

**INK, HEART & SOUL**

# **TECHNICAL DATA SHEET**

January 2023

## **Unijet TN**

High Performance aqueous inkjet inks for drop-on-demand inkjet

## Unijet TN

The Unijet TN product line is an aqueous and pigment-based ink set designed for industrial inkjet printing on absorbing substrates such as paper, coated and uncoated board, corrugated, tissues and napkins.

The standard set includes cyan, magenta, yellow, black (CMYK) and flushing solution. It is targeted for both large width full color printing and single color coding & marking. Additional colors tailored to extend the color gamut are available upon request.

Unijet TN has been developed for single-pass, piezo, drop-on-demand industrial inkjet printing at high resolution using printheads from Fujifilm, Kyocera, Xaar and Ricoh. The inks are able to generate low droplet volumes at high frequencies.

This inkjet series can be used for printing on thin and flexible materials as well as in direct-to-object printing projects.

On absorbing substrates, it shows excellent adhesion, drying & film fastness. Consequently, Unijet TN can be used in concert with different kinds of paper-based substrates.

Unijet TN is particularly well suited for applications with high product safety and regulations (PS&R) demands such as tissues and napkins. When needed, Siegwerk can support risk assessments and real case migration and fastness testing for PS&R sensitive applications - verifying system compliance.

This ink series can be customized and adapted to end-user applications. If needed, Siegwerk can tailor ink properties (e.g. viscosity & adhesion), film properties (e.g. color gamut & fastness) and even address further special customer requirements. Depending on the application, Siegwerk can also advise on suitable primers or overprint varnishes (OPV's).



## Field of use

The Unijet TN ink set is designed for single-pass inkjet printing with piezo drop-on-demand printheads including printheads from Fujifilm, Kyocera, Xaar and Ricoh which require low viscosity inks. It is NOT recommended for thermal inkjet, continuous inkjet of any kind or any other print technology systems. In any case of uncertainty, please contact our application technology experts via [contact.inkjet@siegwerk.com](mailto:contact.inkjet@siegwerk.com).

## Key benefits

CHARACTERISTIC	BENEFIT
<b>Jetting performance</b>	Inks formulated for high performance piezo drop-on-demand printheads requiring low ink viscosity. Well suited for high resolution jetting at high frequencies. Good storage stability.
<b>Dried film performance</b>	Excellent adhesion and flexibility on absorbing substrates with good film fastness. Suitable for large width full color printing as well as for coding & marking application.
<b>Color performance</b>	Inks are based on safe pigments with high lightfastness. Prints show vivid colors with high contrast. Unijet TN CMYK ink set enables a wide gamut, expanded further with the inclusion of Orange, Green and Violet.
<b>Product Safety and Regulations</b>	Applicable for printing on tissues and napkins, food packaging (non-food-contact side) as well as pharma and hygiene packaging. Risk assessment and real case migration testing need to be carried out individually.

## Functional Specifications

- Water-based inkjet inks composed of safe organic pigments with high lightfastness
- Applicable for use on absorbing substrates
- Suitable for applications with high demands on product safety and regulations, e.g. printing of food (non-food-contact side), pharma or hygiene packaging
- Very good storage stability, long shelf life
- Suitable for wet-in-wet printing, Inter-color drying not mandatory
- Good jetting reliability and low print head maintenance need
- Suited for binary print mode (including large drop size) and grayscale printing
- Designed for a jetting temperature of 30 – 35°C
- Ink series allow for prints with vivid colors, sharpness as well as high color strength and contrast. Good barcode / QR-code readability of black
- The use of primer might extend the wide color gamut and improve the print quality.

Note: the print conditions depend upon the choice of substrate, print mode, print resolution, print speed, printhead, throwing distance, etc.

## Shelf life & storage conditions

- Shelf life is 12 months from production date when stored under recommended condition
  - Keep product in a properly closed container, stored in a cool and ventilated place
  - Storage temperature 7 °C – 23 °C (39 °F – 79 °F)
  - Strictly protect against freezing
  - No direct sun light
- Product should be homogenized before usage
- Before filling Unijet TN in new ink systems, rigorously flushing is recommended
- Siegwerk products should not be mixed with any other ink products, used together with any non Unijet flush or get diluted
- It is advisable to turn over the inventory according to the delivery date (first in – first out)
- Please consult the material safety data sheets (MSDS) for more information

## Auxiliary products

We recommend Unijet flush as a cleaning solution. Depending on substrate, printing conditions, drying and final application, a water-based primer and overprint varnish (OPV) may prove necessary. Please consult our application technology team for recommendations.

## Safety Information

Material safety Data Sheets for Unijet **TN** inks are available according to EC regulation 1907/2006, informing in detail about all relevant safety data and labeling requirements.

The Unijet TN ink set is fully compliant with the REACH Regulation including the special provisions concerning SVHC (Substances of Very High Concern - most recent update January 16, 2020). All ink compounds comply with the EuPIA Exclusion Policy as well as the EuPIA Guideline on printing Inks applied to the non-food contact surface of food packaging materials and articles. Inks and flush are produced according to GMP standards.

Provided that the product is used according to the information given in the Technical Data Sheet, or in equivalent communications, and correctly processed, and provided that the food packaging is designed in such a way that there is no intended direct food contact, Siegwerk confirms that it will in principle allow compliance of the final product with the Regulation (EC) No 1935/2004, the Swiss Ordinance 817.023.21 and the Turkish Food Codex Regulation (No. 30381 of 05.04.2018).

The Ink Safety Portal on our homepage offers condensed knowledge on crucial Product Safety and Regulatory topics with regard to printing ink ingredients, regulatory affairs, exposure assessments and safety evaluations. You can access this here [www.Siegwerk.com/ink-safety-portal](http://www.Siegwerk.com/ink-safety-portal)

**Note:** Our technical advice whether spoken, written, or through test trials, corresponds to our current knowledge about our products and their use. This is not meant as an assurance concerning certain properties of the products no their suitability for each application. Our

customers are therefore obliged to conduct their own tests with our supplied products to confirm their suitability for the desired process or purpose. The selection and testing of the ink for a specific application is exclusively the customers' responsibility. This data is communicated for information purposes only and is provided without any warranty on our part. We disclaim any liability for applications for which this ink series is not foreseen. If you have any questions, please do not hesitate to contact us at [contact.inkjet@siegwerk.com](mailto:contact.inkjet@siegwerk.com)