

Single crystal structure of energetic hypergolic ionic liquid salts, HMEDA-(DCA)₂조경철, 고은미¹, 장희구, 조성준[†]전남대학교; ¹국방과학연구소(sjcho@jnu.ac.kr[†])

Single crystal structure of N¹,N¹,N¹,N²,N²,N²-hexamethylethane-1,2-diaminium dicyanamide(HMEDA-(DCA)₂) prepared using

N¹,N¹,N²,N²-tetramethylethane-1,2-diamine through the quaternization and subsequent ion exchange was determined readily with charge flipping method. The structure of HMEDA-(DCA)₂ was triclinic, *P*1 with lattice parameters of *a*=6.427 Å, *b*=8.725 Å, *c*=14.069 Å, α =88.658°, β =87.874° and γ =71.712° in which the chemical composition was C₂₄H₄₄N₁₆ with R_1/wR_2 =9.18/15.20 over 1477 reflections for I>3 σ (I). The largest difference peak was 0.85 and the deepest hole was -0.53 eÅ³. The goodness-of-fitness index was 2.22. The final maximum (change/s.u.) was 0.0437.