

TIRFYR90AQ

RADIATION STERILIZATION INDICATING INK

INITIAL COLOR = **YELLOW** 

SIGNALED COLOR = **RUST/MAROON** 

This waterborne ink will produce flexographic or gravure prints, capable of functioning as a **Type 1 Chemical Indicator** for Radiation sterilization processes, including gamma (γ) and e-beam

Technical Data Sheet #90AQ	
PHYSICAL PROPERTIES	
Specific Gravity	1.1 (2 parts blended)
Typical Viscosity (Brookfield –RVT, #3 spindle @20RPM)	60 cps
VOCs	0.2 lb/gal (24 g/L)
Wt. % Solids	42
APPLICATION GUIDELINES	
Application Method	Flexographic
Recommended Anilox	100 lines/inch (40 lines/cm)
Drying Temperature	110° F - 125°F (43°C -52°C)
Press Speed	200-400 ft/min (60-120 m/min)
Substrate	Non-Acidic Paper, Tyvek®, medical tape
Thinner	Distilled Water
Package quantities available	10.0lb (4.5 kg)
Warranty Period	Unmixed: 3 months from date of shipment Mixed: 2 days

TYVEK® IS A REGISTERED TRADEMARK OF DUPONT™

Directions for Use

Please follow provided guidelines and contact our technical support for additional assistance.

- Bring ink to room temperature before printing.
- Thoroughly mix the ink, using a mechanical method such as a drill with a dispersion blade, for at least 10 minutes. This helps ensure the ink is fully homogeneous and that all solids are incorporated in the solution. To check that the ink is completely homogenous use a wooden stick to probe for any ink solids that may remain on the bottom of the container. Failure to properly mix the ink may result in poor or inconsistent signaling.
- A recommended thinner may be added for adjusting viscosity up to 5% at a time:
Note: Thinning the ink may impact functionality. Confirm initial and signal colors with each thinner addition.
Thinner: Distilled Water
- Do not mix in any additives as they may interfere with the chemical reaction that causes the color change; contaminants risk changing the ink chemistry.
- Be sure to wash all cleaning fluid off any area of print press that will contact ink; cleaning fluids can cause ink chemistry change.
- Ensure that during the printing process, ink in the fountain is stirred continuously to avoid solids depositing on the bottom of the tray.
- Viscosity should be monitored on a regular basis, typically 30 to 60 minute intervals.
- Use best quality substrates.
- Always run a sterilization test prior to a full run.
- It is critical to ensure sufficient ink lay down in order for the converted chemical indicator to perform as intended.

ADDITIONAL INFORMATION: The ink is supplied as two-part system. Prior to printing, 30% by weight of the colored component (red-brown dye) is mixed with 70% by weight of the white portion (activator). Use ink within two days of blending. Do not add new ink to old ink.

Note: To achieve maximum signal properties, a heavy solids deposit is important. Although not a substitute for radiation sterilization, a quick test of the adequacy of ink laydown may be obtained by applying a drop of 2 percent hydrochloric acid in isopropyl acetate, normal-propyl acetate or ethyl acetate, to the dried print. The signal color should develop within 5-10 seconds. This signal may fade within a few days, whereas the signal obtained from radiation is permanent.

Performance Conditions

Ionizing radiation – 10 kGy +/- 0.1 Gy

Recommended Usage Period

Unmixed: three (3) months from date of shipment when stored as recommended. Mixed: 2 days

Storage & Handling

- Store Ink in the original closed container in a cool and dry place between 40°F/4°C and 80°F/27°C; do not freeze.
- Refer to Safety Data Sheet for information on handling and safety instructions.

Warranty

LA-CO Industries (LA-CO) agrees to exchange or refund the price of Tempil inks which, at LA-CO's discretion, contain material and/or manufacture defects, when stored in the original container in the recommended storage conditions. There is no guarantee or warranty as to anything made or sold by LA-CO, or of any services performed except as to title and freedom from encumbrances and except as herein expressly stated and particularly, and without limit the foregoing, there is no guarantee or warranty, express or implied, or merchantability or of fitness for any particular purpose or against claim of infringement or the like. LA-CO makes no warranty (and assumes no liability) as to function of product or systems built to Buyer's design or of the ability of any goods to interface, operate or function with any portions of Buyer's system not provided by LA-CO.

Disclaimer

This document is a guideline. The selection and testing of the ink for specific applications is exclusively the user's responsibility. Each press and process must be individually assessed by the user. The colors indicated in this document should be used as a guideline and are not intended to represent an exact color depiction of your converted chemical indicators as Tempilinks cannot be matched to commercial ink color matching systems.