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Tinuvin® 312

Oxanilide UV absorber

Characterization

Tinuvin 312 is an ultraviolet light absorber (UVA) of the oxanilide class, which imparts outstanding light stability to plastics and other organic substrates. Tinuvin 312 is recommend for rigid and flexible PVC and polyesters.

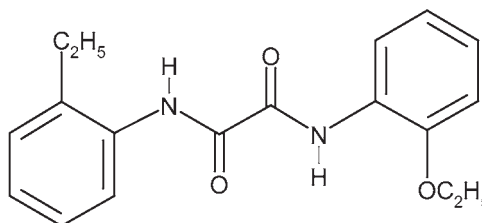
Chemical name

Ethanediamide, N-(2-ethoxyphenyl)-N'-(2-ethylphenyl)

CAS number

23949-66-8

Chemical formula



Molecular weight

312 g/mol

Applications

Tinuvin 312 is a highly effective light stabilizer for a variety of plastics and other organic substrates including unsaturated polyesters, PVC and PVC plastisol.

Tinuvin 312 can also be used in polyurethanes, polyamides, polymethylmethacrylate, polybutyleneterephthalate, polycarbonates and cellulose esters.

Features/benefits

Tinuvin 312 features strong UV absorption, excellent compatibility in a wide variety of substrates, and low volatility. It protects polymers as well as organic pigments from UV radiation, helping to preserve the original appearance and physical integrity of molded articles, films, sheets, and fibers during outdoor weathering.

Benefits:

- white product; no impact on color and transparency of the substrate
- low volatile and thermally stable
- excellent chemical resistance; no reactivity with alkalines
- imparts additional thermal stability to polyamides
- low wavelength absorbance; can be combined with optical brighteners

Product forms

white crystalline powder

Guidelines for use

The use levels of Tinuvin 312 range between 0.10 and 1.0 %, depending on substrate and performance requirements of the final application. Tinuvin 312 can be used alone or in combination with other functional additives such as antioxidants (hindered phenols, phosphites) and HALS light stabilizers. Performance data of Tinuvin 312 alone or in combination with other additives are available in many of the substrates listed above.

Physical Properties

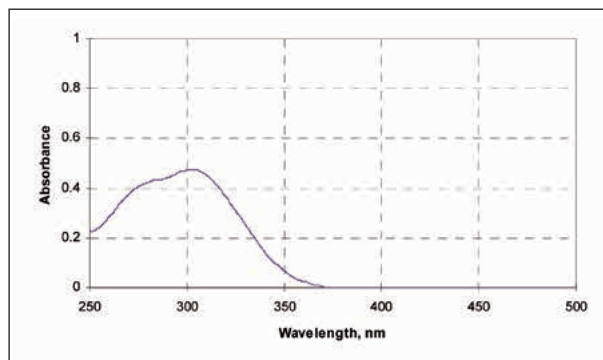
Melting Range	124–127 °C
Specific Gravity (20 °C)	1.26 g/ml
Vapor Pressure (20 °C)	5.5 E-8 Pa
Boiling point	> 400 °C
pH-value	5.4

Solubility (20 °C)	g/100 g solution
Acetone	4
Benzene	7
Chloroform	20
Ethanol	0.3
n-Hexane	0.2
Methanol	0.4
Toluene	5.5
Water	<0.01

Volatility (pure substance; TGA, heating rate 20 °C/min in air)

Weight Loss %	Temperature °C
1.0	200
2.0	215
5.0	235

Absorbance spectrum (10 mg/l, Chloroform)



Tinuvin 312 exhibits strong absorbance in the 250–350 nm region and no absorbance in the visible region (> 400 nm) of the spectrum. The absorption maximum is at 305 nm in chloroform solution.

Handling & Safety

Tinuvin 312 exhibits a very low order of oral toxicity and does not present any abnormal problems in its handling or general use.

Detailed information on handling and any precautions to be observed in the use of the product(s) described in this leaflet can be found in our relevant health and safety information sheet.

Note

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