



Preparation Date: 11/11/2023

Ethical Material™ Antimicrobial Aliphatic Polyurethane Coating

SECTION 1: Overview

Ethical Material™ Aliphatic Polyurethane is a two-component, high performance, zero-VOC, odorless, water-based, all organic paint/coating with anti-microbial additives that protect the coating from viruses, bacteria, mold/mildew, fungi, and algae. Ethical Material™ also provides years of excellent protection against harsh weather conditions, UV exposure, corrosion, physical damage and has elastomeric properties. Ethical Material™ acts as a breathable elastomeric water proofer and can be applied in low temperature conditions down to 40°F.

Ethical Material™ also has anti-graffiti properties that allows the user to easily remove almost any type of graffiti on the surface with a simple cleaner and avoid heavy/harsh chemicals.

Ethical Material™ may be sprayed, brushed, or roller applied. Ethical Material™ is unique in that it has zero VOC's due to its total water-based formulation. When fully cured, this product has great chemical acid resistance, UV protection, excellent water resistance, abrasion resistance, flexibility and is 100% environmentally safe.

Ethical Material™ aliphatic polyurethane is a two-component product packaged in one (1) quart and one (1) gallon kits. Ethical Material™ is available with two gloss level options: matte and high gloss clear finish and in a non-yellowing clear or in a pre-tinted white. It has iso-free technology – when PART B is mixed with PART A, the crosslink reaction makes the

combined product free of any isocyanates. Ethical Material™ is safe to apply for both the applicator and the environment with zero VOC's.

SECTION 2: What comes in a kit?

One (1) quart PART A/PART B kit covers 75-100 SF.

One (1) gallon PART A/PART B kit covers 300-400 SF.

SPECIFICATIONS (one gallon kit)

SOLIDS BY WEIGHT	Clear 60% (+/- 2%) Pigmented 66% (+/- 2%)
SOLIDS BY VOLUME	50%
VOC	0 g/L (mixed)
COLORS	Clear and white
RECOMMENDED FILM THICKNESS	3-4mils wet, 1.5-2 mils dry (do not apply over 5 mils wet)
COVERAGE PER GALLON	250-400 sqft/gal @ 3-4mils wet thickness
PACKAGING	32oz kit, 1 gallon kit
MIX RATION	2.25:1 mix ratio by volume
SHELF LIFE	Six (6) months in unopened container
POT LIFE	One (1) hour
FINISH	High gloss (>85-90 at 60 degrees @ gloss meter)
GLOSS LOSS	<10% ASTM D523
COLOR LOSS	May be harmful if absorbed through skin. May cause skin irritation.
HUMIDITY	1500+ hours ASTM D2244
SALT SPRAY	1500+ hours ASTM B117
ABRASION RESISTANCE	<40mg ASTM D4060
MEK DOUBLE RUB @ 50% SOLIDS	Passed 2,000 cycles
FLEXIBILITY	Pass ASTM 2794
ADHESION	Pass ASTM D2197
ODOR	None
HARDNESS	>2H
IMPACT RESISTANCE	160lbs

COVERAGE RATE

SUBSTRATES	SQFT/Gallon
TEXTURED SURFACES	Approx. 250-300
ALL MASONRY SURFACES	Approx. 300
PAINTED SURFACES	Approx. 400
WOOD SURFACES	Approx. 300
METAL	Approx. 400
TILE	Approx. 350

CURE SCHEDULE

POT LIFE	¾ to 1 hour
TACK FREE (DRY TO TOUCH)	4 hours
RECOAT	4-8hrs
FULL CURE	3-7 days

CHEMICAL RESISTANCE

Ethical Material™ provides **excellent resistance** to a **wide range** of chemicals and acids, including:

- Ammonium hydroxide
- Potassium hydroxide
- Sodium hydroxide
- Sodium chloride
- Trisodium phosphate
- Ethyl alcohol
- Isopropyl alcohol
- Methyl alcohol
- Skydrol 500 A&B
- Hydrochloric acid 10%
- Phosphoric acid 35%
- Sulfuric acid 20%
- Acetic acid 24%
- Trichlorethylene
- Perchloroethylene
- Toluene & Xylene
- Jet fuel – Butyl cellusolve
- Acetone – Cellusolve acetate
- MEK (Methyl Ethyl Ketone)
- Beer – cola – milk
- Mustard – bleach

MIXING AND APPLICATION INSTRUCTIONS

SURFACE PREPARATION: make sure all contamination such as dirt, oil, grease etc. has been removed from surface that might impact adhesion.

PRODUCT MIXING:

- Stir Part A for two (2) minutes with Jiffy mixer type drill mixer at slow speed (500rpm) to fully disperse the product.
 - To catalyze product (get it ready to use) pour Part B can until full and mix well for 30 seconds, then pour back into the mixed Part A and B can.
 - Pour a portion of mixed Part A & B back into Part B can until full and mix well for thirty (30) seconds, then pour back into the mixed Part A and B can.
 - Allow product to stand for 5 minutes before applying. Loosely cover mixed product DO NOT RESEAL MIXED PRODUCT!
 - Product may be reduced with clean water to achieve desired viscosity. We recommend using distilled water, but tap water works fine.
 - Typical spray applications require a 5% to 10% reduction with water. DO NOT exceed 15%.
 - DO NOT reduce catalyzed product after thirty (30) minutes.
 - IMPORTANT: mark time to establish pot life from when you start mixing A and B. Pot life is ¾ to 1 hour.
 - DO NOT mix with other products or other containers of Ethical Material™
 - Improper mixing may result in product failure. For best mixing results and proper blending of parts A & B, recommend a jiffy mixer style drill mixer.
 - After mixing, the components may be reduced with water.
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REDUCTION (OPTIONAL)

REDUCTION// CLEAR:

- Pour the contents of Part B into Part A. after mixing the components well (as described below) for approximately two (2) minutes, it may be reduced with water up to 20% and keep in mind typical spray applications require a 5-10% reduction. Do not exceed 20%.
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REDUCTION// WHITE:

- Pour the contents of Part B into Part A. After mixing the components well (as described below) for approximately two (2) minutes, it may be reduced with water up to eight (8%). Typical spray applications require a 5-8% reduction. DO NOT exceed 8%
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**See mixing instructions for dilution percentages*

PRODUCT APPLICATION:
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 40-95°F (5-35°C) and humidity should not exceed 80%. Can apply using brush, roller, or sprayer.

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. Reduction may create optimal flow. Dry mils thickness is 1.5-2. Ferrous metal surfaces do not require a primer before application. When rolling product, recommend ¼” nap lint free roller for smooth surfaces.

Porous Surfaces: Most porous surfaces should have a sealer or filler to adequately eliminate potential pinholes prior to applying Ethical Material™

**For unpainted porous surfaces, use sealer or filler prior to application of Ethical Material™*

- Apply one coat of Ethical Material™ (3-4mils wet per coat) allowing 4 hours between coats or when coating is tack free (pressing thumb into surface and no thumbprint remains)
 - Any runs should be brushed or rolled out immediately before drying.
 - When dry, thickness is 1.5-2mils.
 - When rolling product, recommend ¾” nap lint free roller cover for porous, textured surfaces.
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** For heavy duty applications* such as warehouse floors with heavy forklift traffic, total DFT thickness should be 3-4mils (2 coats). **RECOAT OR TOPCOATING:** multiple coats of this product are acceptable. When recoating this product, it is advisable to apply the recoat before 24 hours passes. If the first coat has dried longer than 24hours, abrade the surface to promote adhesion for the second coat. **CLEANUP:** clean up promptly with mild soap and water before product cures. Dispose of according to local, state and federal regulations.

PRODUCT STORAGE: 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.

LIMITATIONS:

- Ethical Material™ should be tested on all substrates before complete application.
 - Do not apply in humidity above 80% or in rain.
 - Horizontal surfaces coated with Ethical Material™ become slippery when wet, we recommend an anti-slip additive (ex. Shark Grip) to maintain OSHA ADA standard coefficient of friction of 0.6 (level) and 0.8 (ramp).
 - Should not be applied in high wind, rain or when the ambient temperature is below 5°C (40°F).
 - Certain porous surfaces may require sealer or block filler to allow the Ethical Material™ to create a more desirable application and maintain the integrity of the surface. Test patch should be applied before the final application.
 - DO NOT over apply. More is NOT better. A heavier application can cause micro blistering and affect the finish.
 - When using white color Ethical Material™ over previously painted surface, test first to confirm it will provide the hide needed in a one or two coat application. Lighter colors will be easier to cover in one coat.
 - Physical properties are typical values and not specifications.
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RECOMMENDED USES

- a. Protect high-contact surfaces from graffiti, viruses, bacteria, mold, mildew and fungus in bathrooms, public transportation, hospitals, restaurant, and other high-contact public surfaces.
 - b. Non-yellowing topcoat, UV-resistant application Ethical Material™
 - c. Direct-to-metal and concrete applications
 - d. Chemical and acid resistant applications
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PERSONAL PROTECTION

1. Product 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.
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CLEAN UP

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

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

PERCENT SOLIDS (PBW)	Clear/Matte 60 (+ or – 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

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 one (1) hour.
5. Product should not be mixed with other products or other containers of the product.
6. Do not reseal catalyzed product.

DELIVERY

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

Distributor

Ethical Material™
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