VSV VPI-7 Si(78), Zn(22)

Contributed by Ana Palčić

Verified by A. Ristic and J. Grand
Type Material: $|Na^{+}_{26}H^{+}_{6}(H_2O)_{44}|[Si_{56}Zn_{16}O_{144}]$

Method: Y. Suzuki, T. Wakihara, S. Kohara, K. Itabashi, M. Ogura, T. Okubo [1]

Batch Composition: SiO_2 : 0.13 ZnO : 0.42 Na_2O : 44 H_2O

Source Materials

deionized water
zinc oxide (99%, Prolabo)
sodium hydroxide (97%, Sigma Aldrich)
fumed silica Cab-O-Sil (Cabot Corp.)

Batch Preparation

[1.468 g NaOH + 0.44 g ZnO + 2.5 g SiO_2 + 33 g H_2O] mix in Teflon liner of a stainless steel autoclave

Crystallization

Vessel: Teflon-lined stainless steel autoclave
Temperature: 175° C
Time: 5 days
Agitation: 20 rpm

Product Recovery

(1) Dilute reaction mixture with water
(2) Filter and wash with water
(3) Dry at 80°C

Product Characterization

XRD: VSV
Competing phase: no
Crystal size and habit: truncated square bipyramidal morphology with dimension 1 μm

Reference

[1] T. Wakihara, S. Kohara, K. Itabashi, M. Ogura, T. Okubo, J. Phys. Chem. C 115 (2011) 443