



Thetapel™ AM-5037

Water-based DWR finish for soft surface protection

Overview

- Short-Chain Fluorochemical Technology (meets the goal of the US EPA 2010/2015 PFOA Stewardship Program)
- After-Market or Mill Application for soil and stain surface protection performance for Apparel, Upholstery, Nonwovens, Carpet, and Rugs
- Exceptional ambient cure Oil and Water Repellency
- Readily dilutes in water with excellent temperature and freeze/thaw stability
- Imparts exceptional soil and stain protection to surfaces with little or no change in appearance
- Water based with low VOC content (less than 100g/L, as delivered)
- Best-in-Class performance meets or exceeds current Industry soil and stain protection offerings
- Treated surfaces are easier to clean, also improves newness retention
- For ambient cure performance, AM-5037 works for coater application to polyolefin and other heat sensitive substrates.
- Performance summary-
 - Water/Alcohol repellency:**
4 minimum
 - Oil repellency:**
4-6 ranging from 1.5-6% treat rate

Applications

- Soil and Stain Protectors for Apparel, Upholstery, Home Furnishings, Carpet, and Rugs (Mill Application and After-Market Application)
- Mill applications for heat-sensitive fabrics
- Durable Water Repellent treatments
- Exhaust application in laundry wash rinse cycle, followed with normal drying

Whether you're looking for a replacement product, or an ingredient for a specific attribute, give us a call. We can provide assistance based upon your particular formulation requirements and composition; please feel free to contact us.

Technical Information

Thetapel AM-5037 is a partially fluorinated product designed for aftermarket, ambient cure, soft surface soil and stain protection applications. While it offers protection to a broad range of surfaces, AM-5037 has been specifically designed to impart soil and stain protection through optimal water and oil repellency, when applied to apparel, upholstery, carpet and nonwoven fabrics. Thetapel AM-5037 also can be used for mill applications, including on heat-sensitive substrates. The product is mildly cationic.

Thetapel AM-5037 is a pre-formulated concentrate that readily dilutes in water, exhibiting exceptional storage stability properties. Environmentally responsible, products formulated with Thetapel AM-5037 meet all current VOC regulations.

Formulary

Dilute Thetapel AM-5037 in water. Recommended dilution rates vary from 1 part AM-5037 in 24 parts water (4%) to 1 part AM-5037 in 9 parts water (10%) depending on application rates, application method, porosity of the substrate, desired performance, and cost parameters.

The addition of a preservative is recommended for packaged dilutions. Some preservative candidates include Nipacide BIT 20, Dantogard Plus (granular), Proxel GXL, and VeriGuard 19S. Typically these preservatives are effective at concentrations between 0.05 % and 0.20% on weight of final product, but preservative effectiveness should be determined by the formulator.

Typical Properties

PROPERTY	VALUE
Appearance	Hazy, off-white to pale yellow emulsion
Odor	Mild
Water solubility	Dispersible
pH (as is)	4.5±1.5
Density@25°C	1.05±0.02 g/ml
Boiling Point	100°C
Flash point	None (aqueous)
Storage	Protect from freezing Gently mix before use
Shelf life	12 months

Packaging and Handling

Thetapel AM-5037 is available in:
275 gallon totes (Net Wt. 2200 lbs)
55 gallon plastic drums (Net Wt. 440 lbs)
5 gallon pails (Net Wt. 40 lbs).

Refer to the Safety Data Sheet (SDS) for information on the safe use, handling, and disposal of this product.

DOT Classification: Non-Regulated

Please refer to back page for important information

Thetapel™ AM-5037 Formulation Guidance

Dilution rates

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Apparel and Upholstery

For exceptional soil and stain resistance, dilute Thetapel AM-5037 to between 4 and 10% in water, and apply uniformly at a rate of 1 to 2 fluid ounces per square yard. Excess liquid applied to a substrate should be wiped up if it has not penetrated after 15-20 minutes to avoid hazing from over-application of the product.

Carpet

Thetapel AM-5037 imparts soil and stain protection when diluted to 6-10% and applied at a rate of 1 gallon per 200-600 square feet, where typical product recommendations are 10% dilutions with application rates of only 1 gallon per 200 square feet. A uniform spray is essential to insure an even, optimum treatment.

Note: Ambient temperature cure time for maximum protection is approximately 24 hours, although most formulations should dry to the touch within 1-2 hours. Application rate, concentration of Thetapel AM-5037 applied, and temperature/humidity can impact dry/cure times.

In spray applications, use a coarse spray device, such as a trigger sprayer or pressurized dispenser, that does not produce respirable fine particles. **DO NOT AEROSOLIZE OR ATOMIZE.**

For further Safety Information, please refer to the Safety Data Sheet (SDS) for information on the safe use, handling, and disposal of this product.

Performance Data Carpet Soiling, Water/Alcohol and Oil Repellency

Carpet Performance Data

Accelerated Soiling of Pile Yarn Floor covering (ASTM D 6540-00)

26 oz. cut pile, nylon 6,6 tenth gauge, carpet squares (free of any prior dye or stain protection treatments) were used in this evaluation. A 9% deionized water dilution of Thetapel AM-5037 was applied to the test carpet squares and dried overnight (24 hours) at ambient temperature.

Both treated test squares and untreated squares were equally soiled and cleaned per the ASTM Method with differences being measured in mean color difference (ΔE), with a difference of 1.0 ΔE unit being visible to the eye.

The difference (ΔE) between the treated and untreated carpet squares after soiling and cleaning was +9.5 ΔE units, indicating a strong resistance to carpet soiling.

Preparation of Test fabric surface treatment

1.5, 3.0 and 6.0% Thetapel AM-5037 on weight of bath was diluted in deionized water, pad applied and dried overnight (24 hours) at ambient temperature.

Water/Alcohol Repellency Drop Test (DuPont Test Method)

To evaluate the relative water repellency of a treated fabric, the Water/Alcohol Repellency Drop Test is commonly used. In this test, a series of wetting solutions with increasing wetting power are applied to a treated test fabric, with treated surfaces repelling the strongest wetting solution achieving the highest repellency rating. Repellency was measured by applying 3 drops of test liquid and observing wetting of the treated surfaces. Test liquids ranged from weakly wetting 2% isopropanol in water (1 rating) to strongly wetting 50% isopropanol in water (6 rating). The higher the concentration of isopropanol (higher number rating) of the drop not wetting the surface, the more repellent the surface. If the drops were repelled for longer than 10 seconds the surface was judged to be repellent to the test liquid.

The water repellency of the Thetapel AM-5037 treated fabrics achieved high repellency ratings greater than 4 for all fabrics tested, indicating a strong resistance to soiling and staining liquids.

Oil Repellency Drop Test (AATCC Test Method 118-1989)

To evaluate the relative oil repellency of a treated fabric, the Oil Repellency Drop Test is commonly used. In this test, a series of solvent solutions with increasing solvent power are applied to a treated test fabric, with treated surfaces repelling the strongest solvent solution achieving the highest repellency rating. Repellency was measured by applying 3 drops of test liquid and observing wetting of the treated surfaces. Test liquids ranged from weakly wetting mineral oil (1 rating) to strongly wetting decane (6 rating). The higher the number rating of the drop not wetting the surface, the more repellent the surface. If the drops were repelled for longer than 10 seconds the surface was judged to be repellent to the test liquid.

The oil repellency of the Thetapel AM-5037 treated fabrics achieved high repellency with all fabrics achieving a 4 rating at 1.5% treat rate, a 5 rating at 3.0% treat rate, and a 6 rating at 6.0% treat rate for the fabrics tested, indicating a strong resistance to soiling and staining liquids.

This information relates only to the specific material referred to herein and not to its use in combination with any other material or in any process, unless explicitly stated herein. Such information is, to the best of our knowledge and belief, accurate and reliable as of the date compiled; however, no warranty, guarantee or other representation is made as to its accuracy, reliability, or completeness, or regarding any liabilities arising from others' intellectual property rights. ID# 20190919