

# Technical Data Sheet

## WRT Toners

### General description

DayGlo® WRT-Series toners represent a new, unique fluorescent color ink system. What makes them a game-changer is the fact that they're delivered in dry form but are totally water reducible.

With the addition of a small amount of ammonia and alcohol, but without other binder additives, a complete water ink system for flexographic and/or gravure inks can be formulated with ease.

Water-based inks made from WRT-Series toners exhibit excellent film forming properties, color strength and high gloss. Lightfastness is also superior to most solvent-based fluorescent flexographic inks.

Excellent transparency makes it the system of choice for printing on foil and film, and ideally suited for highlighter inks in felt tip markers. Because of these unique properties, WRT-Series toners give the ink maker great flexibility, quality and value when formulating fluorescent water-based inks.

### Applications

- Water-based flexo Ink
- Water-based gravure Ink
- Waterborne coatings
- Paper coatings

### Available Colors

Product Code	Color
WRT-11	Aurora Pink
WRT-15	Blaze Orange
WRT-17	Saturn Yellow
WRT-21	Corona Magenta

### Packaging:

1 box = 55lb (21kg)

### Storage & shelf life:

120 months when kept in closed original packaging in a dry place at ambient temperature.

### Safety & regulatory:

Safety Data Sheet available on request.

### Physical properties

Delivery form	Granular powder
Average particle size	± 70 - 90 µm
Specific gravity	1.2 g/ml
Bulking value	0.6 g/ml

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Processing & Heat Stability	
Heat stability	120°F
Maximum pH	7.5
Solvent resistance	Insoluble in water, hydrocarbons and many common solvents

## Formulation recommendations

Water-based Flexographic Ink (30% solids)	
Water	50.0 %
WRT-Series Toner	30.0 %
Isopropanol	16.0 %
Ammonium Hydroxide (28 Bé)	4.0 %
<b>Total</b>	<b>100 %</b>

Water-based Felt Tip Marker Ink	
WRT-Series Ink (above)	50.0 %
Water	30.0 %
Propylene Glycol or PEG-200	16.0 %
<b>Total</b>	<b>100 %</b>

Mix well and adjust water/glycol ratio for the desired drying rate.

## Ink manufacturing procedure

1. Add the water to the mixing vessel.
2. Begin mixing at a low speed using a high speed disperser with a Cowles type blade.
3. Add the **WRT-Series** toner slowly to a controlled vortex.
4. Premix the isopropanol and ammonium hydroxide.  
(Aminomethylpropanol or triethanolamine can be substituted to alter the drying speed)
5. Add 1/3 of the alcohol/ammonia mixture to the slurried toner while slowly increasing the mixing speed to maintain a controlled vortex. Mix for 5 minutes.
6. Repeat step 5 until all of the alcohol/ammonia mixture has been added.
7. Adjust pH to 7.0-7.5.
8. Adjust viscosity as needed.

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