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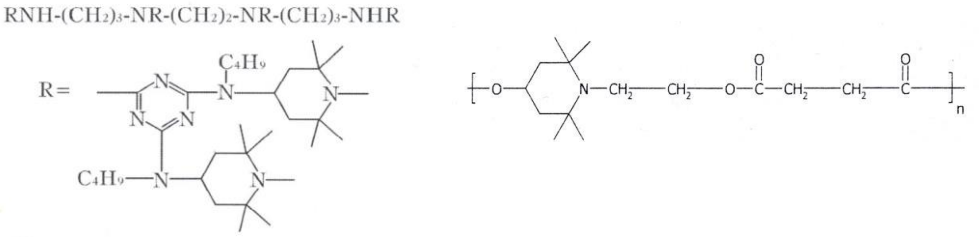
K.SORB 119

Synergistic Light and Heat Stabilizing HALS Preparation for Thermoplastic Polymers, TP Elastomers and Powder Coating

Technical Data Sheet

COMPOSITION	90% Component A	10% Component B
CAS NUMBER	106990-43-6	65447-77-0
MOLECULAR WEIGHT	2286 Dalton	3100-4000 Dalton
MELTING RANGE	146-150°C	50-70°C
CHEMICAL NAME	N,N',N'',N'''-tetrakis (4,6-bis(butyl-(N-methyl-2,2,6,6-tetramethylpiperidin-4yl)amino)triazin-2-yl)-4,7-diazadecane-1,10-diamine	Butanedioic acid, dimethylester, polymer with 4-hydroxy-2,2,6,6-tetramethyl-1-piperidine ethanol

STRUCTURE



CHARACTERIZATION

K.SORB 119 is a synergistic blend of Component A (a HMW monomeric>N-CH3 HALS) with the Component B (a>N-R polymeric HALS).

Please note that this synergy is exploited at its maximum (in terms of light/heat polymer protection and economical costs), in the 50/50 blend of the Component A and B, i.e. K.SORB 111 (see the relevant TDS).

K.SORB 119 is a powerful protector (against the solar UV rays) of polymers (polyolefines, TPE, technopolymers, styrenics, HM adhesives, TS powders for coatings).

Due to its HMW **K.SORB 119** is the light stabilizer of choice for all application requiring low volatility and minimal migration. **K.SORB 119** contributes as well significantly to the LTHS of the above polymers in their service life up to 110/120°C.

K.SORB 119 light stabilization performance is further enhanced by the synergistic combination with UV absorbers (like K.SORB 326,

1164 and expressly 234) and with organophosphites like K.NOX 168 and 126.

K.SORB 119 owns a low basicity (i.e. that of the > N-CH3 HALS/>N-R HALS), but not the "acid resistance" of the >N-OR HALS.

Therefore **K.SORB 119** could be negatively influenced by compounds containing sulphur or halogens (like thioesters, halogenated FR additives and acid substances like crop pesticides, insecticides or soil disinfection agents) and by acid rains too. Such influence on processing, color and service life of the relevant plastic items must be determinated by preliminary lab tests.

Besides, an important advantage of **K.SORB 119** (over the other >N-H, >N-CH3, >N-R HALS) is that it enhances the color yield and gloss of many organic pigments (f.i. in PP, PET, PA fibers). As well the use of **K.SORB 119** (or better of 111) gives rise in TS powders for coating to top light and heat protection in service life and contributes to the triboelectric effect during the processing.

PHYSICAL PROPERTIES (OF K.SORB 119)

Appearance	slightly yellow granules
Odor	faint
Melting range	115 -150 °C
Flash point	278°C ASTM D92-78
Ignition temperature	330°C BAM
Specific gravity at 20°C	1.03
Volatiles (2h at 100°C)	1 % max
Ash	0.5 % max.
% weight loss (TGA in air at 20°C/min.)	
	1% at 250°C
	2,7% at 300°C
	10% at 350°C
Colour solution (10g/100ml toluene, 1 cm cell)	
(transmission)	@ 425 nm: 90% min.
	@ 450 nm: 93% min.
	@ 500 nm: 95% min.
Solubility (g/100ml solvent at 25°C)	
Acetone	6
Ethyl acetate	>20
Hexane	>20
Toluene	>20
Methanol	1
Water	<1

PACKAGING

20 Kgs net in cardboard box with inner PE bag

TOXICOLOGY

Acute oral toxicity (LD50 rat)	> 2000 mg/Kg
Skin irritation (rabbit)	Non-irritant
Eye irritation (rabbit)	Irritant

Technical Data Sheet

REGULATORY STATUS

For details on indirect food contact approval, information available on request.

STORAGE - HANDLING

K.SORB 119 must be stored in a dry and ventilated cool place, in securely closed drums. Maximum recommended 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

K.SORB 119 is hightly effective for PP in thick, thin, fiber, film, filled forms and for all other olefin resins (HDPE/LDPE/EVA/TPO). It is also suggested for PA, PMMA, PET, TPE, styrene copolymers (ABS, ASA, HIPS), HM adhesives and for powder coatings where it contributes to the triboelectric effect.
Moreover, in general, it is the HALS of choice in all above polymers colored with organic pigments: f.i. in PP, PA, PET fibers.

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 119** should be used at 0,15 up 1%.
Extensive performance data of **K.SORB 119** in various polymers and specific application areas are available upon request

Technical Data Sheet