Special Pigments from T.A.O.

In today's creative printing era, color is no longer just about aesthetics

—
it delivers tangible experiences and functional value.

T.A.O.'s Special Effect Pigment Series blends science with imagination to create innovative effects such as temperature-based color changing,



glow-in-the-dark illumination, and antimicrobial protection. We believe that ink can transform the way consumers see, touch, and interact with products.

This edition introduces three **special-effect pigment technologies** designed to enhance performance and add value across

the packaging, labeling, automotive, and electronics industries.

① Thermochromic Pigments – Color That Changes with Temperature

Have you ever imagined printed designs that change color as the temperature changes?

Thermochromic inks make it possible.

The thermochromic effect can be classified

- ① **Reversible**
changing color with temperature fluctuations
- ② **Irreversible**
permanently changing color at a specific temperature



Image Source : thedeline.com

Applications of Reversible Thermochromic Inks

① Promotional and novelty items

Used on products like mugs that reveal hidden designs when filled with hot drinks.

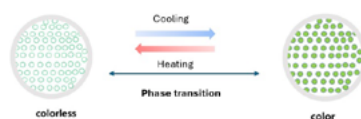
② Packaging

To signal when food or drinks are at an optimal temperature for consumption, or to indicate temperature thresholds during shipping and storage.

③ Security

Added to security labels and documents to prevent counterfeiting, as the effect is difficult to replicate.

Featured Product: Cool Color-Changing Ink



T.A.O.'s Reversible Cold Thermochromic Ink changes color when the temperature drops below 10°C and returns to its original state when the temperature rises. It is ideal for real-time visual communication, such as indicating when a beverage is "ready to serve."

Available color transitions:

- | | |
|-------------------------|-------------------------|
| | |
| • Transparent to Pink | • Transparent to Orange |
| | |
| • Transparent to Red | • Transparent to Blue |
| | |
| • Transparent to Purple | • Transparent to Black |
| | |
| • Transparent to Green | |

Note: Displayed colors are approximate representations of actual shades.

Key Benefits

- Enhances brand recognition with eye-catching effects
- Elevates user experience with functional temperature indication
- Suitable for containers, shrink sleeves, and specialty labels

Typical Applications

- Glassware
- Packaging labels
- Beverage cans and bottles
- Glass bottles

Safety Standard: EN71-3

② Phosphorescent Pigments – Glow in the Dark to Enhance Consumer Experience

Glow in the Dark is a pigment technology that absorbs energy from light and gradually releases it as visible light in darkness.

This allows printed surfaces to continue glowing for minutes or even hours after the light source is removed.

Glow-in-the-dark pigments are widely used for novelty, branding, and safety applications, including:

- ① **Safety & Industrial**
Photoluminescent emergency exit signs
- ② **Commercial & Security**
Banknotes and anti-counterfeiting documents
- ③ **Decoration & Art**
Walls and glowing labels for alcoholic beverage packaging
- ④ **Novelty & Branding**
Sportswear, sporting goods, and promotional products

Featured Product

T.A.O.'s Phosphorescent Pigments absorb light and emit a visible glow in the dark, creating distinctive and memorable designs while adding functional value. They are ideal for promotional packaging and safety labeling applications.

Key Benefits

- Long-lasting glow for enhanced visibility
- Adds novelty and a premium appearance to packaging
- Suitable for decorative containers, safety signage, and children's products

Example Applications

- Glow-in-the-dark alcoholic beverage bottles
- Safety signs and markers
- Children's products for improved nighttime visibility
- Labels for products used in low-light or dark environments

Color transition: Transparent to Green

Glow duration: 4–6 hours

Safety standards: REACH, RoHS, EN71-3

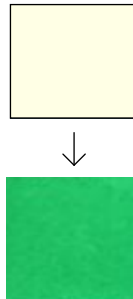


Image Source : makersandallies.com

③ Antimicrobial Inks – Protection Beyond Printing

Antimicrobial inks are specially engineered to inhibit the growth of bacteria and microorganisms on printed surfaces, enhancing hygiene and product safety—especially in industries where cleanliness is critical.

Mechanism of Action

The antimicrobial agents work by disrupting essential biological processes of microorganisms, including the synthesis of cell walls, proteins, DNA, RNA, and folic acid, as well as interfering with cell membrane functions.

Antimicrobial Pigments – Protection Beyond Printing

T.A.O.'s antimicrobial ink technology provides added protection by reducing microbial growth on surfaces. This solution plays a vital role across various industries, such as:

- **Healthcare & Personal Care**
Labels for healthcare, food, and personal care products
- **Automotive**
Interior components requiring cleanliness and durability
- **Electronics**
High-touch public surfaces, such as elevator buttons

Properties & Mechanism:

T.A.O.'s antimicrobial inks achieve **more than 99.99% bacterial reduction** (>3 log reduction), tested in accordance with JIS Z 2801-2010 NORM.

Example of application

- Labels and plastic packaging (wet wipes, food packaging)
- Automotive components
- Electronic surfaces, such as elevator buttons

Color shade: Gloss vanish & Matt Vanish

Protection period: Untill coating surface is destroyed

Safety compliance: REACH, RoHS, EN71-3, FDA

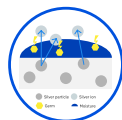
By integrating antimicrobial functionality, brands can assure customers of **enhanced safety and long-term value.**



Print finishing with antimicrobial screen printing varnish



Contamination of the surface with germs



Silver ions in the varnish area activated by moisture/humidity



Germs are being attacked and inactivated

Why Choose T.A.O.?

- Expertise in screen and pad printing ink systems
- Compliance with international safety and environmental standards
- Dedicated technical support and custom formulation services
- Add RD & color matching skill support

Partner with T.A.O. Bangkok Corporation to transform your packaging, labels, and components with pigments that not only look good—but also perform beyond expectations.

For inquiries or technical consultation, contact our product management team today.
Khun Jutiporn Boonsatit, E-mail: jutipornb@taobangkok.co.th

31 Years of Growth and Success

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31 Years of Growth and Success

For the past 31 years, T.A.O. has continued to grow and move forward with strength and purpose. Our achievements would not have been possible without

the unwavering support of our valued customers, trusted partners, and the dedication of every member of our team.



T.A.O. organized special activities to celebrate the company's anniversary, including a merit-making ceremony to bring auspiciousness, as well as a Dhamma talk delivered by **Phra Khru Palad Sampipatthanasilachan (Phra Ajarn Korrakit Kunavaro)**, Assistant Abbot of **Wat Yanawesakawan, Nakhon Pathom Province**.

The Dhamma lecture was presented under the theme **"Yoniso Manasikāra"**, a principle of careful, systematic, and thorough thinking that can be applied to work for continuous improvement and development. During the session,



the Venerable Ajarn shared two complementary approaches to thinking that should be applied together:

- ① The first approach: Cultivating wholesome qualities (Positive Thinking)** — a way of thinking that fosters a virtuous and positive state of mind, enabling the use of wisdom by seeking benefits and value in all situations, both positive and negative, in order to build motivation and take constructive action.
- ② The second approach: Cultivating wisdom** — a way of thinking that focuses on problem-solving by

identifying positive aspects or value in every situation, even unfavorable ones, to strengthen motivation, find appropriate solutions, and lead to beneficial actions.

These principles emphasize recognizing both benefits and drawbacks, seeking solutions, and discerning true value from false value, in order to create and nurture goodness in both work and life.

The management is committed to organizing a Dhamma lecture once a year, driven by faith in the teachings of the Lord Buddha and a clear recognition of their value and benefits. In addition, a long-service award ceremony is held to honor employees with 5 to 25 years of service, as an expression of gratitude and appreciation for their dedication and for growing together with the company over the years.

We sincerely thank all our customers, partners, and employees for being part of the T.A.O. family. Together, we will continue to grow, create value, and achieve even greater success in the years to come.