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Chimassorb® 81

Benzophenone UV absorber

Characterization

Chimassorb 81 is an ultraviolet light absorber (UVA) of the benzophenone class, imparting good light stability when used in combination with a hindered amine light stabilizer (HALS) of the Chimassorb, Tinuvin® or Uvinul® range. It shows good compatibility with polyolefins and plasticized PVC.

Chemical name

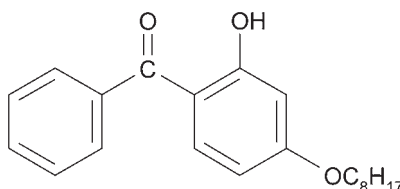
Methanone, [2-hydroxy-4-(octyloxy)phenyl]phenyl,-

CAS number

1843-05-6

Structure

Chimassorb 81



Molecular weight

326.4 g/mol

Applications

The main application of Chimassorb 81 is in combination with a HALS the light stabilization of low density and linear low density polyethylene as well as ethylene-vinyl acetate copolymers for agricultural films. It can be used as well as a UV barrier to protect the contents of packages for both industrial and consumer applications. Also, in combination with HALS, Chimassorb 81 can be used in high density polyethylene molded articles, e. g. in crates.

Chimassorb 81 also protects a number of other polymers against degradation caused by light exposure such as plasticized PVC and rubbers.

Chimassorb 81 can be used in combination with antioxidants, phosphites and other light stabilizers.

Features/benefits

Chimassorb 81 is particularly suitable for thick films, typically > 100 µm and thick sections. The low vapor pressure of Chimassorb 81 prevents losses during processing. Low migration rates reduce the risk of blooming.

Product forms

Code:	Chimassorb 81 P	Chimassorb 81 FL
Appearance:	slightly yellow powder	slightly yellow flakes

Guidelines for use

Thick Sections:	UV stabilization of PE	0.10–0.5 %
Films:	UV stabilization of LLDPE, LDPE and EVA	0.15–0.5 %

Physical properties

Melting range	47–49 °C
Flashpoint (DIN 51758)	>200 °C
Specific gravity (20 °C)	1.16 g/cm ³
Vapor pressure (20 °C)	4.6 E-6 Pa
Angle of repose	
Chimassorb 81 Value	53 °
Chimassorb 81 FL Value	21 °
Bulk density	
Chimassorb 81 Value	0.36–0.44 g/ml
Chimassorb 81 FL Value	0.44–0.54 g/ml

Solubility (20 °C) % w/w

Acetone	43
Chloroform	61
Ethanol	3.5
Ethyl acetate	44
n-Hexane	12
Methanol	1.7
Dichloromethane	67
Toluene	>50
Water	<0.01

Volatility

Weight loss %

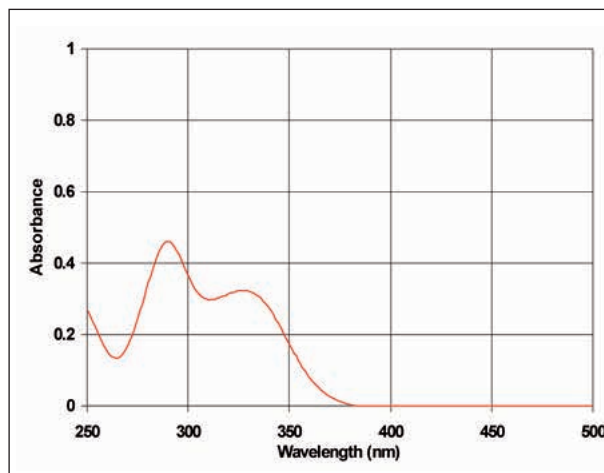
0.8	200
2.1	225
6.4	250
19.5	275
54.1	300

Pure substance; TGA-data, heating rate 20 °C/min in air

Temperature °C

Absorbance spectrum

(10 mg/l, Chloroform)

**Handling & Safety**

In accordance with good industrial practice, handle with care and avoid unnecessary personal contact. Avoid continuous or repetitive breathing of dust. Use only with adequate ventilation. Protect skin. Avoid dust formation and ignition sources.

For more detailed information please refer to the material safety data sheet.

Note

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