



SUMITOMO CHEMICAL

Creative Hybrid Chemistry  
For a Better Tomorrow

# Product Databook

*(Excerpt)*

□ *High Purity Alumina (HPA)*



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### <Important Notice for Users of this Databook>

- (1) All data in this data book is typical and not guaranteed. The typical properties of all the listed products in this data-book are subject to change without prior notice due to continual improvements.
- (2) Applications mentioned in this databook are examples without any guarantee. Fitness for any particular purpose should be verified by customers.
- (3) Please refrain from using products in this databook for medical and food applications.

### 3. High Purity Alumina (HPA)

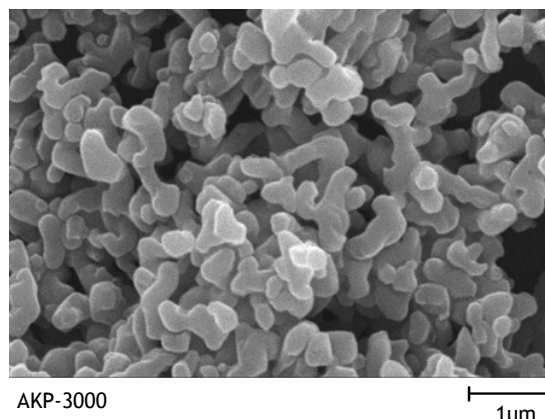
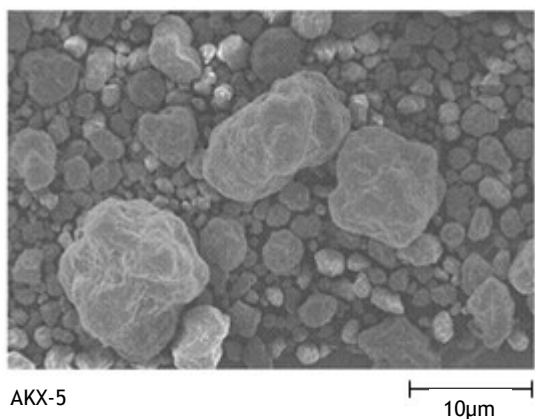
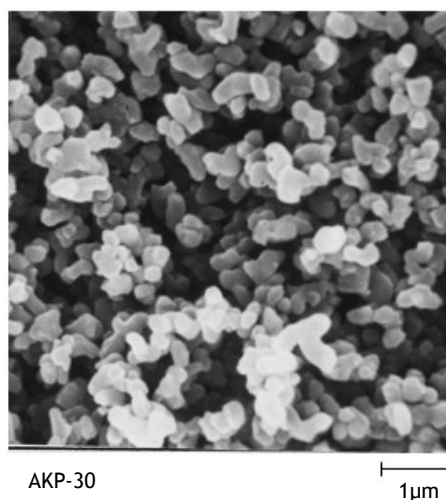
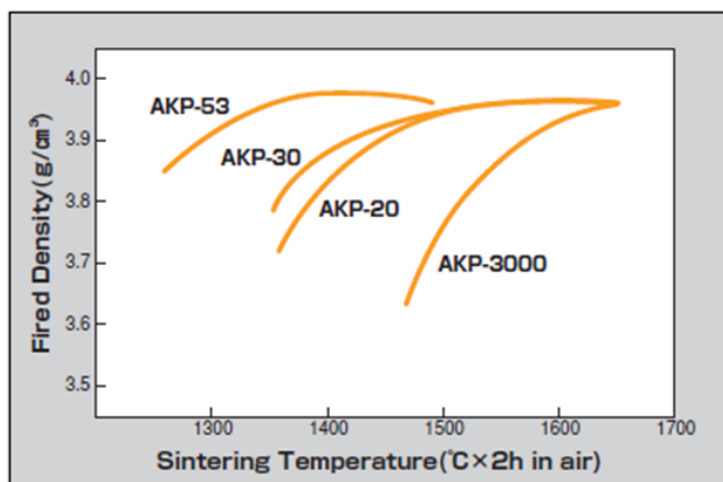
Sumitomo High Purity Aluminas(HPA) are uniform fine powder characterized by fine powder form of highly pure and homogeneous crystal structure. They're manufactured by aluminium alkoxide hydrolysis process.

#### High Purity Alumina (HPA)

Typical Properties		Product	AKX-5	AKP-20	AKP-30	AKP-50	AKP-53	AKP-3000
Crystal Structure			α	α	α	α	α	α
Purity(Al <sub>2</sub> O <sub>3</sub> )	[%]		≥ 99.99	≥ 99.99	≥ 99.99	≥ 99.99	≥ 99.99	≥ 99.99
Mean Particle Size (MT3300)	[μm]		-	0.46	0.27	0.20	0.18	0.70
Loose Bulk Density	[g/cm <sup>3</sup> ]		2.2	0.9	0.9	0.9	1	0.41
Tapped Bulk Density	[g/cm <sup>3</sup> ]		-	1.4	1.3	1.3	1.4	0.80
BET Surface Area	[m <sup>2</sup> /g]		0.3	4.3	6.7	10.3	11.7	4.5
Impurity	Si	[ppm]	6	16	14	11	33	4
	Fe	[ppm]	3	3	3	4	4	3
	Na	[ppm]	2	4	2	2	2	2
	Mg	[ppm]	1	3	3	2	5	1
	Cu	[ppm]	1	1	1	1	1	1
Packing	PE Bag			20kg	20kg	20kg	20kg	10kg
	Paper Drum		100kg					
Application	Single Crystal	High-strength and high-density Ceramics, Composite Materials, Additives for non-Oxide Ceramics, Abrasives, Plasma Spray, Ceramic Filter, etc.						Insulation layer of Li-ion Secondary Battery

AKX-5 : Various particle sizes of AKX-5 make the bulk density high, so it is suitable for growing single crystal.

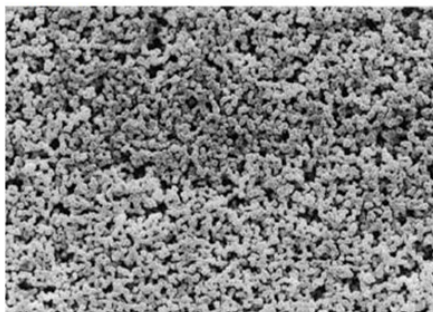
AKP Series : High purity powder composed of homogeneous α-alumina crystal particles.



Sumitomo Chemical Advanced Aluminas are  $\alpha$ -alumina single crystals with precisely controlled particle size distribution and almost-spherical polyhedral shape.

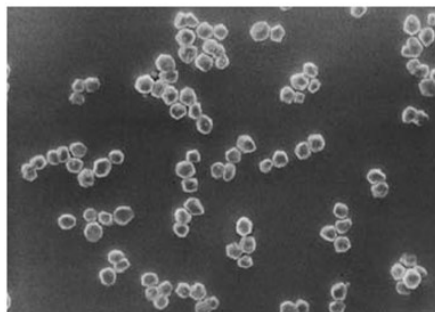
### Advanced Alumina (AA)

Product		AA-03	AA-04	AA-05	AA-07	AA-1.5	AA-3	AA-18
Typical Properties								
Crystal Structure		$\alpha$	$\alpha$	$\alpha$	$\alpha$	$\alpha$	$\alpha$	$\alpha$
Purity(Al <sub>2</sub> O <sub>3</sub> )	[%]	≧ 99.99	≧ 99.99	≧ 99.99	≧ 99.99	≧ 99.99	≧ 99.99	≧ 99.99
Mean Particle Size(MT3300)	[ $\mu$ m]	0.44	0.50	0.53	0.83	1.6	3.4	20.3
Loose Bulk Density	[g/cm <sup>3</sup> ]	0.5	0.5	0.6	0.6	0.6	0.7	2.0
Tapped Bulk Density	[g/cm <sup>3</sup> ]	0.9	1.0	1.1	1.2	1.3	1.5	2.4
BET Surface Area	[m <sup>2</sup> /g]	5.2	4.1	3.2	2.2	1.1	0.5	0.1
Impurity	Si [ppm]	5	4	3	3	4	18	15
	Fe [ppm]	4	4	4	4	3	3	5
	Na [ppm]	5	5	5	5	5	5	2
	Mg [ppm]	1	1	1	1	1	1	1
	Cu [ppm]	1	1	1	1	1	1	1
Packing	PE Bag	20kg	20kg	20kg	20kg	20kg	20kg	
	Pail Can							20kg
Application		High-strength and high-density Ceramics, Resin filler(thermal conductive materials), Plasma Spray, Catalyst, Ceramic Filter, etc.						



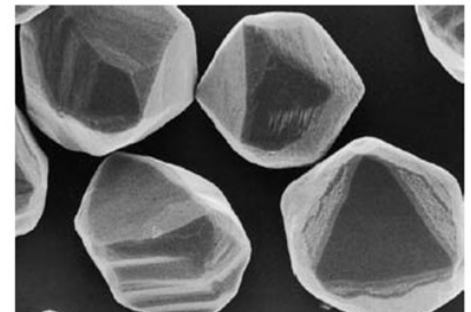
AA-04

5 $\mu$ m



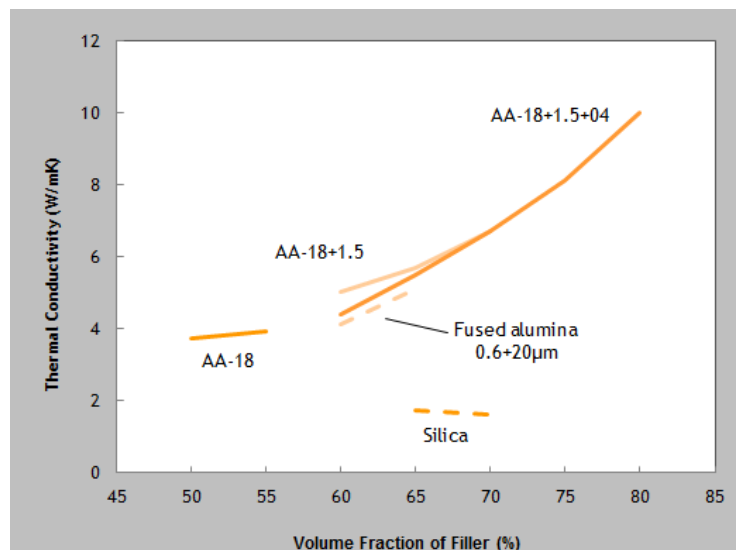
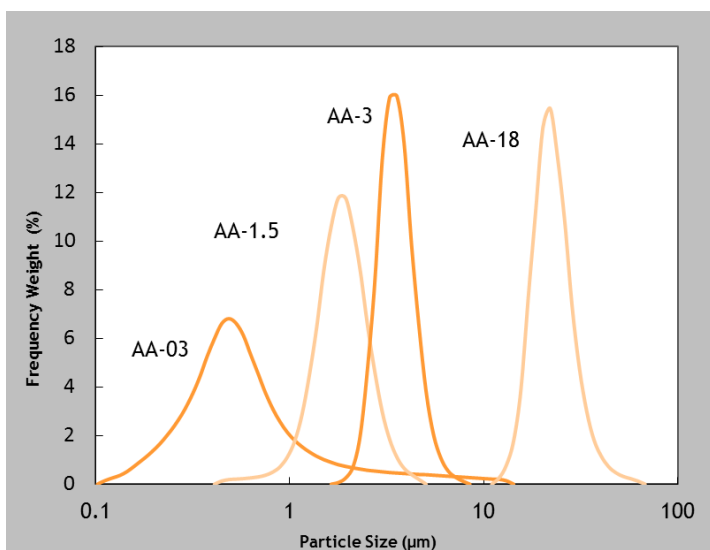
AA-1.5

10 $\mu$ m



AA-18

20 $\mu$ m



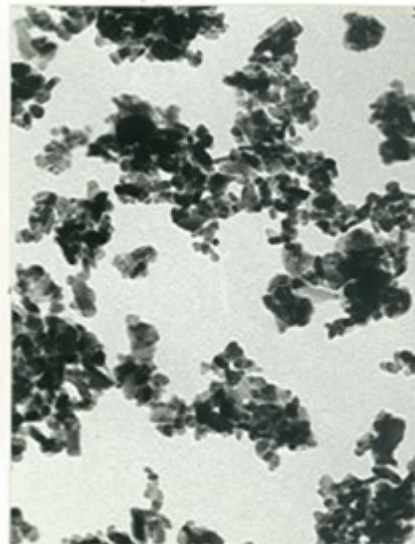
## Gamma HPA

Typical Properties		Product	AKP-G15	AKP-G07
Crystal Structure			γ	θ
Purity(Al <sub>2</sub> O <sub>3</sub> )	[%]		≧ 99.99	≧ 99.99
Loose Bulk Density	[g/cm <sup>3</sup> ]		0.14	-
Tapped Bulk Density	[g/cm <sup>3</sup> ]		0.19	0.3
BET Surface Area	[m <sup>2</sup> /g]		164	72.9
Impurity	Si	[ppm]	2	
	Fe	[ppm]	3	
	Na	[ppm]	2	
	Mg	[ppm]	1	
	Cu	[ppm]	≦ 1	
Humidity	[%]			0
Packing	Corrugated Paper Box		10Kg	20Kg



AKP-G15

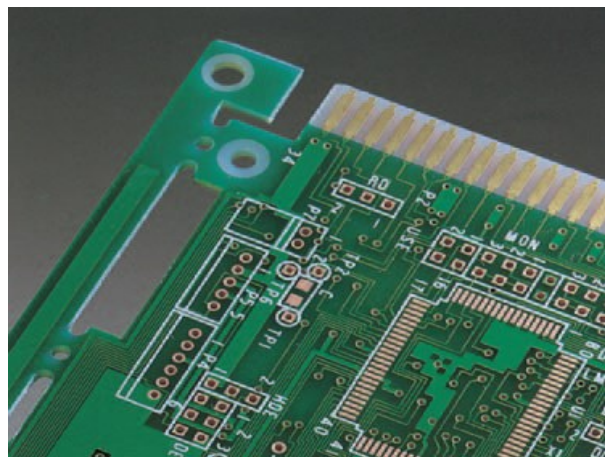
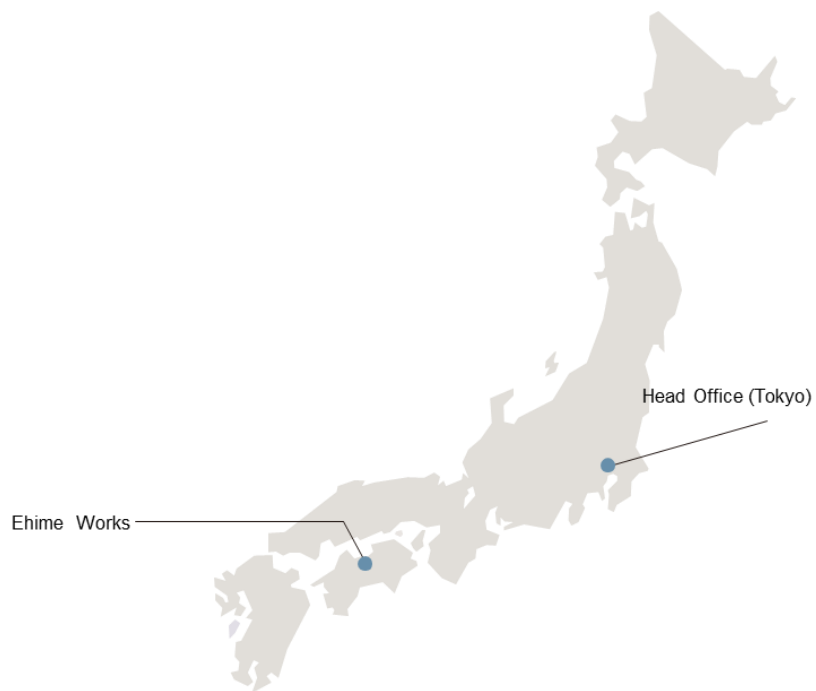
0.1 μm



AKP-G07

0.1 μm

# Plant & Office Location / Contact



Aluminum Hydroxide as CCL flame retardant.



High Purity Alumina as a sapphire raw material.

## Contact for Sales and Technical Information (All Products)

Website: <http://www.sumikamaterials.com>

Request Product Information: [customerservice@sumichem-ati.com](mailto:customerservice@sumichem-ati.com)

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