



## **Materials Data Sheet**

Ethical Material™ is a patent-protected revolutionary anti-microbial, zero-VOC, two component, water-based aliphatic polyurethane coating.

Description: Ethical Material™ is a two-component, high-performance, zero-VOC, odorless, water-based, aliphatic polyurethane paint/coating with anti-microbial additives that protect the coating from viruses, bacteria, mold, fungi, and algae. Ethical Material™ provides years of excellent protection against harsh weather conditions, UV exposure, chemical, and corrosion.

Part A consists of Polyester Polyol, Water and Polyacrylate.

Part B consists of Aliphatic Polyisocyanate.

This product may be sprayed, brushed, or roller applied. It cures to a high-gloss finish. Ethical Material™ is unique in that it has no VOC's due to its total water-based formulation. When fully cured, this product has strong chemical acid resistance, UV protection, excellent water resistance, abrasion resistance, flexibility, and environmentally safe.

## Recommended Uses

- A. Protect high-contact surfaces from virus and bacteria in bathrooms, public transportation, hospitals, and other high-contact public surfaces.
- B. Non-yellowing topcoat, UV-resistant applications
- C. Direct-to-metal and concrete applications
- D. Chemical and acid resistant applications

### Product Delivery, Storage and Handling

Delivery: Materials shall be delivered in the original sealed containers, clearly marked with manufacturers name and type of material.

Storage and Handling: The recommended storage temperature is approximately 22°C (72°F). Do not damage containers. Store in a dry place. Do not store for extended periods in direct sunlight. Protect containers from resin and moisture contamination.

## Application Conditions

### Environmental Conditions

1. Product should be applied only when the ambient temperature is between 5°C (40°F) and 35°C (95°F).
2. Do not apply product if precipitation is expected, or if the surface is wet, damp, or dirty. Apply material to a clean and dry surface.

## Personal Protection

1. Ethical Material™ is a zero-VOC coating. The volatile to evaporate will be water. No special clothing or respirators are required after mixing.
2. Due to its water-based formulation, the hazard of flammability is removed.
3. Take precautions when handling Part B prior to mixing. Mix in well ventilated area and avoid skin contact.

## Mixing Instructions

1. To Catalyze product, pour Part B into Part A and mix for one (1) minute.
2. Add water to fill line on Part B can for 20% reduction.
3. Pour water from Part B into Part A and mix for two (2) minutes.
4. Important: Mark time to establish pot life. Pot life is on (1) hour.
5. Product should not be mixed with other products or other containers of Ethical Material™
6. Do not reseal catalyzed product.

## Clean Up

Clean up brushes and trays with mild soap and water immediately after use and before product cures.

## Disposal

Catalyzed product will harden overnight and once hardened can be disposed of as standard solid waste according to local, state, and federal regulations.

## Test Batch Preparation

To prepare a small test batch follow these simple instructions:

1. Weigh out seven (7) parts Part A (ex. 70g)
2. Mix with three (3) parts Part B (ex. 30g)
3. Mix by hand or with small jiffy blade at low drill speed for one (1) minute.
4. Add two (2) parts water (ex. 20g) and mix for two (2) minutes.
5. Note time and use within one (1) hour.

# Application

## Smooth Surfaces

Ethical Material™ may be applied directly over most surfaces without primer. Apply a light coat at a thickness of 3-4 wet mils. Do not exceed 5 mils on first coat.

Recommend foam brushes, ¼” nap rollers.

## Porous Surfaces

For porous surfaces use a sealer or filler first before applying Ethical Material™.

- Apply two coats of Ethical Material™ (3-4 mils wet per coat) allowing four (4) hours between coats or when coating is tack-free.
- Any runs should be brushed or rolled out immediately before drying.
- Important: Proper methods to protect from over spraying should be implemented. Atomized particles will adhere to most surfaces and are extremely difficult to remove.
- Temperature and humidity directly affect pot life and dry time. Conditions should be between 5°C (40°F) and 35°C (95°F) and humidity should not exceed 80%.

## Flooring Surfaces

Ethical Material™ recommends that use of a slip-resistant additive (i.e. Sharkgrip) for flooring surfaces that may become wet to maintain the OSHA and ADA recommended coefficient of friction of 0.6 (level) and 0.8 (ramp).

## Estimated Coverage Area

- One (1) gallon: 300-400 sqft @ 3-4mil solid/dry.
- One (1) quart: 75-100 sqft

## Limitations

- Ethical Material™ should be tested on all substrates before complete application.
- Ethical Material™ should not be applied in humidity above 80% or in rain.
- Ethical Material™ when applied to horizontal surfaces becomes slippery when wet.
- Ethical Material™ should not be applied in high wind, rain or when the ambient temperature is below 5°C (40°F).
- Certain porous surfaces may require a sealer or block filler to allow the Ethical Material™ to create a more desirable application and maintain the integrity of the surface. A test patch should be applied before the final application.

**NOTE:** *More is not better!* A heavier application can cause micro-blistering and affect the finish.

## Physical Properties

Percent Solids (PBW)	Clear/Matte 60 (± 2% / 58%)
Dry Time	4-8 hours
Cure Time	3-7 days
Pounds Per Gallon	Part A 9.2lbs/gallon Part B 8.7lbs/gallon

## Test Results

Application	Result	ASTM Test Method
Salt Spray	500+ hours	ASTM B117
Humidity	500+ hours	ASTM D2244
Abrasion	<40mg	ASTM D4060
Hardness	H-2H	ASTM D3363
Impact Resistance In Pounds	160	Ball Test
Adhesion	Pass	ASTM D2197
MEK (double rubs)	1000	

Flexibility	Pass	½" Mandrel Bend Test
Tensile Strength PSI	1200	Instron
Elongation %	50	Instron
Odor	None	
Gloss (a) 60° angle	85	Gloss Meter

## Distribution by Ethical Material™

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The logo for 'ethical MATERIAL' features the word 'ethical' in a bold, lowercase, sans-serif font. A small green sprout with two leaves is positioned above the 'e'. The word 'MATERIAL' is written in a smaller, uppercase, sans-serif font directly below 'ethical'.

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