Technical Data Sheet

Product name: UV-400
Product Form: Liquid
Chemical name: 2-[4-[(2-Hydroxy-3-dodecyloxypropyl)oxy]-2-hydroxyphenyl]-4,6-bis(2,4-dimethylphenyl)-1,3,5-triazine and 2-[4-[(2-Hydroxy-3-tridecyloxypropyl)oxy]-2-hydroxyphenyl]-4,6-bis(2,4-dimethylphenyl)-1,3,5-triazine (1-methoxy-2-propanol 15%)
Synonym: Tinuvin® 400
CAS No: 153519-44-9 (107-98-2)
EC No: 410-560-1 (203-539-1)
Molecular formula: reaction products of 2-(4,6-bis(2,4-dimethylphenyl)-1,3,5-triazin-2-yl)-5-hydroxyphenol with ((C10-16, rich in C12-13 alkyloxy)methyl)oxyxane

Chemical Specification

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Yellow to light amber viscous liquid</td>
</tr>
<tr>
<td>Viscosity @20°C (mPa.s)</td>
<td>7252-7548</td>
</tr>
<tr>
<td>Transmittance</td>
<td></td>
</tr>
<tr>
<td>460 nm (%)</td>
<td>95.0 min.</td>
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<tr>
<td>500 nm (%)</td>
<td>97.0 min.</td>
</tr>
<tr>
<td>Loss on ignition (%)</td>
<td>0.5 max.</td>
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<tr>
<td>Residue on ignition (%)</td>
<td>0.10 max.</td>
</tr>
<tr>
<td>Density</td>
<td>1.065-1.070</td>
</tr>
</tbody>
</table>
Assay (%)  
CAS No: 153519-44-9  85.0 min.  
CAS No: 107-98-2  12.0-15.0

Packing:  in drums or as required

Physical Property

- **Appearance:** viscous, slightly yellow to yellow liquid
- **Miscibility:** miscible with most customary organic solvents; practically immiscible with water
- **Density:** 1.07 g/cm³

Characterization

UV-400 is a liquid hydroxyphenyl-triazine (HPT) UV absorber which provides excellent performance in coatings due to:

- very high thermal stability and performance for coatings exposed to high bake cycles and/or extreme environmental conditions
- hydroxy functionality to minimize migration
- high photostability for long life performance
- high concentration for maximum efficiency

UV-400 is designed to fulfill the high performance and durability needs of waterborne, solvent borne and 100% solids automotive and industrial finishes. Its low color and stability make it an excellent choice for all coatings where low color characteristics are ideal for use in combination with the newest generation photoinitiators to provide durable UV clear coats.

UV-400 has been developed as an interaction-free UV absorber for use in amine and/or metal catalyzed coating systems and coatings applied on base-coats or substrates containing such catalysts.

Application

UV-400 is recommended for both solvent and waterborne automotive OEM and refinish coating systems, UV cured coatings, industrial coatings where long life performance is essential. The protective effects of UV-400 can be enhanced when used in combinations with a HALS light stabilizer such as UV-123 or UV-292. These combinations improve the durability of clear coats by retarding gloss reduction, delamination, cracking and blistering.

The amount of UV-400 required for optimum performance should be determined in trials covering a concentration range.

Recommended usage (concentrations are based on weight percent binder solids):

1.0 - 3.0 % UV-400
+ 0.5 - 2.0 % UV-123 or UV-292

Safety and Handling

UV-400 should be handled in accordance with good industrial practice. Detailed information is provided in the Safety Data Sheet.

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