# Nazdar NSC9000 UV Screen OP Clear

**NSC9000 UV Screen OP Clear is a unique clear designed to adhere over latex digital inks used in interior and exterior vinyl decals. NSC9000 will provide flexibility, uniform gloss, chemical and weather resistance when printed over latex digital inks.**

## Substrates

Pressure sensitive vinyl (PVC)

*Substrate recommendations are based on commonly available materials intended for the ink's specific market when the inks are processed according to this technical data. While technical information and advice on the use of this product is provided in good faith, the User bears sole responsibility for selecting the appropriate product for their end-use requirements. Reference the 'Quality Statement' at the end of this document.*

## User Information

**Chemical Resistance** printed with NSC9000 will exhibit increased resistance to chemicals such as gasoline and isopropyl alcohol. Test to ensure compliance with specific standards, protocols and performance requirements.

### Mesh

355-390 tpi (140-153 tpcm) with a mesh opening of 22-38 um monofilament polyester mesh for most applications.

Coarser mesh counts and/or twill weave result in heavier ink deposit requiring additional cure output.

### Stencil

Use direct emulsions and capillary films which are solvent resistant and UV compatible.

### Squeegee

70-90 durometer polyurethane squeegee.

### Coverage

Depending upon ink deposit, the estimated coverage per gallon: 3,200 – 4,200 square feet (295 - 390 square meters)
Reference www.nazdar.com/en-us/ColorStar for examples of coverage calculations.

### Screen Printing

Standard items are formulated to be press ready. Thoroughly mix the ink prior to printing. Improper mixing can lead to inconsistent color and ink performance.

Maintain ink temperature at 65°-90°F (18°-32°C) for optimum print and cure performance. Lower temperatures increase the ink viscosity, impairing flow and increasing film thickness. Elevated temperatures lower the ink viscosity, reducing print definition and film thickness.

Pretest to determine optimum printing parameters for a particular set of ink, substrate, screen, press, and curing variables/conditions.

The ink can be affected by stray UV light. Be aware of skylights, windows and overhead lights curing the ink in the screen; light filters are recommended. Leaving a container uncovered may result in the ink's surface forming a "skin", caused by reaction with ambient lighting. Keep containers covered.

Nazdar does not recommend inter-mixing this ink series with other inks or series.

### Cure Parameters

These guidelines are intended only as a starting point for determining cure parameters, which must be determined under actual production conditions. "Undercuring" the ink may result in poor adhesion, lower block resistance, reduced durability, and higher residual odor. "Overcuring" the ink may reduce the flexibility of the printed part and adhesion of subsequent ink layers.

Mercury Vapor UV Curing: Standard ink cures when exposed to a single medium pressure mercury vapor lamp emitting output millijoules (mJ) and milliwatts (mW) of:

100-180 mJ/cm² @ 600+ mW/cm² for most colors

Additional output may be required when printing over a dark or colored background.

To increase mJ levels, slow down the belt speed or scan speed. To increase mW levels, increase the wattage setting of the UV reactor. To optimize mJ and mW output, maintain the bulb and reflector, and ensure proper focus to the substrate.
These guidelines are representative of measurements taken using an EIT® UVICURE® Plus radiometer measuring the UVA bandwidth (320-390 nm). To obtain accurate mJ readings with the UVICURE® Plus, reduce the belt speed to less than 40 ft/min.

### Processing
Finishing: Pre-qualify any finishing processes before full scale production.
Cutting: suitable for router cutting, guillotine cutting, and die cutting.
Stacking: suitable for immediate stacking ink to substrate. Block resistance is influenced by the degree of cure, the weight of the substrates when stacked, and the heat and humidity of the printing environment. Although surface hardness of the cured ink film has been optimized for handling, the printer must assume responsibility for pre-testing and qualifying the parameters for stacking prints prior to each production run.
Pre-masking: It is important to evaluate the ink with specific pre-masks as well as application methods prior to using in production. The use of a medium to high tack adhesive is recommended for most application methods.

### Inter-Printable
NSC9000 UV Screen OP Clear is a unique clear designed to adhere over latex digital inks used in interior and exterior vinyl decals. A printed part's durability may be decreased due to using digital latex ink colors not rated for 3-year durability and/or using digital latex ink colors below recommended color strength.

### Adhesion Testing
When recommended UV energy output levels are achieved, checking the degree of cure on a **cooled down** print is imperative:
- Thumb twist – the ink surface should not mar or smudge.
- Scratch surface – the ink surface should resist scratching.
- Cross hatch tape test – per the ASTM D-3359 method, use a cross hatch tool or a sharp knife to cut through ink film only; then apply 3M #600 clear tape on cut area, rub down, and rip off at a 180 degree angle. Ink should only come off in actual cut areas.

### Cleanup
For screen cleaning, similar products to those listed below may be used.

Screen Wash (Prior to Reclaim): Use IMS201 Premium Graphic Screen Wash or IMS203 Economy Graphic Screen Wash
Press Wash (On Press): Use IMS301 Premium Graphic Press Wash

## Ink Modifications

### Additives
The market specific performance properties of this ink series / ink item should be acceptable for most applications without the need for additives. When required, any additives should be thoroughly mixed before each use. Prior to production, test any additive adjustment to the ink. Inks containing additives should not be mixed with other inks.

Example for additives: Ink at 100g with 8% of an additive is calculated as: 100g ink + 8g additive = 108g total

### Reducer / Thinner
Use the following item(s) to reduce the viscosity of these inks. Over reduction can reduce print definition, film thickness and adversely affect cure.
RE315 UV Reducer: add up to 5%. Over reduction can reduce print definition, film thickness and adversely affect cure.

## General Information
### Handling
Refer to the SDS for recommendations on handling.
Wear gloves and barrier cream to prevent direct skin contact. Safety glasses are suggested in areas where ink may be splashed. If product does come in contact with skin, wipe ink off with a clean, dry cloth (do not use solvent or reducer). Wash the affected area with soap and water.

This ink series is a one-part, 100% solids UV-curable screen printing ink and does not contain N-vinyl-2-pyrrolidone (trade name V-Pyrol®).
For assistance on a wide range of important regulatory issues, consult the following Regulatory Compliance Department link at http://www.nazdar.com or contact Nazdar Ink Technologies - World Headquarters (see contact listing at the end of this document).

### Weathering / Outdoor Durability
When latex digital inks rated for 3 years durability are printed at full strength and properly cured, NSC9000 UV Screen OP Clear is formulated to provide up to an additional **24 months** outdoor durability on premium vinyl decals when mounted vertically in the Central U.S.A.

### Outdoor Durability Variables
Outdoor durability cannot be specified exactly. Slight color change and loss of gloss should be expected. Variables affecting a printed part's durability include:
- Ink film thickness and degree of curing
- Color formulation: large amounts of mixing clear or white, mixing several colors into one match, and/or mixing a small quantity of any single color
- Substrate type and age
- Mounting angle and directional orientation
- Geographical location
- Degree of air pollution
- Excessive abrasion
- Non-clear coated prints exhibit more color change and loss of gloss.
- Color:
    Using digital latex ink colors not rated for 3-year durability.
    Using digital latex ink colors below recommended color strength.

### Storage / Shelf Life
Store closed containers at temperatures between 65°-78°F (18°-25°C). Storing products outside of these recommendations may shorten their shelf life.

Standard items supplied in 1-gallon (4/5 kilo) containers or smaller. Useable for a period of at least **24 months** from the date of manufacture.

## Standard Color Range
Based on information from our raw material suppliers, these ink products are formulated to contain less than 0.06% lead. If exact heavy metal content is required, independent lab analysis is recommended.

## Packaging / Availability
Contact your Nazdar distributor for product availability and offering.

| Item Type | Item Number | Item (or Color) Description |
|---|---|---|
| Clears / Varnishes | NSC9000 | UV Screen OP Clear |
| | | |
| Additives | RE315 | UV Reducer |
| | | |
| Cleaners | IMS201 | Premium Graphic Screen Wash |
| Cleaners | IMS203 | Economy Graphic Screen Wash |
| Cleaners | IMS301 | Premium Graphic Press Wash |

### Nazdar Quality Statement
*Nazdar® stands behind the quality of this product. Nazdar® cannot, however, guarantee the finished results because Nazdar® exercises no control over individual operating conditions and production procedures. While technical information and advice on the use of this product is provided in good faith, the User bears sole responsibility for selecting the appropriate product for their end-use requirements. Users are also responsible for testing to determine that our product will perform as expected during the printed item's entire life-cycle from printing, post-print processing, and shipment to end-use. This product has been specially formulated for screen printing, and it has not been tested for application by any other method. Any liability associated with the use of this product is limited to the value of the product purchased from Nazdar®.*

## Nazdar Ink Technologies Offices

Nazdar Ink Technologies - World Headquarters
8501 Hedge Lane Terrace
Shawnee, KS 66227-3290 USA
Toll Free US: 866-340-3579
Tel: +1 913-422-2255
Fax: +1 913-422-2296
Customer Service E-mail: NazdarOrders@nazdar.com
Technical Support E-mail: TechSupport@Nazdar.com

Nazdar Limited – EMEA
Battersea Road, Heaton Mersey
Stockport, England SK4 3EA
Tel: + 44 (0)-161-442-2111
Fax: + 44 (0)-161-442-2001
EMEA Customer Service E-mail: infoUK@nazdar.com
EMEA Technical Service E-mail: technicalservicesUK@nazdar.com

Nazdar – Asia Pacific
11 Changi North Street 1
#03-03/04
Singapore 498823
Tel: +65 6385 4611
E-mail: aspac@nazdar.com