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# VANDERBILT

## *Plastics Brochure*

### Chemicals and Minerals for the Plastics Industry from R.T. Vanderbilt Company, Inc.



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## Chemical and Minerals for the Plastics Industry from R.T. Vanderbilt Company, Inc.

The Vanderbilt Plastics Department prides itself on our ability to work closely with our customers to help solve compounding and stabilization problems. Additionally, our emphasis on new product development enables us to be responsive to the ever changing needs of today's Plastics Industry.

We have a wide range of products for the Plastics Industry including polymer stabilizers, polymer reinforcing agents, and polymer modifiers. These materials are used extensively in the manufacture of quality polyurethane, polyethylene, polypropylene, and polyamide products.

### SCORCH INHIBITORS

**VANOX<sup>®</sup> 945** Antioxidant is a patented nonvolatile, highly effective antioxidant system designed specifically for use by polyurethane polyol manufacturers as their anti-scorch system. It is significantly less fugitive in foams than systems containing BHT.

**VANOX 982** is a patent-pending, less volatile scorch inhibitor for use in polyurethane slab stock foam production. Compared with competitive liquid blends, **VANOX 982** measurably reduces temperature build observed during post production and better suppresses foam-core decomposition known as scorch. It also features lower levels of color-contributing additives, reducing yellowing resulting from warehouse storage and ambient light exposure. **VANOX 982** is a process-friendly blend designed for easy transfer into polyol tanks. With its superior level of protection, color reduction and ease of use, **VANOX 982** is an excellent scorch inhibitor choice.

**VANOX 1887** is an effective supplemental liquid amine antioxidant recommended for use in flexible polyurethane foam formulations that tend to scorch.

**SONGNOX<sup>®</sup> 1076** Phenolic Antioxidant is a primary antioxidant for polyurethane polyols. It provides long-term heat stability by protecting physical properties during storage and use of the end-product. This material can be used to boost existing polyol inhibitor packages, especially during hot and humid summer months when scorch is a bigger issue.

### ANTIOXIDANTS

**VANOX** antioxidants are best known for their superior performance in polyethylene, polypropylene, polyvinyl chloride, polyurethane, nylon, ABS, EPDM, EPR and other resin systems.

**VANOX ZMTI** is a nondiscoloring and nonstaining antioxidant, which is synergistic when used with other antioxidants.

**VANOX 854** is used in polyethylene applications. It is an excellent processing stabilizer and a highly efficient antioxidant for long term heat aging applications.

**VANOX® 898** Antioxidant is specifically intended for use in filled polypropylene formulations. It substantially diminishes the tendency of appearance grades of filled systems to discolor during processing. **VANOX 898** also controls melt flow and improves long-term heat aging characteristics.

**VANOX 981PP** antioxidant is a patent pending blend that greatly increases the color stability of thin-film polypropylene materials, providing a more consistent product over time. **VANOX 981PP** has the ability to increase the useful shelf life of a polypropylene product by delaying the part's failure longer than competitive materials. As a powder, it allows for easier compounding.

**VANOX 1001** is a general purpose liquid antioxidant composed of a mixture of alkylated diphenylamines. It is recommended for use in a wide variety of resin systems where moderate staining and discoloration are not critical.

**VANOX 1030A** is a one-package system combining primary and secondary antioxidants, which provides good long-term heat aging characteristics in polyethylene and polypropylene compounds.

**VANOX 1081** is a specially purified granular aromatic amine antioxidant for many nonstaining and non-discoloring applications in adhesives, high performance hot-melt urethanes, and components of urethane polyol inhibitor packages. **VANOX 1081** complies with 21 CFR 177.2600 and 175.105 (FDA).

## POLYMER REINFORCING AGENTS

### *Wollastonite*

**VANSIL®** Wollastonite is a high brightness calcium silicate mineral used as a filler and reinforcing agent in thermoplastic and thermoset resins. The high aspect ratio grades contribute to increased mechanical strength and dimensional stability.

	Median Particle Size	Oil Absorption, %	Aspect Ratio
<i>Low Aspect Ratio Grades</i>			
<b>VANSIL® W-40</b> Wollastonite	6 µm	26	<5:1
<b>VANSIL W-50</b>	3 µm	30	<5:1
<i>High Aspect Ratio Grades</i>			
<b>VANSIL WG</b>	20 µm	40	15:1
<b>VANSIL HR-2000</b>	14 µm	44	14:1
<b>VANSIL HR 1500</b>	9 µm	44	14.1
<b>VANSIL HR-325</b>	2 µm	40	12:1

Surface-treated wollastonite products are available under the **VANCOTE®** Wollastonite trade name.

	Median Particle Size	Particle Shape	Aspect Ratio
<i>Aminosilane Treated</i>			
<b>VANCOTE® W-40 AS</b> Wollastonite	6 µm	fine	<5:1
<b>VANCOTE W-50 AS</b>	3 µm	super-fine	<5:1
<b>VANCOTE HR-325 AS</b>	2.5 µm	micro-needle	12:1
<b>VANCOTE HR-1500 AS</b>	9 µm	short needle	14:1
<b>VANCOTE HR-2000 AS</b>	15 µm	medium needle	14:1
<b>VANCOTE WG AS</b>	28 µm	long needle	15:1
<i>Epoxy silane Treated</i>			
<b>VANCOTE W-40 ES</b>	6 µm	fine	<5:1
<b>VANCOTE W-50 ES</b>	3 µm	super-fine	<5:1

#### *Kaolin Clay*

Air-floated kaolin clays are excellent reinforcing agents for plastics, rubber and adhesives.

	Median Particle Size	Oil Absorption, %
<b>BILT-PLATES® 156 Clay</b>	0.2 µm	41
<b>DIXIE CLAY® Clay</b>	0.2 µm	41
<b>McNAMEE® Clay</b>	1.2 µm	35

#### *Pyrophyllite*

**PYRAX®** Pyrophyllite is an inexpensive reinforcing agent used in resins, including vinyl and polypropylene.

	Median Particle Size	Oil Absorption, %
<b>PYRAX® B Pyrophyllite</b>	10 µm	26
<b>PYRAX WA</b>	14 µm	24
<b>PYRAX ABB</b>	11 µm	24

## POLYMER STABILIZERS

### Phenolic Antioxidants

SONGNOX<sup>®</sup> 1010  
SONGNOX 1024  
SONGNOX 1035  
SONGNOX 1076  
SONGNOX 1077  
SONGNOX 1098  
SONGNOX 1135  
SONGNOX 1290  
SONGNOX 1520  
SONGNOX 2450  
SONGNOX 2490  
SONGNOX 3114

### Phosphite Antioxidants

SONGNOX 1680  
SONGNOX 6180  
SONGNOX 6260  
SONGNOX 6280

### Hydroquinone Antioxidants

SONGNOX 2500

### Thioester Antioxidants

SONGNOX 4120  
SONGNOX DLTP  
SONGNOX DSTDP  
SONGNOX DTDP

### Antioxidant Blends

SONGNOX 11B  
SONGNOX 21B  
SONGNOX 311B  
SONGNOX 321B  
SONGNOX 417B

### Hindered Amine Light Stabilizers (HALS)

SONGLIGHT<sup>®</sup> 1190  
SONGLIGHT 2920  
SONGLIGHT 6220  
SONGLIGHT 7700  
SONGLIGHT 7830  
SONGLIGHT 9440

### UV Absorbers

SONGSORB<sup>®</sup> 1000  
SONGSORB 2340  
SONGSORB 2908  
SONGSORB 3200  
SONGSORB 3260  
SONGSORB 3270  
SONGSORB 3280  
SONGSORB 3290  
SONGSORB 7120  
SONGSORB 8100

Please contact us for further information on the Vanderbilt products described in this folder. Samples and Technical Data Sheets are available on request.

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