

KEMIPAL W

KEMIPAL W is micronised aluminiumhydroxide /Al (OH)₃/, produced by Kemira KTM.

PHYSICAL AND CHEMICAL DATA OF KEMIPAL W

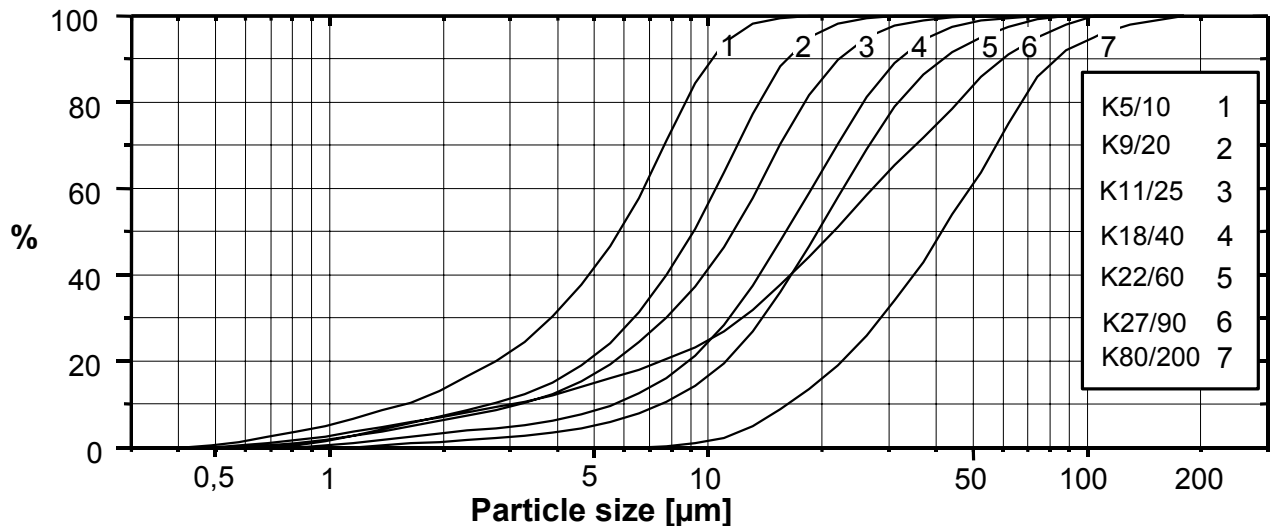
Appearance	-	white powder	Al (OH) ₃	>	99,0 %
Crystal structure	-	hydrargillite	Al ₂ O ₃	>	64,7 %
Moh's hardness	-	2,5 - 3,5	SiO ₂	<	0.03 %
Refractive index	-	1,57	Fe ₂ O ₃	<	0.03 %
Specific gravity	-	2,4 g / cm ³	Na ₂ O _{tot}	<	0.30 %
Solubility in water	-	1,5 · 10 ⁻⁴ g /100 g H ₂ O	pH (5 % sol.)	-	9 ± 1
Loss on ignition	-	34,5 %			

PHYSICAL PROPERTIES	UNIT	K 5/10	K 9/20	K 11/25	K 18/40	K 22/60	K 27/90	K 80 /200
WHITENESS (Ry /C/2)	%	min. 97	min. 96	min. 95	min. 94	min. 93	min. 92	min. 90
YELLOW INDEX (D 65/10)	%	max. 1,5	max. 2,0	max. 2,5	max. 3,0	max. 3,5	max. 4,0	max. 5,5
PARTICLE SIZE (D 50%)	μ	5,5 – 8,5	8,5 – 11,5	9,5 - 12,5	15,0 - 19,0	16,0– 21,0	25,0 - 30,0	40,0 - 70,0
BULK DENSITY	kg/m ³	400 - 600	500 - 700	600 - 800	700 - 900	800 - 1000	900 - 1100	1000 -1400
FREE MOISTURE	%	max. 0,7	max. 0,5	max. 0,4	max. 0,4	max. 0,2	max. 0,2	max. 0,2
CONDUCTIVITY	μS/cm	max. 95	max. 90	max. 80	max. 45	max. 40	max. 40	max. 40

*Additional designation PO : surface treated KEMIPAL W

Any of the KEMIPAL W grades shown on this data sheet can be surface treated if higher filler loadings or improved physical properties are desired. The coatings available include silane coupling agents, stearates and plasticisers.

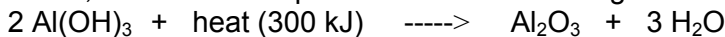
KEMIPAL W : Particle size distribution



FLAME RETARDANT ACTION OF ALUMINIUMTRIHYDRATE

KEMIPAL W is used as non - toxic, non - corrosive flame retardant for all plastics which are processed at temperatures below 200°C.

When aluminiumtrihydrate is subjected to temperature in excess of 250°C, for example in a fire situation, thermal decomposition occurs according to the following reaction:



- due to endothermic reaction there is consumption of energy which cools the burning product and slows down the spread of fire,
- the release chemically combined water which is given off steam helping to quench the flame and driving away oxygen which would support the combustion,
- at the polymer surface is produced solid Al_2O_3 which is inert and forms a solid protective layer, absorbing burning products and thus decreasing of fire expansion,

It is therefor not surprising that the use of aluminiumtrihydrate as fire retardant filler is increasing due to the important property of reducing smoke density and toxicity.

If a fire occurs, the formation of corrosive and toxic gases and the smoke gas density are considerably reduced.

Very good flame retarding effects are achieved by combination of alumina trihydrate and other retardants such as Zn - borate, Sb_2O_3 , chlorine or phosphorous compounds.

KEMIPAL W can be used in following polymers (as a filler and fire retardant)

- unsaturated polyester resins (SMC, BMC, laminate, synthetic marble)
- thermoset polyester and acrylic based "Solid - surface" products are finding widespread use because of their performance and design advantages over traditional materials like laminate, wood, tile and stone (kitchen countertops, bathroom vanity, furniture and decorative surfacing in banks, bars, restaurants)
- epoxy resins (laminates, adhesives)
- polyurethan resins (insulating foam, dispersions, adhesives)
- latex (foam backed carpets, seat cushions, foam impregnation of flexible PUR)

PACKAGING

- multiply paper bags (palletised and stretchwrapped - 1.0 tonne / pallet)
- big - bags
- road tanks
- storage in dry

The information in this publication is given in good faith and every effort has been made to ensure that it is correct, but no guarantee is given or implied.