

Technical Data Sheet

Rev. 2 - Data rev. 01/2015

K.SORB 1164

Top Performing UV-Absorber for Polymres

CHEMICAL NAME

2-[4,6-bis(2,4-dimethylphenyl)-1,3,5-triazine-2-yl]-5-(octyloxy) phenol
or 2,4-Bis(2,4-dimethylphenyl)-6-(2-hydroxy-4-octyloxy-phenyl)-S-
triazine

CAS NUMBER

2725-22-6

EC NUMBER

412-440-4

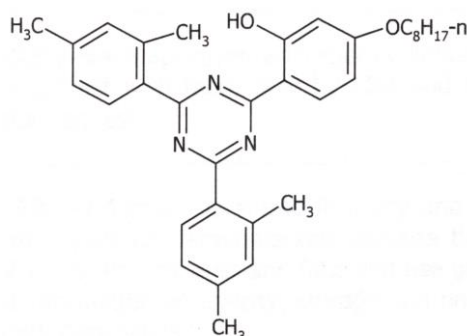
MOLECULAR FORMULA

C₃₃H₃₉N₃O₂

MOLECULAR WEIGHT

509 g/mol

STRUCTURE



CHARACTERIZATION

K.SORB 1164, an hydroxyphenyl-S-triazine derivative, is one of the most powerful and permanent absorber of the solar UV radiation in the "B" region (290 - 350 nm, λ_{max}: 342 nm), i.e. where most of the synthetic polymers, expressly the ethylenic one, undergo degradation.

K.SORB 1164 performance benefits are:

- high inherent light stability
- minimal color contribution
- low interaction with metal ions (like catalyst residues)
- excellent compatibility with a variety of polymers and other polymer additives
- very low volatility at high temperatures (avoiding processing problems, like die lip building, plate out, surface imperfections) and during service life. In this latter case, **K.SORB 1164** is the preferred UV absorber for PE Greenhouse films used in strongly sunshined areas (e.g. in Mediterranean countries). Moreover **K.SORB 1164** is the "protector" of choice for improving the lightfastness of many organic pigments and dyes in the synthetic fibers (PP, PA, PET) mass dyeing.

CHEMICAL-PHYSICAL PROPERTIES

Appearance	Slightly yellowish powder
Purity	≥ 96 %
Melting range	88-91°C
Volatiles (2h @ 105°C)	≤ 0,5%
Ash	≤ 0.1 %
Specific gravity @ 25°C	1.15 g/cm ³
Toluene insoluble	≤ 0,5%
Volatility, % weight loss (TGA-analysis, heating rate 10°C/min in air)	1% at 347°C 2% at 365°C
Solubility @ 25°C (g/100g solvent)	
Butanol	3
Butylacetate	17
MEK	17
Xylene	25

PACKAGING

K.SORB 1164 is supplied in 25 kg net cardboard drum with PE bag

TOXICOLOGY

Acute oral toxicity (LD50 rat) > 5000 mg/kg
Acute Skin toxicity (LD50 rabbit) > 2000 mg/kg

REGULATORY CLEARANCE STATUS

K.SORB 1164 is approved with specific limitation for use in particular polymers coming into contact with food, only by FDA and German BfR. detailed information available upon request.

STORAGE/HANDLING

K.SORB 1164 must be stored in a dry and ventilated cool place, in securely closed drums. Maximum recommended Storage time under suitable condition (dry and cool): 2 years. Protect eyes and face and use gloves when handling the product.
For detailed information on toxicity, Storage and handling please refer to the relevant Material Safety Data Sheet.

APPLICATION

Owing to its strong UV-B absorption spectrum and its extremely low volatility and tendency to sublimation **K.SORB 1164** is highly recommended for engineering resins such as PA, PC, PET, PBT, PMMA, POM, polymers blends (like PC/ABC, PC/PTB, PPE/IPS, PPE/PA etc), PE, PP, TPO, ASA ABS and in general in all applications characterized by large surface areas like fibers (expressly pigmented PP, PA, PET), laminating films, EVA/PE Greenhouse films for 36 - 48 months utilization in strongly sunshined areas, PC roof sheeting.
K.SORB 1164 is also the UV absorber of choice for powder coatings (automotive and coils) cured at prolonged temperatures above 185°C and exposed at extreme environmental attack.

ADDITION LEVELS

Taking into account the type of polymer, the type and amount of pigments and synergistic additives and the expected service life, **K.SORB 1164** is to be used at 0,25 up 5%.
Extensive performance data of **K.SORB 1164** in various polymers and specific application areas are available upon request.

The information submitted in this publication is based on our current knowledge and experience. In view of the many factors that may affect processing and application, this data does not relieve processors from the responsibility of carrying out their own tests and experiments. Neither do they imply any legally binding assurance of certain properties or of suitability for a specific purpose. It is the responsibility of those to whom K Chimica supply their own products to ensure that any proprietary rights or patents and existing laws and legislation are observed. The product has not been tested for, and is therefore not recommended for, uses for which prolonged contact with mucous membranes, abraded skin, or blood is intended; or for uses for which implantation within the human body is intended.