



<b>POLYMER</b>	<b>HALS</b>
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<b>HALS 944</b>	<b>Technical Datasheet</b>
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**Product Information:** POLYMER ADD-HALS 944 is a high molecular weight Hindered Amine Light Stabilizer (HALS). It shows excellent compatibility, high resistance to extraction and low volatility. It imparts no negative effects on a substrate's initial colour, its low dust, free-flowing form makes it exceptionally convenient to handle.

Chemical Name	HALS 944
Grade Name	HALS 944
CAS No.	71878-19-8
EINECS No.	-
Molecular Formula	(C <sub>35</sub> H <sub>82</sub> N <sub>8</sub> ) <sub>n</sub>
Synonyms	<ul style="list-style-type: none"><li>N,N'-bis(2,2,6,6-Tetramethyl-4-piperidiny)-1,6-hexanediamine, polymer with 2,4,6-trichloro-1,3,5-triazine and 2,4,4-trimethyl-1,2-pentanamine</li></ul>

TEST	SPECIFICATION	METHOD
Appearance	Form: Granules Colour: White to slightly yellowish	Visual
Melting Range	100 - 135 °C	Melting point apparatus (open capillary tube method)
Volatile Content	1.5 % Max.	Oven drying
Ash Content	0.5 % Max.	Oven drying
Specific Gravity at 25°C	1.01 g/cm <sup>3</sup>	Pycnometer
Transmittance at 425 nm at 500 nm (10 % solu	93 % Min. 98 % Min.	Colorimetric Spectrophotometer

Solubility at 20 °C	Solvent	Solubility ( gm/100ml )	Visual
	Acetone	> 50	
	Acetic acid ethylester	> 50	
	Dichloromethane	>60	
	Chloroform	> 30	
	Ethyl acetate	> 50	
	n-Hexane	41	
	Methylene chloride	> 50	
	Styrene	>50	
	Toluene	> 50	
	Water	< 0.01	

**Product Applications:**

1. POLYMER ADD-HALS 944 areas of application include polyolefins (PP, PE), olefin copolymers such as EVA as well as blends of polypropylene with elastomers.
2. It is highly effective in polyacetals, polyamides, polyurethanes, flexible and rigid PVC, as well as PVC blends and in certain styrenic elastomer and adhesive specialty applications.

**Product Benefits:**

1. POLYMER ADD-HALS 944 is highly effective as a long-term thermal stabilizer in thin and thick articles and shows good extraction resistance.
2. It has excellent long-term light stability in thick cross sections specifically polyethylene applications.
3. It is free-flowing, low dust, Low volatility & Low migration rate from polymeric substrates.

**Product Dosage:** We strongly recommend testing of your own system under the actual conditions of processing and end-use prior to full scale testing. Exact loading must be determined by compositions of the specific polymer systems. However individual dosage information is as follows.

Polymer Details	Suggested dosage
Polypropylene (177.1520) in food contact	0.3 % Max.
Polyethylene (177.1520) in food contact	0.2 % Max.
Polyethylene < 0.94 g/cm <sup>3</sup> (177.1520) in food contact	0.3 % Max.
HDPE, LLDPE, LDPE and PP in Thick Sections	0.05 - 0.60 % Max.
LLDPE and LDPE in Films	0.10 - 1.00 % Max.
PP and HDPE in Tapes	0.20 - 0.80 % Max.
UV stabilisation of PP (fibers)	0.10 - 1.00% Max.

**Product Handling & safety:**

Please refer to our product MSDS for specific instructions on handling this product.

**Product Registration:** POLYMER ADD-HALS 944 is approved for use in food contact polymer as per the following chapter headings.

Title: 21 - Food And Drugs

Chapter: I - Food And Drug Administration, Department Of Health And Human Services (Continued)

Subchapter: B - Food For Human Consumption (Continued)

Part: 178 - Indirect Food Additives: Adjuvant, Production Aids, And Sanitizers

Subpart: C - Antioxidants And Stabilizers

Section: 178.2010 - Antioxidants And/Or Stabilizers For Polymers.(177.1520)

**Product Disclaimer**

**Important :** This statement supersedes any Buyers documents. Seller makes no representation, Warranty, Express or Implied, Including of Merchantability of Fitness for a particular use, or purpose.

No statement herein is to be construed as inducements to infringe any relevant patent. Under no circumstances shall Seller be liable for incidental, consequential or indirect damages for alleged negligence breach of warranty, strict liability, and tort or



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contact rising in connectoin with product(s). Buyers sole remedy and Sellers sole Liability for any claims shall be buyers purchase price. Data and results are based on controlled or lab work and must be confirmed by the buyer by testing for its indented conditions of use.

This product is not been tested for, and is therefore not recommended for, use for which prolonged contact with mucous membranes, abraded skin, or blood is intended, or fur use for which implantation within human body is intended.