STERILIZATION INDICATING INK
For Monitoring Ethylene Oxide Sterilization Processes

NAMSA Code: INK-EF2-YBr (Yellow to Brown)

Water-Based, non-toxic, and easy clean-up with water

GUIDELINES FOR USE

Mixing Instructions
Before use, mix INK-EF2-YBr thoroughly using mechanical means; for example, a
drill with an appropriate mixing blade attached; use a Design C dispersion blade or
a spiral arm to help lift and re-suspend solids that have settled during ink
shipment/storage.

Application Method
Flexographic or Rotogravure using 300 – 120 lines per inch (lpi) rollers

Drying Temperature
Ambient to 60°C by forced air or infrared (IR)

Substrate Compatibility
Tested on Tyvek & Kraft paper. Other substrates may be used, but due to ink-
substrate interactions, NAMSA highly recommends validation of ink performance
with each substrate in which it is intended to be used.

Coverage
Approximate estimate dependent on anilox selection and press speed:
1000 square feet (sq. ft.) to 10,000 sq. ft. (per 5 kg of ink)

Press speed
50 to 400 ft. per minute (varies due to ink coat weight)

PHYSICAL PROPERTIES

The following information below applies to ink that has been properly mixed prior to use

Visual
Smooth brown liquid

pH
8 to 10

Viscosity (#2 Zahn Cup)
19 to 30 seconds
STORAGE REQUIREMENTS

Ink - in original packaging

![Temperature Chart]

+15°C

+30°C

⚠️ protect from extremes - direct sunlight and temperatures over 40°C

CLEAN-UP & DISPOSAL

Ink – spill or after use

Do not reuse ink. Follow standard clean-up procedures using soap and water. Ink disposal must be performed in accordance with applicable Federal, State and Local regulations for water-based inks/coatings. Reference SDS for details.

INK PERFORMANCE

Initial Color : Yellow

Proof prepared using 120 lpi roller, 1 pass on Kraft paper

Signal Color: Brown/Red

EO : 600 mg/L at 54°C, 60% RH, 20 minutes

Proof prepared using 120 lpi roller, 1 pass on Kraft paper

COMPLIANCE

NAMSA certifies our Indicating Inks based on the standard parameters outlined in the ISO 11140-1 Sterilization of health care products – Chemical indicators – part 1: General requirements for Class/Type 1 compliance.

Ink performance is dependent upon application thickness and the substrate used. Signal color development can vary dependent upon sterilizer, sterilizer loads, chamber size, and exposure times.

Ink application and characterization of printed ink product performance is the sole responsibility of the end user. It is recommended that no additions be made to the ink either before or during the printing process; however, if necessary, it is acceptable to add small amounts of water up to 3% weight to aid in the printability of the ink.

⚠️ Addition of water to the Indicating Ink will impact signal color as diluting the ink will dilute the dark signal color that can develop. If addition of water is required for printing, verify that the signal color of the final product is acceptable.

NAMSA shall not be held liable for any loss, costs or damages resultant from the use of this ink.
SUPPORT SERVICES

NAMSA offers performance characterization (i.e., resistometer and/or autoclave and dry heat exposures) for printed ink products on a fee for service basis. Contact NAMSA for services offered, pricing and lead times.

NAMSA offers a full line of Sterilization Indicating Inks for use in manufacture of printed products intended to monitor Steam formaldehyde, Dry Heat, Ethylene Oxide (EO), Hydrogen Peroxide/Plasma and Steam sterilization processes. Because the Ink is a raw material which is utilized to “build” a final product and the components and conditions under which the final product is built influence the performance of the ink, NAMSA is not able to certify the Ink as a higher Class Indicator. However, several of NAMSA Inks are can be used as higher Class Indicators when incorporated into final products appropriate. Contact NAMSA Customer Service for guidance on use of NAMSA’s Inks and achieving desired performance requirements.