

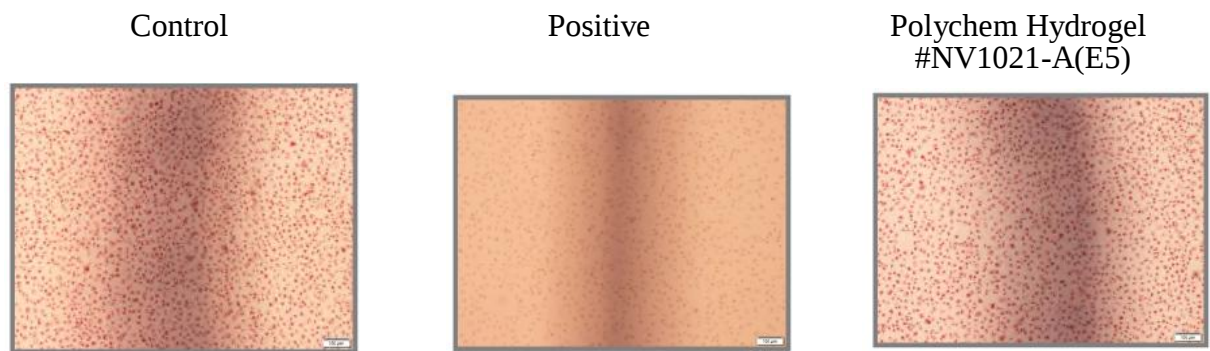


POLYCHEM UV/EB INTERNATIONAL CORP.

POLYCHEM UV Curable Conductive Hydrogel

Product Description:

POLYCHEM Advanced #NV1021-A(E5) is a fully synthetic photopolymer-based hydrogel, containing purified water and humectants. The cured hydrogel exhibits very high and rapid water-absorbing properties. It is one of the most conductive hydrogels available in the market. It offers high production speed, zero production waste, and eliminates the need for die-cutting and pick-and-place processes. This #NV1021-A(E5) has good tackiness to the skin and excellent moisture retention. Especially, this hydrogel contains no allergenic latex protein and passes ISO 10993 biological cytotoxicity, skin irritation, and sensitization tests with the best scores of Grade Zero (0). Additionally, it exhibits good surface adhesion and is very safe for skin, leaving essentially no residue for easy clean-up.



ISO 10993 Biological Test Results by Third-Party SGS Testing Institution:

	ISO 10993-5 In Vitro Cytotoxicity Test	ISO 10993-10 Skin Irritation Test (PII Value)	ISO 10993-10 Skin Sensitization Test
Score Range:	0-4 (0 is negative, and 4 is the most severe)	0- 8.0 (0 is negative, and 8.0 is the most severe)	0-3 (0 is negative, and 3 is the most severe)
Evaluation Table:	Positive if score > 2	Positive if score > 1.9	Positive if score > 1.0
POLYCHEM Advanced UV Curable Conductive #NV1021-A(E5)	0 (The best score)	0 (The best score)	0 (The best score)

Test Conclusion:	Passed	Passed	Passed
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Applications:

1. Biosensors, such as EKG electrodes and electrodes for wearable devices.
2. Biomedical transdermal drug delivery (TDDT).
3. Skin care and repair.

Product Specifications:

Appearance: transparent colorless to yellowish, low-viscosity liquid

Liquid Viscosity: 150 +/- 50 cps @ 25 C (Brookfield # 42 Spindle @ 30 rpm)

Odor: very slight

pH Value: 4.5-7.0

Swelling Ratio (in water x 72 hrs): >= 200 %

Electric Resistivity by Four-Pin Method (typical value):

Volume Resistivity: < 1.2 ohm · cm

Conductivity: > 0.8 S/cm

Recommended UV Curing Conditions:

1. High-pressure mercury lamp (80-120 watts/cm) x 1 unit, curing speed of 5 meters per minute (250-300 mj / cm²). OR
2. High-pressure mercury lamp x 2 units, curing speed of 10 meters per minute (250-300 mj / cm²). OR
3. UV 365 LED lamp x 1 unit, curing time: 4-6 seconds (750 mj / cm²)

Versatile Characteristics and Properties Upon Request:

Easy molding into a variety of shapes with thicknesses up to 10 mm.

Adjustable electric conductivity.

Allows functional drugs to penetrate the skin.

Adjustable colors.

Electron beam (EB) curable provides high cross-linking speed and efficiency.

Storage Conditions and Shelf Life:

Keep the caps sealed and stored in a dark place at a temperature of +3 to +8 °C if this product is not used within two weeks.

Shelf Life: min. 12 months.

Packaging Size:

1 kg/Bottle, 20 kg / Drum

Disclaimer

The information contained herein is based on the data available to use and is believed to be correct. However, Polychem makes no warranty, expressed or implied, regarding the accuracy of these data or the results to be obtained from the use thereof. Polychem assumes no responsibility for injury from the use of the product described herein.

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