

substance: NiSb₂

property: physical properties

appears to be metallic [57D, 59H].

magnetic susceptibility

(in $10^{-6} \text{ cm}^3 \text{ mol}^{-1}$, χ in CGS units)

χ_m	– 30	$T = 77 \dots 295 \text{ K}$	polycrystalline sample	53R
	– 31	$T = 90 \dots 750 \text{ K}$	polycrystalline sample	68H1

peritectic (decomposition) temperature

T_{perit}	889 K		from differential thermal analysis	57D, 68H2
	893 K			77K
	894 K		polished-section examination of charges quenched from 891 to 897 K	70C

lattice parameters $a(T)$ and $b(T)$ roughly linear in T , $c(T)$ nearly constant above 550 K [77K].

volume expansion coefficient

β	$5.3 \cdot 10^{-5} \text{ K}^{-1}$	$T = 300 \text{ K}$	from graphic representation; unit-cell volume linear in T up to $\approx 550 \text{ K}$	77K
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microhardness

H_B	550 kg mm^{-2}	$T = 295 \text{ K}$	wide spread $300 \dots 760 \text{ kg mm}^{-2}$ for 13 indentations; mineral nisbite $\approx 480 \text{ kg mm}^{-2}$	70C
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no transformation to the parammelsbergite structure on long-term annealing at $> 573 \text{ K}$ [77K, 79K].

Comparative tables on structural data of transition metal dipnictides:

structure, chemical bond:, see document ,

crystallographical data of compounds with octahedrally coordinated cations, see document

interatomic distances in marcasite- and loellingite-type compounds, see document .

References:

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