

## **Terachem® 53-4368 Aluminum Oxide Nano-Dispersion for Epoxies**

Additive for Improving Mar and Scratch Resistance in 2K Epoxies

### **TYPICAL CHARACTERISTICS**

Appearance. . . . .	Grayish Dispersion
Weight Per Gallon, Lbs. . . . .	12.4 ± 0.1
Flash Point, °C. (TCC). . . . .	> 93
Equivalent Weight. . . . .	392 ± 3
Non-Volatile by Weight, %. . . . .	≥ 99.5

### **COMPATIBILITY**

Terachem® 53-4368 is a proprietary, formulated dispersion of nano-aluminum oxide that can improve the mar and scratch resistance of 2K epoxy coatings. Terachem® 53-4368 is blended into the epoxy resin component, Part A. The compatibility of Terachem® 53-4368 with various ingredients in the formulation must be evaluated and tested before use.

### **APPLICATIONS**

Terachem® 53-4368 is specifically designed for use in 2K epoxy coatings. When incorporated into an epoxy coating formulation, Terachem® 53-4368 acts as the delivery system for nano-aluminum oxide. Levels of 10-20% by weight for the product based on total resin solids have been achieved in many systems without visible effect on either clarity or gloss.

The coatings formulator has a wide range of choices in the selection of the epoxy resin as well as other ingredients in the formulation. Factors such as loading level, film thickness, gloss, and the type of wear or mar resistance expected in the coating must be considered and evaluated before commercial use. Because of its uniqueness, Terachem® 53-4368 offers the formulator the opportunity to improve resistance to mar and scratch at very high loadings with minimal effect on gloss, clarity, shade, and viscosity in systems tested.

Terachem® 53-4368 in properly formulated epoxy coatings systems can be useful for a variety of applications, including uses on wood, concrete, composites, and metal.

Terachem® 53-4368 can also reduce the quantity of both resin and hardener in the epoxy formulation, resulting in a corresponding reduction in raw material cost of the more expensive ingredients at about an equivalent level of performance.

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## KEY FEATURES

Ready-to-use dispersion

Excellent performance for resistance to mar and scratch

No significant effect on clarity, gloss or shade at up to 10 - 20% on the epoxy resin side

Can improve hardness and toughness

No appreciable effect on viscosity up to 10% by weight on the epoxy resin side

No effect on recoatability seen at relatively high levels of use

## RECOMMENDED USE LEVELS

The formulator should determine by ladder studies the level of Terachem<sup>®</sup> 53-4368 that is most suitable and effective in your laboratory and later in field trials.

## OTHER PFLAUMER PRODUCTS FOR THE FORMULATOR

Pflaumer offers other products for formulating 2K coatings:

Terachem<sup>®</sup> 53-Colorants – 37 Ready-to-use pigment dispersions for 2K polyurethanes and polyaspartics, including color packs for on-site use

Teracure<sup>®</sup> Aliphatic Polyisocyanates

Teraspartic<sup>®</sup> Polyaspartic Amines

Terachem<sup>®</sup> 53-2242 – Anti-sag additive for 2K polyaspartics

Terachem<sup>®</sup> 53-2371 – Aluminum Oxide Nano-Dispersion for 2K polyaspartics

Tallicin<sup>®</sup> 1500 – Flow and leveling modifier

Tallicin<sup>®</sup> 3000 – Pot life extender for trimer-type isocyanates used in 2K polyurethanes

Tallicin<sup>®</sup> 4000 – Bubble-release agent and flow/leveling modifier for high-solids polyurethanes

Tallicin<sup>®</sup> 4040 – Deaerator, bubble-release, flow and leveling modifier for solvent-free polyaspartics and polyurethanes

Tallicin<sup>®</sup> 4600 – Stabilized Tin Catalyst for Polyurethanes

## SAFETY, STORAGE, AND HANDLING

Consult MSDS before use. Store Terachem<sup>®</sup> 53-4368 in tightly sealed containers. Prevent contact with moisture and excess humidity. Once opened, any remaining Terachem<sup>®</sup> 53-4368 in the container is best stored under dry nitrogen blanketing. Store, transfer, and handle under a nitrogen blanket. Replace damaged gaskets on drums or totes. Keep storage temperatures at 0°C - 40°C (32°F - 104°F).

Shelf life of Terachem<sup>®</sup> 53-4368 is 6 months from date product is shipped by Pflaumer and then maintained in original closed containers and stored in proper storage conditions at 25°C (75°F). If repackaging, use containers that will prevent moisture contamination.

**CONTAINER SIZES**

5 Gallon Pail (55 Lb/25.5 Kg)

55 Gallon Drum (650 Lb/306 Kg)

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