

HB-2025-001

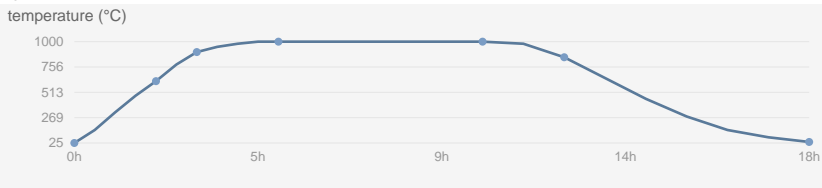
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January 1, 2025 · Falls Church, VA · han blue

overview

zero time: Jan 1, 2025, 01:00 AM · duration: 20.0h · target: 50g

synthesis



charge

reagent	ratio	target	measured	error
BaCO3	1	19.73	19.71	-0.02
CuO	1	7.95	7.96	+0.01
SiO2	2	12.02	12.01	-0.01
Na2CO3	0.1	1.06	1.05	-0.01

milling: 30 min

Reagents pre-dried at 110°C for 2h. Ball milled with alumina media.

events

- t+0.0h** **Furnace loaded**
Charge placed in alumina crucible, lid loosely fitted
- t+2.0h** **N2 purge initiated**
Switched to nitrogen atmosphere at 620°C
- t+3.0h** **Target temperature reached**
Holding at 1000°C
- t+5.0h** **First visual check**
Blue color developing, some unreacted white visible
- t+10.0h** **Final hold complete**
Uniform blue throughout, beginning controlled cooldown
- t+12.0h** **N2 purge ended**
Returned to air atmosphere below 850°C
- t+18.0h** **Furnace opened**
Product removed at 35°C

Smooth run, no anomalies. Held at 1000°C for 5h as planned.

product

yield	38.2 g (93.9%)
expected	40.7 g
variance	-2.5 g

notes

- Deep blue color, excellent uniformity
- Slight chalky texture, good for grinding
- Minor crucible adhesion on bottom surface

For informational purposes only. Batch data reflects recorded conditions and is not a guarantee of specifications.