

## BLS<sup>®</sup> 1770

### Hindered Amine Light Stabilizer (HALS)

#### Introduction:

BLS<sup>®</sup> 1770 is a low molecular weight hindered amine light stabilizer that provides excellent light stability for thick sections, but can also be used for articles with a high surface area such as films and tapes. BLS<sup>®</sup> 1770 provides effective ultraviolet light protection for applications demanding particularly high light stability. It provides outstanding long-term stability by a radical trapping mechanism similar to that of hindered phenols. Significant levels of stabilization are achieved at relatively low concentrations. When compounded, BLS<sup>®</sup> 1770 imparts no negative effects on a substrate's initial color, its low dust, free-flowing form makes it exceptionally convenient to handle.

#### Material Description:

Hindered Amine Light Stabilizer (HALS)

#### Chemical Name:

Bis (2,2,6,6-tetramethyl-4-piperidyl) sebacate

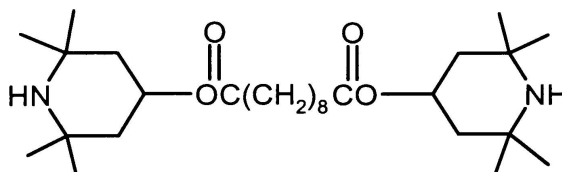
#### Empirical Formula:

C<sub>28</sub>H<sub>52</sub>N<sub>2</sub>O<sub>4</sub>

#### CAS #:

52829-07-9

#### Chemical Structure:



#### Physical Properties:

Appearance:	Granular
Molecular Weight:	481
Melting Range:	80 - 86°C
Specific Gravity (20°)	1.05 g/cm <sup>3</sup>
Vapor Pressure (20°)	ca. 1x 10 <sup>-10</sup> mm Hg
Percent Volatile:	<0.5% Max.
Ash:	0.1% Max.
Assay:	99% Min.
Decomposition Temperature:	>220°F
% Transmittance	425 nm – 95.4% Min. 500 nm – 96.4% Min.

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

Solvent	Solubility
Acetone	19%
Acetic acid ethyl ester	24%
Benzene	46%
Chloroform	45%
Ethanol	50%
Ethyl Acetate	24%
n-Hexane	5%

Mayzo, Inc	Product Data Sheet for BLS 1770	Supersedes: 3/8/05
	Methanol	38%
	Methylene Chloride	56%
	Water	< 0.01%

**Applications:** BLS<sup>®</sup> 1770 is a hindered amine light stabilizer offering excellent protection against ultraviolet degradation. BLS<sup>®</sup> 1770 areas of application includes polypropylene, impact modified polypropylene, TPO, EPDM, polystyrene, impact polystyrene, ABS, SAN, ASA, and polyurethanes. In addition, BLS<sup>®</sup> 1770 can be highly effective in polyacetals and polyamides. BLS<sup>®</sup> 1770 is particularly effective in polypropylene thick sections, but it can also be used for articles with a high specific surface area such as films and tapes. BLS<sup>®</sup> 1770 can be synergistically combined with other stabilizers like BLS<sup>®</sup> 1328, and BLS<sup>®</sup> 1710.

- Advantages:**
- Free-flowing, low dust
  - Excellent long-term light stability in thick cross sections
  - Excellent long-term light stability, particularly in articles with high surface areas such as films and tape
  - Non-coloring and thermally stable
  - Ease of compatibility with other stabilizers

**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 0.1% and 0.5% depending on substrate, processing conditions, and long-term stability requirements. Exact loading must be determined by compositions of the specific polymer system.

**Packaging:** BLS<sup>®</sup> 1770 is available in granular form in a 50 kg (110.2 pound) fiber drum, net weight, with an inner PE liner.

**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.

**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:** Contact your Mayzo representative regarding any FDA approvals for BLS<sup>®</sup> 1770.

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