

NbSe₂*hP*12(187) *P*-6*m*2 – i²hg²da**NbSe₂ 4s(d)** [1]

Structural features: Close-packed Se layers in AACACCAC stacking; Nb in trigonal prismatic and octahedral voids (stacking sequence AbA CbA CaC AbC). Layer structure with two kinds of sandwich consisting of three sublayers each: infinite slabs of edge-linked NbSe₆ trigonal prisms and infinite slabs of edge-linked NbSe₆ octahedra.

Kadijk F., Jellinek F. (1971) [1]

NbSe₂*a* = 0.348, *c* = 2.545 nm, *c/a* = 7.313, *V* = 0.2669 nm³, *Z* = 4

| site | Wyck. | sym. | <i>x</i> | <i>y</i> | <i>z</i> | occ. | atomic environment |
|------|------------|---------------|---------------|---------------|---------------|------|---------------------------------------|
| Se1 | 2 <i>i</i> | 3 <i>m</i> . | $\frac{2}{3}$ | $\frac{1}{3}$ | 0.0625 | | non-coplanar triangle Nb ₃ |
| Se2 | 2 <i>i</i> | 3 <i>m</i> . | $\frac{2}{3}$ | $\frac{1}{3}$ | 0.3125 | | non-coplanar triangle Nb ₃ |
| Nb3 | 2 <i>h</i> | 3 <i>m</i> . | $\frac{1}{3}$ | $\frac{2}{3}$ | 0.25 | | octahedron Se ₆ |
| Se4 | 2 <i>g</i> | 3 <i>m</i> . | 0 | 0 | 0.1875 | | non-coplanar triangle Nb ₃ |
| Se5 | 2 <i>g</i> | 3 <i>m</i> . | 0 | 0 | 0.4375 | | non-coplanar triangle Nb ₃ |
| Nb6 | 1 <i>d</i> | -6 <i>m</i> 2 | $\frac{1}{3}$ | $\frac{2}{3}$ | $\frac{1}{2}$ | | trigonal prism Se ₆ |
| Nb7 | 1 <i>a</i> | -6 <i>m</i> 2 | 0 | 0 | 0 | | trigonal prism Se ₆ |

Transformation from published data: -*x*, -*y*, -*z*; origin shift $\frac{2}{3}$ $\frac{1}{3}$ $\frac{1}{2}$

Experimental: powder, film, X-rays, T = 1223 K

Remarks: Phase stable at 1183 < T < 1253 K. An alternative model in space group (156) *P*3*m*1 gave similar agreement.

References: [1] Kadijk F., Jellinek F. (1971), J. Less-Common Met. 23, 437-441.