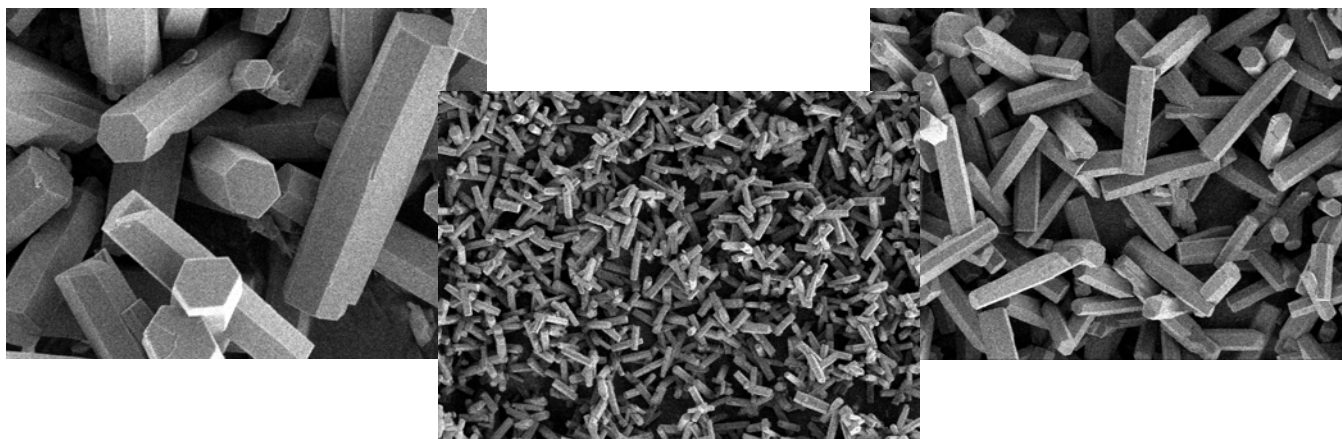


HIGH-PURITY ALPHA ALUMINA WHISKERS

APPLICATIONS:

- ◆ Fibrous, corrosion resistant thermal insulation
- ◆ Composite reinforcing fibers (metals, plastics, ceramics)
- ◆ Refractories, membranes, filters (for molten metals, hot gases)
- ◆ Porous/textured alumina ceramics
- ◆ Catalyst supports/carriers



Properties of α -Al₂O₃ (corundum) whiskers synthesized by the hydrothermal method*

Property	Type IV	Type V	Type VI	Type VII	Type VIII	Type IX	Type X
Crystal form	100% α -Al ₂ O ₃	100% α -Al ₂ O ₃	100% α -Al ₂ O ₃	100% α -Al ₂ O ₃	100% α -Al ₂ O ₃	100% α -Al ₂ O ₃	α -Al ₂ O ₃ (80%) + γ -AlOOH (20%)
Aspect ratio (-)	2-12	4-7	4-10	2-4	3-6	2-5	3-6
Diameter (μ m)	0.5-2.0	0.5-2.0	0.3-1.0	~7	5-7	5-7	5-7
Length (μ m)	1-10	2-6	2-6	12-25	20-30	15-25	20-30
Surface area, BET (m ² /g)	1.14	1.39	1.36	-	-	-	-
Chemical purity (%)	99.9	>99.8	>99.8	>99.9	99.9	>99.9	>99.9
Impurities							
Si	20 ppm	30 ppm	10 ppm	20 ppm	20 ppm	20 ppm	20 ppm
Na	170 ppm	200 ppm	110 ppm	110 ppm	160 ppm	110 ppm	130 ppm
Fe	50 ppm	50 ppm	50 ppm	50 ppm	40 ppm	50 ppm	50 ppm
Mg	<10 ppm	<10 ppm	<10 ppm	<10 ppm	<10 ppm	<10 ppm	<10 ppm
Ca	30 ppm	30 ppm	30 ppm	20 ppm	20 ppm	20 ppm	30 ppm

*Fibers with other sizes, purity levels, and dopants may be available upon request.

US Patents Pending