

Technical Data Sheet

Rev. 2 - Data rev. 01/2015

K.SORB 81

Ultraviolet Light Stabilizer of the Benzophenone class (UVA)

CHEMICAL NAME

2-hydroxy-4-n-octyloxybenzophenone or
Methanone, 2-hydroxy-4-(octyloxy)-phenil or octabenzone

CAS NUMBER

1843-05-6

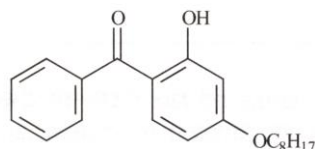
EINECS NUMBER

217-421-2

MOLECULAR FORMULA

C₂₁H₂₆O₃

STRUCTURE



MOLECULAR WEIGHT

326.4 Dalton

CHARACTERIZATION

K.SORB 81, is an UV absorber of the benzophenone class with high absorption and low color contribution in the UV wavelength 290 – 350 nm (λ_{max} 329 nm) i.e. where most of polymers, expressly the ethylenic ones, undergo degradation by the sunlight's photochemical action.

K.SORB 81 owns high solubility in most organic solvent and high compatibility with polymers, especially polyolefines

CHEMICAL-PHYSICAL PROPERTIES

Appearance	Pale yellow odourless flake crystals
Assay (GC)	≥ 99 %
Melting range (capillary)	47-49°C
Volatiles (2h @ 105°C)	≤ 0.5 %
Ash	≤ 0.1 %
Transmittance % (solution of 10 g /100 ml toluene, 1 cm cell)	
@ 460 nm	≥ 95 %
@ 500 nm	≥ 97 %
Flash point (C.C. DIN 51584)	>200 °C
Volatility, % weight loss (TGA-analysis, heating rate 20°C/min in air)	
	1% at 220°C
	10% at 260°C

Solubility @ 25°C (g/100 ml solvent)

Toluene	70
Methyl ethyl ketone	65
Ethyl acetate	100
n-Heptane	50
Dioctylphthalate	25
n-Butanol	6
Water	< 0.01

PACKAGING

K.SORB 81 is supplied in 20 Kg net PE Bag in Cartboard Box

TOXICOLOGY

Acute oral toxicity (LD50 rat) > 2000 mg/Kg

STORAGE–HANDLING

K.SORB 81 must be stored in a dry and ventilated cool place, in securely closed drums. Maximum recommended storage time under suitable condition (dry and cool): 5 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

K.SORB 81 is widely used in polyolefines (LDPE, LLDPE, EVA, PP) – mainly films for greenhouses – in synergy with oligomeric HALS or Nickel quencher. **K.SORB 81** is also suitable, always in synergy with HALS, for plasticized PVC and for a moderate protection of coatings.

ADDITION LEVELS

Taking into account the type of polymer, the type and amount of pigments, fillers, synergistic additives and the expected service life, **K.SORB 81** should be used at 0.25 to 1.50 phr. Extensive performance data of **K.SORB 81** 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.