

## BLS<sup>®</sup> 292

### Hindered Amine Light Stabilizer (HALS)

**Introduction:** BLS<sup>®</sup> 292 is a liquid hindered amine light stabilizer (HALS). It provides outstanding light stability to many industrial and automotive coatings, as well as providing long-term stability to a wide variety of polymeric systems including styrenics, acrylics, polyethylene, polypropylene, and polyurethane. As a liquid, BLS<sup>®</sup> 292 blends easily and disperses completely resulting in lower loading requirements, virtually eliminating the particle dispersion problems associated with traditional powder HALS. The liquid form also allows for outstanding compatibility with a wide variety of coating systems, including waterborne and UV curable coatings.

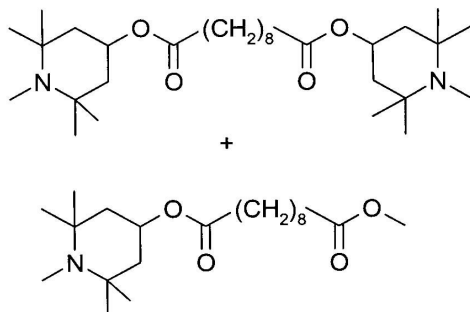
**Material Description:** Hindered Amine Light Stabilizer (HALS)

**Chemical Name:** Bis (1,2,2,6,6-pentamethyl-4-piperidiny) sebacate  
and  
Methyl(1,2,2,6,6-pentamethyl-4-piperidiny)sebacate

**Empirical Formula:** C<sub>30</sub>H<sub>56</sub>N<sub>2</sub>O<sub>4</sub> (Bis....)  
C<sub>22</sub>H<sub>39</sub>N<sub>1</sub>O<sub>4</sub> (Methyl...)

**CAS #:** 41556-26-7 (Bis...)  
82919-37-7 (Methyl...)

**Chemical Structure:**



<b>Physical Properties:</b>	Appearance:	Light yellow liquid
	Concentration by weight:	
	(Bis...):	75-85 %
	(Methyl...):	15-25 %
	Molecular Weight:	
	(Bis...):	509
	(Methyl...):	370
	Solution (10g/100ml Toluene):	Clear
% Transmittance:	425 nm - 95% Min. 500 nm - 98% Min.	
Ash:	0.1% Max.	

Viscosity: 450mPa's @ 20°C  
 Density: 0.99 g/cm<sup>3</sup> @ 20°C

**Solubility at 20°C  
(g/100g solvent):**

Solvent	Solubility
Acetone	> 50%
Chloroform	> 50%
Ethanol	> 50%
Ethyl acetate	> 50%
n-Hexane	> 50%
Methanol	> 50%
Methylene chloride	> 50%
Toluene	> 50%
Xylene	> 50%
Water	< 0.01%

**Applications:**

BLS<sup>®</sup> 292 is a sterically hindered amine light stabilizer offering excellent protection against ultraviolet degradation. BLS<sup>®</sup> 292 is effective in coating applications including coil coatings, automotive coatings, radiation curable coatings, paints, inks and wood stains. BLS<sup>®</sup> 292 is highly effective in coatings based on a variety of binders such as: one and two-component polyurethanes; thermosetting and thermoplastic acrylics (physical drying); water borne acrylics; radiation curable acrylics; alkyds and polyesters. In coating applications BLS<sup>®</sup> 292 can also be used in combination with other light stabilizers to provide significantly enhanced performance.

Additionally, BLS<sup>®</sup> 292 is an efficient light stabilizer for use in plastic applications. Specific polymeric systems being styrenics, acrylics, polypropylene, polyethylene, unsaturated polyesters, polyurethane, elastomers and vinyl monomers (PVB and PVC). For plastic applications the addition of antioxidants/process stabilizers is recommended for optimum performance in preventing thermo-oxidative degradation. Sulfur-containing phenolic antioxidants (BNX<sup>®</sup> 1035) may have a negative effect on the performance of BLS<sup>®</sup> 292 and should be evaluated in preliminary tests before use.

**Advantages:**

- Excellent miscibility
- Low volatility
- Compatible with a wide variety of systems
- Highly effective in heavily pigmented systems
- Lower loading requirements as a result of complete dispersion
- Synergistic performance with other light stabilizers (coatings) and antioxidants (plastics)
- Extends life time of coatings by minimizing defects such as loss of gloss and cracking

**Loading  
Instructions:**

The loading data and results are based on laboratory work (and field-testing) under controlled conditions and do not necessarily indicate the result that the buyer or user will attain. For this reason we strongly recommend testing of your own system under the actual conditions of processing and end-use prior to full scale testing. The recommended loading concentrations range between 0.5% and 2.0% depending on substrate, processing conditions, and long-term stability requirements. Exact loading

must be determined by compositions of the specific polymer system. The dispersion of BLS<sup>®</sup> 292 in waterborne coatings may be facilitated by dilution with a water miscible solvent.

**Packaging:**

BLS<sup>®</sup> 292 is available in liquid form in a 200 kg (440.8 lb) net steel drum, and a 25 kg (55.1 lb) net plastic drum.

**Storage:**

This product may be stored up to one year in a sealed container. Containers should be stored in a cool, dry area. Extended storage at elevated temperatures or exposure to direct heat or sunlight could reduce product life. Keep containers sealed when not in use. BLS<sup>®</sup> 292 may crystallize during storage below 0°C, but can be easily liquefied by slight warming and mixing.

**Toxicity & Safety:**

This material is not intended for use in products for which prolonged contact with mucous membranes or abraded skin, or implantation within the human body is specially intended, unless the finished product has been tested in accordance with the Food and Drug Administration and/or other applicable safety testing requirements. Because of wide range of such potential uses, Mayzo, Inc. is not able to recommend this material as safe and effective for such uses and assumes no liability for any such uses. Read and understand the Material Safety Data Sheet before using or handling this product.

**FDA Regulations:**

BLS<sup>®</sup> 292 is not intended for use in applications that come in contact with food.

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