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## TECHNICAL DATA SHEET

### TransTint® Liquid Dye Concentrate

**Homestead Finishing Products**  
P O Box 360275 Strongsville, OH 44136-0005  
Phone: 216-631-5309  
[www.homesteadfinishingproducts.com](http://www.homesteadfinishingproducts.com)

**Product Description** TransTint Dyes are a single component concentrated metallized acid dyestuff dissolved in a glycol ether carrier. The product is designed to be let down with a polar or mildly polar solvent such as water or alcohol and used as a dye stain on bare wood for interior surfaces. It is not suitable for exterior use. It can also be added directly to clear finishing materials to make toners. TransTint is not a finish and **must** be top coated with a clear finish. TransTint Dyes are suitable for furniture and architectural applications but are not recommended for toys or food preparation surfaces.

**Advantages** TransTints are formulated from light stable metallized acid dyes. They are more lightfast when compared to conventional “aniline” powdered type dye stains. TransTint dyes concentrated formulation allows the user great latitude in using the dye because glycol ethers are compatible with a wide variety of finishing products. The dye can be mixed with either water or alcohol as a bare stain on wood - or added directly to finishing materials like shellac and lacquer to make toners or stains.

**NOTE:** Use of TransTints in certain applications may be restricted in some California Counties. Refer to “VOC Restrictions” on page 5 for more information.

**Using TransTint Liquid Dyes** TransTints represent an innovation in dye technology. This eliminates the waiting for dyes to dissolve, straining as well as solvent guesswork.

**As a Stain** - To use TransTints as a stain for bare wood, stir in the concentrate to either water or alcohol. Lacquer thinner can be used if mixed 50/50 with denatured alcohol or isopropanol. The ratio of 1 ounce dye to 1 quart of water or solvent is a starting point, and you can increase or decrease solvent to suit your need. A 50/50 mix of water/alcohol is a very satisfactory solvent for applying TransTints. It raises the grain less than straight water and dries quicker. Do not use this mix by hand if the wood is prone to splotching (see below). When staining any wood, pre-test to see if wood will accept stain evenly. Always test on a sample for satisfactory results. See “Controlling Uneven Staining” below for uneven staining control. TransTint can also be added to water based stains to adjust color.

**As a Toner** – TransTint Dyes can be added to any water or solvent based finish including, shellac, water-based products, solvent lacquers, polyester, and two component lacquers and varnishes. It cannot be added to two-component polyurethanes. Always test before using.

Finishes thinned with a high amount of mineral spirits may not accept the dye. Use only gloss finish, unsatisfactory results may be experienced with satin, semi-gloss and flat finishes. The ratio of concentrate to finish is variable, but best results are with 1/4 - 1/2 ounce concentrate per quart. To add TransTints to solvent based finishes like shellac and lacquers, simply add the required amount (start with about 1/4 to 1/2 oz. per quart) and stir the dye until the finish appears homogenous and clear on the end of a stick. To add to water based finishes, stir the desired amount into the finish (adding 5-10% water to the TransTint first helps disperse the dye into the finish), then stir gently for 30 seconds. Let the dye/finish sit for at least 30 minutes before using. Failure to do this may result in "shocking" the emulsion. In some cases the water base finish may turn stringy or gel slightly. This indicates an incompatibility and you should switch to another finish.

**Applying TransTint Dyes** When applying dyes by hand, slightly different techniques should be used depending on the carrier for the dye.

**Applying Water-reduced TransTints** --These should be simply mixed in water and are ready for use immediately. We recommend distilled water only if using a very dilute dye - otherwise small, gray dots may appear on the surface of some woods like oak and cherry. The solution does not need to be strained. Since water raises the grain, a pre-grain raising may minimize objectionable grain raise on very open grained woods like oak. Use distilled water and sponge the wood liberally. After drying, sand with the last grit in your sanding schedule. Flood the surface with dye from a rag, brush or sponge, and work it quickly to cover the surface. Get the entire surface wet with dye until it's uniformly saturated. On chairs and other complex items try to work on a manageable area. On frame and panel doors or other complex surfaces, use a small brush or a "used" synthetic steel wool pad to work the dye into crevices and corners. A plant mister used to apply water dyes works quite well. On floors and other large surfaces, propylene glycol can be added to the mixed dye to increase the open time.

Spraying water dyes is an easy way to get them on large items. You may choose not to wipe the dye if working with splotch prone woods. Or just spray the item liberally with the dye and then wipe afterwards to blot up dye.

The color of the wood when wet with dye is not necessarily the color when it's finished. To get a good idea of whether or not the intensity and shade is correct, let the dye completely dry, and then wipe it with mineral spirits or naphtha. However, dyes shift in shade depending on the finish applied, so the only way to be truly accurate is to practice on some samples and finish them with several coats of the finish you'll be using. To make a dye stronger add more dye to the solution. To make a dye weaker, add more water. To lighten up a surface that's already dyed, apply clean water with a clean rag before you apply a finish. You can remove quite a bit of color but never all of it. On wood with very pronounced pores like oak and ash, you may notice that the pores do not accept dye and remain light. This is a surface tension phenomenon related to the inherently high surface tension of water.

There are a couple of options in dealing with this.

- Apply a pigmented stain over the dye
- Use a paste wood filler to fill and color the pores
- Seal the wood, then use a colored glaze or stain to color the wood

Water dyes can be coated when the wood feels dry to the touch. This can be several hours or 8 hours depending upon weather. If the wood has raised fibers, a light rubbing with maroon steel wool is best, as sandpaper may cut through the sharp edges.

You may experience bleeding with water dyes and some water-base finishes. Bleeding shows up as color in the sanding residue when you sand the finish and create a “muddy” appearance. This can be eliminated by sealing the dye in with solvent dewaxed shellac. A very easy alternative is to add 10% by volume of any water based finish to the TransTint solution to act as a binder.

**Applying Solvent Reduced (non-water) TransTints** -- Alcohol reduced TransTint dyes are dissolved in either methanol, ethanol (denatured alcohol), or 99% Isopropanol. A 50/50 mix of denatured alcohol/lacquer thinner makes a very good NGR (non-grain-raising) stain.

When applying solvent or alcohol dyes by brush or rag, the choice of solvent is critical. Straight alcohol evaporates very quickly causing lap marks. On porous and figured woods, you may experience bleeding of still wet dye back up and around the pore, making a dark circle. When this happens we suggest that you add a retarder to the alcohol. This slows down the overall drying making the dye easier to apply and eliminates bleeding. Alcohol dye retarder (Behlen Solar Lux retarder is one example) is available from most suppliers. Lacquer retarder also works. Many companies sell a pre-mixed blend of alcohol and glycol ether (Behlen Solar-Lux) which will work fine.

Alcohol dye is best applied with a rag. You can use a brush, but this is only effective on small to mid-sized items. A brush is too hard to control on large surfaces like table-tops so you may find it better to apply the dye with a solvent dampened rag and work quickly to cover the surface. Rather than flooding the dye on, it's easier to control the dye distribution by using less dye. Dab the rag in a shallow pan filled with dye and start wiping it on with the grain of the wood. If you can work quickly enough and apply the dye evenly, you can apply the dye on in any direction, but until you get the hang of this technique, work with the grain. It's better to work with less dye -- using it almost "dry" and then build to the color intensity you want by applying more dye gradually. If you see a drip, try to fix it right away. Because the dye evaporates quickly, drip marks and other mistakes can be hard to blend in later on when the dye is dry.

You can lighten the color by applying dye solvent with a rag. You can darken the color by applying more dye but only up to a certain point.

Spraying alcohol dyes is fast and produces a uniform color. It is trickier to do because it's hard to get the dye into corners (the vortex created by the compressed air doesn't allow material to get into the corners). We recommend wet brushing the corners first and then immediately coming in with the gun. You can wipe the dye or leave it alone after spraying, but wiping will push the dye into the fibers better, resulting in more depth. Using a retarder is up to you. A practical alternative is to cut way back on the air pressure to reduce the spray vortex. We recommend the addition of 10% by volume of a 2 lb. cut dewaxed shellac or compatible lacquer when spraying the dye. This allows you to visualize the build of the color and also prevents bleeding when applying topcoats, particularly water base finishes.

Alcohol dyes are usually dry enough to finish after several hours. They may be pulled up by some finishes that contain alcohol or alcohol type solvents (like glycol ethers) so a light touch is recommended with thin coats if using these finishes (particularly shellac and water base finishes). The use of the binders described above (shellac or lacquer) is also helpful in this situation.

**Inter-Mixing TransTint Dyes** TransTints are intermixable with all other dyes in the TransTint line. They also mix with TransFast powdered dyes.

**Adding TransTint to Other Products** TransTint Dyes can be added to a wide variety of finishing products like waxes and glues. The following list illustrates the unique uses for this product.

- Add to waxes to make a one step colored wax/stain for use on decorative objects and turnings
- Add to water miscible glues like yellow and white to disguise glue lines
- Add to veneer glues to make squeeze-out blend in on figured woods like crotch mahogany
- Add to epoxy to make clear colored fillers for filling knots and cracks
- Mix with shellac or water base finish for touch-ups on damaged finishes (scratches and dents)
- TransTints are not recommended for adding to oil based finishes like stains, varnishes, polyurethanes, linseed and Tung oil. You can usually work around having to add TransTint to oils by using TransTints in shellac or some other medium that it does mix with. If you have a situation where you must add TransTints to any oil or oil product that thins with mineral spirits, contact us for an additive that will disperse the dye into oil finishes.

**Controlling Uneven Staining** When uneven staining happens it's a condition known as blotching. This can happen with any wood, but is most prevalent with all softwoods (pines, firs, etc.) and in the hardwoods; cherry, poplar, maple, aspen, alder and birch. If uneven staining occurs there are several remedies.

1. Spray the stain and do not wipe it.
2. Apply a washcoat. A washcoat is a thinned finish that will partially seal the wood but still allow the stain to penetrate.

TransTint Solvent	Glue Size(1)	Shellac(2)	Lacquer (3)	Water base (4)
Lacquer thinner/alcohol	X			
Water		X		X
Water/alcohol		X	X	X
Alcohol	X			

1. Glue size is typically thinned 1:1 with water and is available from Homestead Finishing Products or Custom Pak Adhesives (800-454-4583) [www.custompak.com](http://www.custompak.com).
2. 1/2 - 1 pound cut shellac
3. Sanding sealer or vinyl sealer thinned 2:1 thinner/finish
4. Water based finish thinned 2:1 water/finish or [premixed stain controller](#) or clear base

Apply the washcoat and let it dry completely. Apply it by hand or spray. Sand the washcoat with 320-400 grit sandpaper, remove the dust, and then apply your stain. This procedure requires experimentation and not all wood species react the same way.

**Storing Dyes** Unmixed liquid concentrates have no shelf life. It is recommended to keep the unmixed product in a cool, dry place and keep the top on tightly and capped. Some colors may change over time once they are mixed so it's always best to mix up what you will be using right away. If you use dye that has been mixed up and stored for over several months, **always** check the color first before you apply it to your project. Store the mixed dye in a clean plastic or glass container. The colors listed below will gel (thicken) after several months once mixed with water and may not be usable:

TransTint Bright Red #6021  
 TransTint Blue #6022

**Known Incompatibilities** TransTints are incompatible\* when **added** to the following products:

Oil based varnishes and polyurethanes  
Watco Danish Oil, Minwax Wipe on Poly, Minwax Antique Oil, and similar wipe on oil finishes (excluding gels)  
All oil based liquid stains (excluding oil based gel stains)  
Mineral Spirits  
Tung oil and Linseed oil  
2K (2-component) polyurethane finishes

\* You can always apply TransTint to the wood, let dry, and then apply these products.

**Cleanup** Dye concentrate and mixed dye can be cleaned up with water from non-porous surfaces like plastic, glass and metal. On porous surfaces such as concrete or surfaces where residual stain shows, a chlorine based cleaner such as Comet with Bleach or Clorox can be used. Always test a small surface first to make sure cleaner will not remove too much color. For hands and skin, a skin safe cleaner called Reduran will remove dye.

## VOC Restrictions for TransTints

Individual States have adopted legislation separate from national standards to reduce air pollution caused by VOC's (Volatile Organic Compounds) in their areas. At this time certain restrictive standards for using TransTint has been adopted by the Air Quality Management District (AQMD) for Southern California which has jurisdiction over Los Angeles, San Bernardino, Orange and Riverside Counties<sup>1</sup>. It affects the following users of TransTint dyes in these counties only:

- Commercial Finishers of new wood products and furniture using TransTint as a stain and a toner as of July 1<sup>st</sup>, 2005.  
Rule 1136 - [www.aqmd.gov/rules/reg/reg11/r1136.pdf](http://www.aqmd.gov/rules/reg/reg11/r1136.pdf)
- Architectural Use of TransTint. Architectural use is defined as field-applying coatings to stationary structures such as buildings, homes and office buildings as of July 1<sup>st</sup> 2006)  
Rule 1113 - [www.aqmd.gov/rules/reg/reg11/r1113.pdf](http://www.aqmd.gov/rules/reg/reg11/r1113.pdf)

## In Brief

**Rule 1136** – This rule applies only to commercial finishers of new wood products and furniture. If you are a non-commercial, residential finisher (homeowner, hobbyist, etc.), you may use TransTint in the manner stated on the container, providing you obey all local regulations. While we would encourage you to restrict use of TransTint in solvent based applications, you may use it as a stain or toner as you like. If you are a commercial finisher of new wood products, you may use TransTint in solvent based applications as long as you use less than one gallon of the product per day. If you are a commercial refinisher of furniture you may use TransTint in any manner as long as you keep accurate records as set forth in Rule 1136 (l) (4). Please note that when you add TransTint to an existing finish, you will raise the total VOC of the resulting product by 22.5g per ounce of TransTint added. Check the VOC of the product you are using to see if addition will exceed the current allowable VOC limit for that product.

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<sup>1</sup> The complete list by zip code can be accessed here: [www.aqmd.gov/aqmd/cities.html](http://www.aqmd.gov/aqmd/cities.html)

**Rule 1113** - The second rule applies to everyone (commercial and residential) who is applying architectural stains and finishes. To comply with this rule, you may only use TransTint in the following manner:

- As a stain – you may reduce TransTint only with water, acetone<sup>2</sup>, or a mixture of water and acetone. Pure acetone reduction dries extremely fast, so hand application of the stain is not recommended. Do not reduce TransTint with any other solvent.
- As a toner – we recommend that you do not add TransTint to any existing finishing product unless you are absolutely sure of the VOC content of the finish you are adding it to. You may do it only if you calculate the total amount of VOC that TransTint will add. TransTint adds 22.5g VOC to the total per oz added, so two examples would be the following:
  1. **Example A:** The VOC limit for clear shellac is 730 VOC. The shellac can you have says “Less than 730 VOC” Adding TransTint in the ratio of 1 oz/liter shellac will probably raise the VOC over acceptable limits. Unless you can confirm from the shellac manufacture exactly what the VOC is, we recommend that you do not add TransTint to this product.
  2. **Example B:** The VOC limit for clear finishes is 275. Your water based finish says the VOC content is 75 g/liter. In this case you could 2 oz TransTint per liter of finish and raise the total VOC to 75+45 or 120g/l total. This is an allowable application.

## What to Do If You Are Unsure

It's normal to be confused by specific rules and regulations. You may go to the AQMD website for more information ([www.aqmd.gov](http://www.aqmd.gov)) or feel free to call us at 1-216-631-5309 during normal business hours Monday -Thursday 9:30 AM – 5:30PM. E-mails can be sent to [hsfinfo@homesteadfinishingproducts.com](mailto:hsfinfo@homesteadfinishingproducts.com). If you are unsure in any application we recommend the following:

- If you want to use TransTint as a stain, keep in mind that you can use water to reduce it without violating any regulation whether you are a homeowner or professional finishing any type of wood product (furniture or architectural)
- If you are a commercial finisher of new wood products or furniture, or using TransTint in architectural applications, we recommend that you do not add it to other finishing products.

TransTint® is a registered trademark of J.B. Jewitt Co., Inc.

TDS and MSDS for all TransTint Colors are available at: [www.homesteadfinishingproducts.com/htdocs/msds.htm](http://www.homesteadfinishingproducts.com/htdocs/msds.htm)

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<sup>2</sup> Acetone is one of six solvents that are exempt because they contribute negligible amounts to air pollution.