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Chemicals Technical Data



Plastics DEPARTMENT

**VANOX® 945 ANTIOXIDANT
HIGHLY EFFECTIVE SCORCH INHIBITOR
FOR POLYURETHANE**

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VANOX® 945 Antioxidant

Scorch inhibitor for polyurethane

VANOX 945 is a patented, highly effective liquid antioxidant system designed specifically for the protection of polyurethane foams against scorch, NO_x and light discoloration.

The following recipe was used for all testing:

Ingredients	Parts by Weight (pbw)
VORANOL® 9137 CA (polyol)	100.00
water	4.00
triethylene diamine (catalyst)	0.25
NIAX® L-5770 (silicone surfactant)	1.00
tris (1,3-dichloroisopropyl phosphate) (fire retardant)	7.00
dibutyltin dilaurate (tin catalyst)	0.14
VORANATER™ T-80, type I (toluene diisocyanate)	53.60 (103 TDI index)
Variable, (scorch inhibitor)	0.10 - 0.40

Table 1: Formulation

VANOX 945 offers superior scorch protection when used in polyol, which allows for greater compound flexibility. It can also be used to boost existing polyol inhibitor packages, especially during hot and humid summer months when scorch is an even bigger issue.

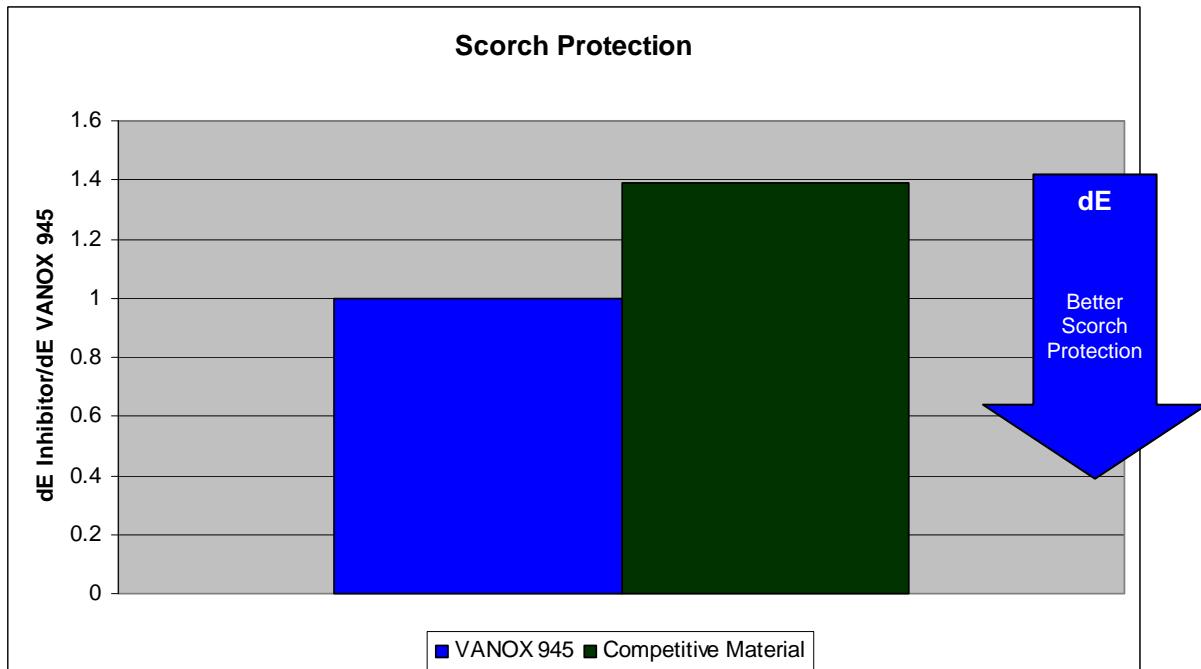


Figure 1: Scorch Performance*

VANOX® 945 Antioxidant is less volatile than competitive products, which means lower levels of VOCs. This may improve air quality and fogging test results.

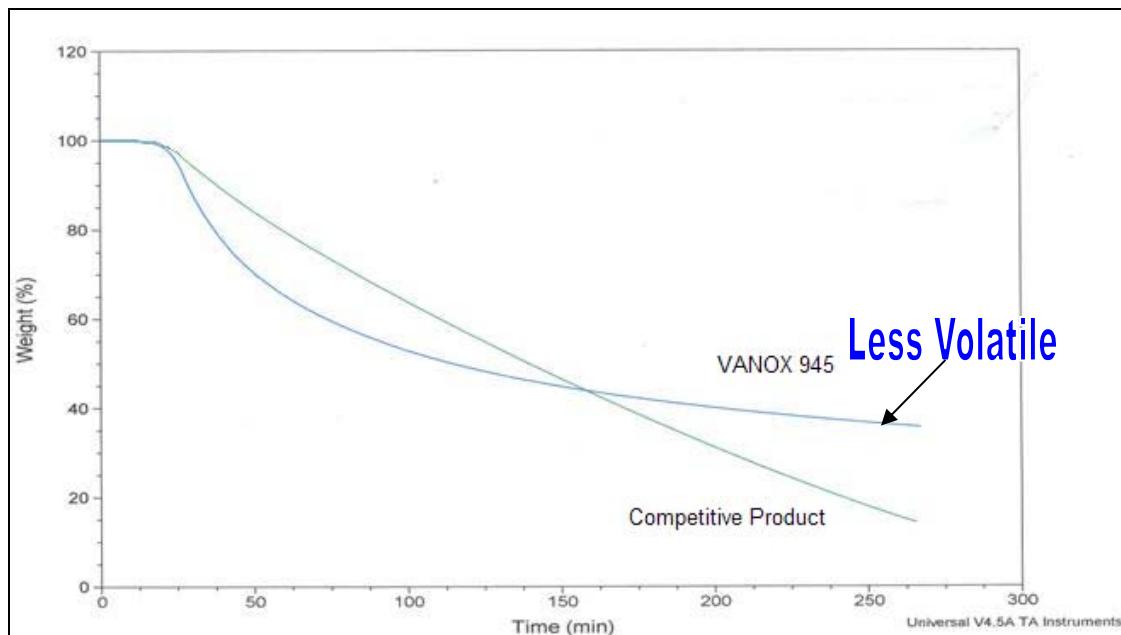


Figure 2: Volatility Study - TGA isotherm at 160°C for 4 hours

VANOX 945 is better at retarding color development in foam when exposed to NO_x. This provides less discoloration of your foams especially during long-term storage.

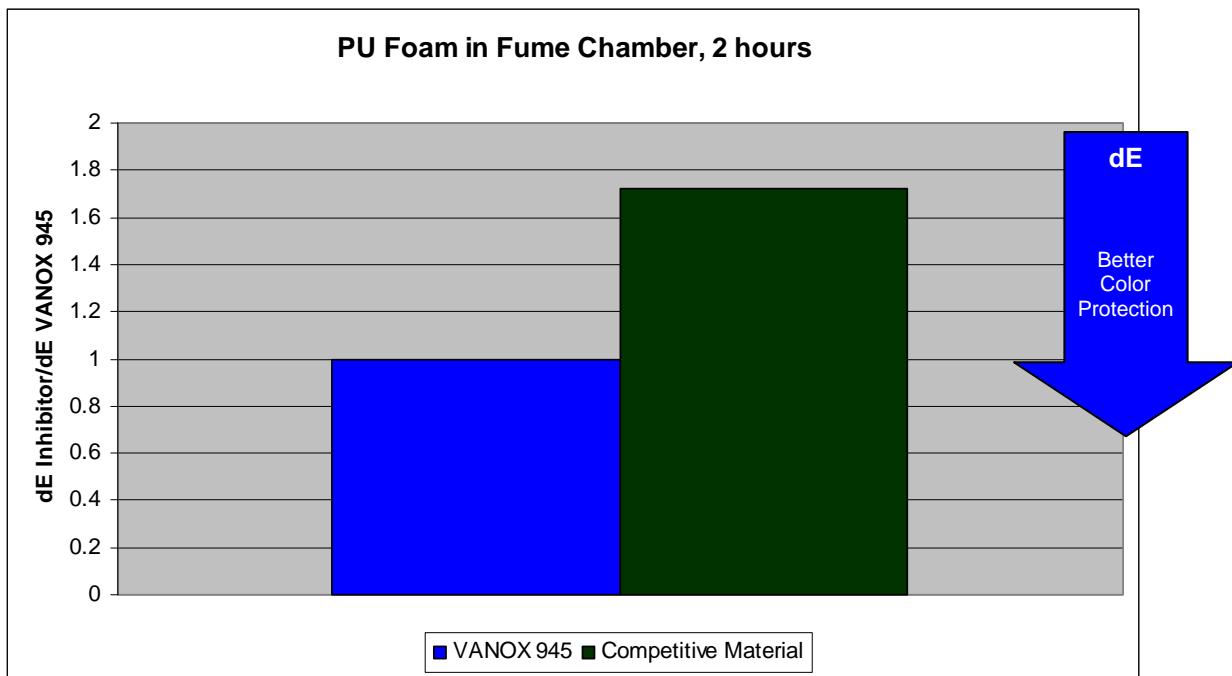


Figure 3: Swatches exposed to NO_x fumes for 2 hours*

* A Brightmeter was used to quantify color development in scorched areas of foam samples. L.a.b. values were measured for both specimens. The data is presented relative to **VANOX 945**.

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