



NNT Alumina Corundum Powders

NNT HIGH-PURITY ALUMINA POWDERS

NNT α -Al₂O₃ (corundum) powders consist of very well-defined crystals with sharp edges and relatively narrow size distributions. These products are available as powders or aqueous dispersions at 20% weight Al₂O₃.

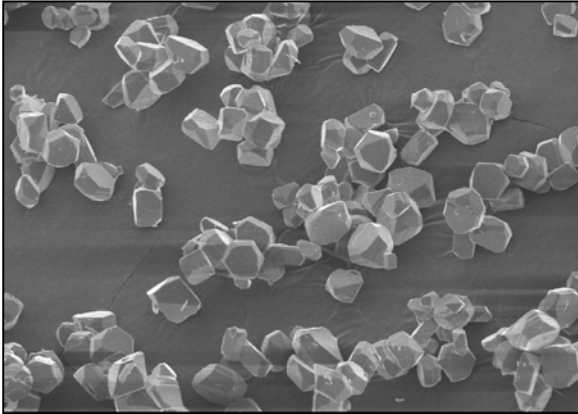
TYPICAL PROPERTIES

100 - 300 NANOMETERS			
Product, undoped	DP9301	DP9302	
Crystal form, corundum	≈100% α -Al ₂ O ₃	100% α -Al ₂ O ₃	
Purity (%)	99.85	99.9	
Median particle size (nm)	≈100	240	
Surface area, BET (m ² /g)	15.0 (est.)	7.0 (est.)	
Typical impurity levels	Si	0.017%	0.003%
	Na	0.024%	0.050%
	Fe	<0.001%	0.011%
	Cu	<0.001%	<0.001%
	Mg	<0.001%	<0.001%
	Ti	0.080%	<0.001%

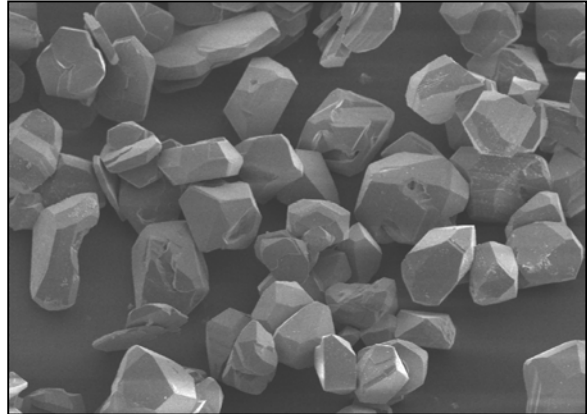
1 - 50 MICRONS					
Product, undoped	DP9303	DP9304	DP9305	DP9306	
Crystal form, corundum	100% α -Al ₂ O ₃	100% α -Al ₂ O ₃	100% α -Al ₂ O ₃	100% α -Al ₂ O ₃	
Purity (%)	99.9	99.9	99.9	>99.97	
Median particle size (μm)	1.1	3.0	9.7	50 (est.)	
Loose bulk density (g/cm ³)	0.8	0.8	0.5	1.2-1.5	
Packed bulk density (g/cm ³)	1.1	1.4	1.0	1.5-2.0	
Surface area, BET (m ² /g)	1.4 (est.)	0.5 (est.)	0.4	0.04 (est.)	
Typical impurity levels	Si	0.028%	0.028%	0.015%	0.006-0.007%
	Na	0.060%	0.060%	0.066%	0.002-0.003%
	Fe	0.006%	0.006%	0.007%	0.004-0.005%
	Cu	<0.001%	<0.001%	<0.0001%	<0.001%
	Mg	<0.001%	<0.001%	<0.001%	<0.001%
	Ti	<0.001%	<0.001%	0.0006%	<0.001%

MORPHOLOGY

The SEM photographs reveal typical morphologies of NNT α -Al₂O₃ (corundum) powders, which consist of very well-defined crystals with sharp edges and relatively narrow size distributions.



DP9305 (10 micron), magn. 1,000×



DP9306 (50 micron), magn. 400×

APPLICATIONS

100 - 300 nm: Abrasives, alumina ceramics, dispersions, fillers
1 - 3 micron: Abrasives, alumina ceramics, refractories
10 - 50 micron: Abrasives, refractories, nutrient for crystal growth

AVAILABLE FORMS

All powders are available in either deagglomerated or unground forms, also as aqueous dispersions (the data in the tables applies to the deagglomerated powders only). Powders with other sizes, purity levels, and dopants are available upon request.

CONTACT FOR ADDITIONAL INFORMATION OR TO ORDER MATERIAL

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