

Materials List for:

Exfoliation of Egyptian Blue and Han Blue, Two Alkali Earth Copper Silicate-based Pigments

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Materials

Name	Company	Catalog Number	Comments
Sodium carbonate (Na ₂ CO ₃)	Sigma Aldrich	S7795	bioXtra, ≥99.0%
Calcium carbonate (CaCO ₃)	Sigma Aldrich	C4830	bioXtra, ≥99.0%
Barium carbonate (BaCO ₃)	Solvay Performance Chemicals		Research sample: Electronic-grade purity, nanocrystalline
Copper (II) carbonate basic [Cu ₂ CO ₃ (OH) ₂]	Sigma Aldrich	207896	Reagent grade
Copper(II) oxide (CuO)	Sigma Aldrich	450812	99.99% trace metals base
Silicon dioxide (SiO ₂)	Sigma Aldrich	S5631	~99%, particle size 0.5-10 μm (approximately 80% between 1-5 μm)
Sodium tetraborate decahydrate (Na ₄ B ₄ O ₇ ·10H ₂ O)	Sigma Aldrich	S9640	ACS ≥ 99.5%
Sodium chloride (NaCl)	Sigma Aldrich	S9888	ACS ≥ 99.0%
Lead(II) oxide (PbO)	Sigma Aldrich	402982	ACS ≥ 99.0%
N-Vinylpyrrolidinone (C ₆ H ₉ NO)	Sigma Aldrich	V3409	contains sodium hydroxide as inhibitor, ACS ≥ 99.0%
Box Furnace	Thermo Scientific		Lindberg Blue M
Box Furnace	Carbolite	CWF 12/5 1200C	
Bath Sonicator	Branson		
Ultrasonicator	Qsonica		Misonix S-4000
Camera	custom modification of Nikon D3000 camera by LDP LLC MaxMax.com	n/a	Xnite Nikon D3000 camera with a Nikkor 18-200 mm lens and a Xnite 830 filter
Light Source	Excled Ltd.	PAR64	LED Colour Beamer
Light Microscope	Leica		mz6 Stereomicroscope with Spot Idea camera and Software
Powder X-Ray Diffractometer	Bruker		D8-Advance diffractometer (Co-Kα radiation source)
Transmission Electron Microscope	FEI		Technai 20
Scanning Electron Microscope	FEI		Inspect F
Membrane filters	Millipore	HTTP04700	Isopore Membrane filter with 0.4 μm pore size