tantalum

Inchi:InChl=1S/TaInchiKey:GUVRBAGPIYLISA-UHFFFAOYSA-NFormula:TaSMILES:[Ta]Mol. weight [g/mol]:180.95CAS:7440-25-7

Physical Properties

Property code	Value	Unit	Source
ea	0.32 ± 0.01	eV	NIST Webbook
ie	7.89	eV	NIST Webbook
ie	7.89	eV	NIST Webbook
ie	7.31 ± 0.09	eV	NIST Webbook
ie	7.89	eV	NIST Webbook
ie	7.89	eV	NIST Webbook

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
dvisc	0.0134000	Paxs	2880.00	Viscosity of molten Mo, Ta, Os, Re, and W measured by electrostatic levitation
dvisc	0.0131000	Paxs	2900.00	Viscosity of molten Mo, Ta, Os, Re, and W measured by electrostatic levitation
dvisc	0.0124000	Paxs	2950.00	Viscosity of molten Mo, Ta, Os, Re, and W measured by electrostatic levitation

dvisc	0.0117000	Paxs	3000.00	Viscosity of molten Mo, Ta, Os, Re, and W measured by electrostatic levitation	
dvisc	0.0111000	Paxs	3050.00	Viscosity of molten Mo, Ta, Os, Re, and W measured by electrostatic levitation	
dvisc	0.0106000	Paxs	3100.00	Viscosity of molten Mo, Ta, Os, Re, and W measured by electrostatic levitation	
dvisc	0.0101000	Paxs	3150.00	Viscosity of molten Mo, Ta, Os, Re, and W measured by electrostatic levitation	
dvisc	0.0096000	Paxs	3200.00	Viscosity of molten Mo, Ta, Os, Re, and W measured by electrostatic levitation	
dvisc	0.0092000	Paxs	3250.00	Viscosity of molten Mo, Ta, Os, Re, and W measured by electrostatic levitation	
dvisc	0.0089000	Paxs	3293.00	Viscosity of molten Mo, Ta, Os, Re, and W measured by electrostatic levitation	
dvisc	0.0088000	Paxs	3300.00	Viscosity of molten Mo, Ta, Os, Re, and W measured by electrostatic levitation	
dvisc	0.0084000	Paxs	3350.00	Viscosity of molten Mo, Ta, Os, Re, and W measured by electrostatic levitation	
dvisc	0.0081000	Paxs	3400.00	Viscosity of molten Mo, Ta, Os, Re, and W measured by electrostatic levitation	

dvisc	0.0078000	Paxs	3450.00	Viscosity of molten Mo, Ta, Os, Re, and W measured by electrostatic levitation	
dvisc	0.0075000	Paxs	3500.00	Viscosity of molten Mo, Ta, Os, Re, and W measured by electrostatic levitation	
dvisc	0.0074000	Paxs	3514.00	Viscosity of molten Mo, Ta, Os, Re, and W measured by electrostatic levitation	

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.80936e+01
Coeff. B	-7.19872e+04
Coeff. C	-3.88960e+02
Temperature range (K), min.	3297.15
Temperature range (K), max.	5731.15

Sources

Viscosity of molten Mo, Ta, Os, Re, and
W measured by electrostatic levitation:
NIST Webbook:https://www.doi.org/10.1016/j.jct.2013.05.036
http://webbook.nist.gov/cgi/cbook.cgi?ID=C7440257&Units=SIThe Yaws Handbook of Vapor
Pressure:https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure

Legend

dvisc:	Dynamic viscosity
ea:	Electron affinity
ie:	Ionization energy

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