

NO-TOX® WATER SOLUBLE INKS

(LETTERPRESS/ DRY OFFSET)

NT07A
(12/09)

<i>Printing Method:</i>	Letterpress or Dry Offset (Sheetfed or Web Heatset)
<i>Suggested Uses:</i>	Children's "Paint-with-Water" books, water color paint palettes and applications where non-toxicity and water solubility are indicated.
<i>Stocks:</i>	Transfer characteristics are best on coated stocks with high hold-out, such as enamels. Some plastics (styrene) can also be used, but drying must be carefully monitored to prevent offsetting or blocking.
<i>Plates and Rollers:</i>	All types of standard letterpress and lithographic plates, rollers, and blankets are suitable. Standard rubber or photopolymer relief plates are also acceptable.
<i>Color Availability:</i>	Supplied in three standard colors; yellow, red, blue. Other colors can be custom blended or achieved by trapping on the press.
<i>Shelf Life:</i>	Minimum one year in unopened containers.
<i>Wash-Up:</i>	Standard press washes are acceptable providing rollers, plates and other press parts are thoroughly dried after cleaning.
<i>Comments:</i>	No-Tox water soluble inks are supplied press ready at optimum tack for most printing conditions. Hydrotreated petroleum distillates (such as Magisol 47® or Magisol 52®) may be added to reduce tack or body as necessary.
<i>FDA Acceptability*:</i>	All components used in No-Tox Inks are sanctioned by the FDA and USDA as acceptable for direct food contact.

*Note: FDA acceptability is based on the ink as supplied. Therefore, no materials should be added other than those indicated in this bulletin unless specifically recommended by Colorcon.

HANDLING AND ON-PRESS PROPERTIES

NO-TOX SERIES NT07A

Advisory

Colorcon strongly recommends full-scale press tests for printers who have never used these types of inks, prior to committing to long production runs. First-time users could have problems due to the fact that these inks are generally different than anything they have ever used before on their equipment.

Press Set-Up

The first step which needs to be taken when preparing for this type of project is to determine whether your selected printing equipment has the tolerances to accommodate relief (dry offset) printing plates. NT07A inks cannot be run via the conventional lithographic printing method as the fountain solution would solubilize them on the plate and prevent you from being able to reproduce any graphic design.

To prepare for a press run, we recommend that the decks which are to be used to print the No-Tox inks be thoroughly cleaned. This can be likened to the cleaning required with conventional inks, when a light colored ink needs to be printed on the same deck where a dark color was previously used.

Ink Handling

No-Tox sheetfed offset inks are oil-based, oxidative-drying products. In these ways, they may be considered to be in the same chemical family as are the oil-based conventional inks most printers use on a daily basis. There are a few guidelines, however, which will allow for the optimum transfer of these direct food-contact compliant inks:

While No-Tox inks are provided “press-ready” for most applications, there may be instances where a given ink may need to be “loosened” or “bodied”. Standard hydrotreated ink oils may be used as tack reducers. To body or stiffen an ink, corn starch can be used.

Liquid cobalt or manganese drying solutions may be added to the inks to accelerate drying. Care should be taken as too much of these driers may lead to premature drying on form rollers, especially during extended runs or at decks where print coverage is very light.

Ink build-up on form rollers sometimes occurs either as a result of excessive heating of ink during printing or pushing the ink to try to deposit too large a volume of ink on the substrate.

Graphics

Solids and line work are the graphic schemes most easily reproducible using NT07A inks. Fine screens should be avoided as:

1. during long runs, ink temperature rises and ink viscosities drop. This results in plug-in on the plates and poor print quality.
2. the more ink deposited...the more ink available for use to paint/color the picture. Thus, trapping a solid yellow over a solid blue is a better way to create a green paint/color than by screening a yellow over a blue.

Summary

Good results can be achieved using water soluble inks on offset printing equipment when a methodical approach, including on-press print testing, is employed. Rushing into this type of work can result in problems which can discourage printers from considering similar projects again.