Greener, safer,
and
more effective
Chemistry

Chiguard® 101

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Chiguard® 101

Solvent-based, Acid-resistant UV Stabilizer

Chiguard® 101

Introduction

In coatings and plastics, UV exposure and chemical environments accelerate material aging, leading to fading, cracking, and structural damage. Chiguard® 101 is a liquid hindered amine light stabilizer (HALS) based on alkoxyamine technology, offering low basicity and high efficiency for superior long-term protection.

How Does HALS Protect Coatings and Plastics?

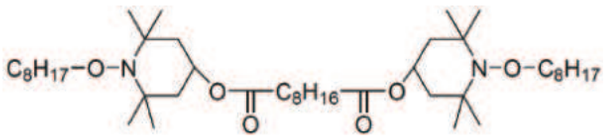
HALS operates through the Denisov free radical scavenging cycle, continuously capturing and neutralizing free radicals to prevent UV-induced polymer degradation. Its key active species, the nitroxy radical, regenerates within the cycle, ensuring that HALS remains effective over time. Unlike traditional antioxidants that deplete over time, HALS provides long-lasting and stable protection, helping coatings and plastics maintain durability and appearance, even in harsh outdoor conditions.

Exceptional UV, Heat, and Chemical Stability

Compared to conventional HALS, Chiguard® 101 offers excellent acid resistance and directly integrates into the HALS stabilization cycle, ensuring long-term UV resistance, thermal stability, and chemical durability.
Additionally, it enhances light transmission and overall weatherability, making it an excellent choice for high-performance coatings and polymers.

Ideal for Acid-Catalyzed Systems

Para-toluenesulfonic acid is commonly used to catalyze melamine acrylates, polyesters or long oil alkyd coatings systems. Comparing to methylated HALS, Chiguard 101, with its low basicity, has no interactions with acidic catalysts, suitable for automotive, coil or wood coatings.



CAS No. : 129757-67-1

Molecular formula : $C_{44}H_{84}N_2O_6$

Molecular weight : 737 (average)

Physical Data

Boiling point	:	Start of decomposition 230 °C
Specific gravity	:	0.97 @ 20 °C
Vapor pressure	:	0.00036 Pa @ 25 °C
Flash point	:	95 °C (closed up)

Specification

Appearance	:	Light yellow liquid
Assayl	:	96% min.
Volatiles	:	1% max.
Clarity of solution	:	Clear
Transmittance	:	95% min. @ 425 nm 96% min. @ 450 nm 97% min. @ 500 nm

Solubility *(g in 100ml solvent @ 20 °C)*

Butanol	:	> 50
Butyl acetate	:	> 50
Ethyl glycol	:	> 50
MEK	:	> 50
Water	:	< 6 ppm @ 20 °C

Registration

TSCA - United States	IECSC - China
DSL - Canadian	KECL - Korean
EU-REACH - European	PICCS - Philippines
ENCS - Japan	AICS - Australian
KKDIK - Turkey	NZIoC - New Zealand
TCSI - Taiwan	

Performance Highlights

Solvent-based and acid-catalyzed systems

Formulations catalyzed by pTSA, or long-oil alkyds with driers.

Low basicity

Avoids neutralization of acidic components and accelerates the HALS cycle, providing long-lasting UV protection.

Alkoxyamine-based technology

Directly integrates into the HALS cycle, ensuring excellent acid stability and overall performance.

Application

Alkyd steel plate finishes
Melamine crosslinked coatings
Polyester-melamine systems
Automotive basecoat
Alkyd wood coatings

No H361f labeling

Free from reproductive toxicity hazards and environmentally compliant.