

TERACURE® NX-16

Experimental Low-Viscosity Aliphatic Polyisocyanate Hardener
Based On Hexamethylene Diisocyanate Trimer (HDI)

TYPICAL CHARACTERISTICS

Appearance.	Clear Liquid
NCO (As Supplied) %.	16.5 ± 1.0
Weight Per Gallon, Lbs @25°C.	9.10
Flash Point (CC), °C	>170
Viscosity @25°C, mPa·s.	550 ± 50
Equivalent Weight, Avg., g (As Supplied).	255
Color, Hazen (APHA).	≤ 40
Hexamethylene Diisocyanate Monomer (HDI), %.	< 0.3
Solids Content, Approx,%.	100
Bulk Density, kg/m ³ @25°C, Approx.	1190

COMPATIBILITY

Teracure® NX-16 is a low-viscosity aliphatic polyisocyanate hardener based on Hexamethylene Diisocyanate Trimer (HDI homopolymer). Teracure® NX-16 is designed for use in 2K polyurethane and polyaspartic coatings systems. Teracure® NX-16 is effective with hydroxyl-functional polyesters, polyethers, and acrylics in 2K polyurethanes.

Teracure® NX-16 is soluble in esters (such as butyl acetate and propylene glycol monomethyl ether acetate); ketones (such as acetone, methyl ethyl ketone, methyl isobutyl ketone, cyclohexanone); aromatic hydrocarbons (such as xylene, toluene, Aromatic 100); and mixtures of these solvents.

In blends of solvents and other materials with Teracure® NX-16, contaminants such as moisture and reactive groups (including hydroxyl or amino groups) must be avoided. Use only solvents that contain no more than 0.05% water as a maximum. In all cases, the blends should be carefully evaluated and tested for stability in storage. Do not dilute Teracure® NX-16 with solvents below a solids content of 35% by weight. Do not use aliphatic hydrocarbon solvents with Teracure® NX-16.

Teracure® NX-16 can be blended with aliphatic polyisocyanates and aromatic polyisocyanates, but in each case the compatibility of any combination must be thoroughly tested for stability and evaluated before use.

APPLICATIONS

Teracure® NX-16 is a low-viscosity hardener, usable in both high-solids or solvent-free polyurethane and polyaspartic coatings systems. These coatings systems based on NX-16 can be formulated to provide relatively low-viscosity, solvent-free, air-dry or forced-dry coatings for OEM automotive coatings, auto refinishes, general transportation coatings, and industrial metal coatings, as well as for plastics, concrete and composites.

Teracure® NX-16 can be reacted with polyaspartic amines for direct-to-metal applications. NX-16 is also used in polyaspartic concrete coatings featuring fast cure, excellent adhesion, and high film-build for self-leveling systems. Teracure® NX-16 can be formulated in polyaspartic coatings systems with a working time of 35-45 minutes, about double the competitive pot life compared with standard trimer isocyanates.

The performance attributes of properly formulated coatings based on Teracure® NX-16 include excellent light-fastness, outdoor durability, mechanical properties, and chemical resistance. Coatings formulated with NX-16 also exhibit very high gloss and color retention. The pot life and working time of coatings based on Teracure® NX-16 should be evaluated under various conditions before commercial use.

Because of its relatively low viscosity at 100% solids, Teracure® NX-16 can be used to create easy-to-use solvent-free or high-solids coatings. In addition, Teracure® NX-16 can easily be formulated for 1:1 by volume blends of Part A (Amine) and Part B (Isocyanate) in polyaspartic coatings.

KEY FEATURES

Low Viscosity of 550 ± 150 mPa·s

Hardener for Both Polyurethanes and Polyaspartics

Excellent Weatherability, Durability, Solvent and Chemical Resistance, Color Retention and Gloss Retention

Outstanding Mechanical Properties, Including Flexibility and Abrasion Resistance

Compatible with a Variety of Other Isocyanates

RECOMMENDED USE LEVELS

Teracure® NX-16 must be tested in advance in both laboratory and hands-on trials before commercial use to determine the best formulation and suitability for use and application. Pflaumer's technical service center personnel are available to answer formulating questions. Recommended starter formulations can be designed upon request for specific applications.

OTHER PFLAUMER PRODUCTS FOR THE FORMULATOR

Pflaumer offers other products for formulating 2K coatings:

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

Teracure® Polyisocyanates

Teraspartic® Polyaspartic Amines

Terachem® 53-2242 – Anti-sag additive for 2K polyaspartics

Terachem® 53-2371 – Aluminum Oxide Nano-Dispersion for 2K polyaspartics

Tallicin® 1500 – Flow and leveling modifier

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

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

Tallicin® 4040 – Bubble-release, flow and leveling modifier for solvent-free polyaspartics and polyurethanes

Tallicin® 4600 – Stabilized Tin Catalyst for Polyurethanes

SAFETY, STORAGE, AND HANDLING

Consult MSDS before use. Store Teracure® NX-16 in tightly sealed containers. Prevent contact with moisture and excess humidity. Once opened, any remaining Teracure® NX-16 in the container is best stored under dry nitrogen blanketing. Store, transfer, and handle under a nitrogen blanket. Replace damaged gaskets on drums and totes. Keep storage temperatures at 15°C - 40°C (59°F - 104°F).

Shelf life of Teracure® NX-16 is 9 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. Avoid containers made with polyethylene, polystyrene, copper or tin.

CONTAINER SIZES

55 gallon drums (215 Kg/474 Lb)

275 gallon totes (1125 Kg/2,480 Lb)

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