

# arabinose

<b>Other names:</b>	(2R,3S,4R,5R)-tetrahydro-2H-pyran-2,3,4,5-tetraol .beta.-D-arabinopyranose
<b>Inchi:</b>	InChI=1S/C5H10O5/c6-2-1-10-5(9)4(8)3(2)7/h2-9H,1H2/t2-,3-,4+,5-/m1/s1
<b>InchiKey:</b>	SRBFZHDQGSBBOR-SQOUGZDYSA-N
<b>Formula:</b>	C5H10O5
<b>SMILES:</b>	OC1COC(O)C(O)C1O
<b>Mol. weight [g/mol]:</b>	150.13
<b>CAS:</b>	147-81-9

## Physical Properties

Property code	Value	Unit	Source
gf	-640.86	kJ/mol	Joback Method
hf	-894.15	kJ/mol	Joback Method
hfus	28.08	kJ/mol	Joback Method
hvap	97.45	kJ/mol	Joback Method
log10ws	1.11		Crippen Method
logp	-2.582		Crippen Method
mvol	99.800	ml/mol	McGowan Method
pc	6577.70	kPa	Joback Method
tb	715.01	K	Joback Method
tc	890.42	K	Joback Method
tf	410.62	K	Joback Method
vc	0.343	m3/kmol	Joback Method

## Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	319.94	J/molxK	715.01	Joback Method
cpg	327.70	J/molxK	744.25	Joback Method
cpg	335.01	J/molxK	773.48	Joback Method
cpg	341.88	J/molxK	802.72	Joback Method
cpg	348.29	J/molxK	831.95	Joback Method
cpg	354.27	J/molxK	861.19	Joback Method
cpg	359.79	J/molxK	890.42	Joback Method

cps	5.40	J/molxK	17.15	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	1.67	J/molxK	11.32	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	2.31	J/molxK	12.56	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	3.13	J/molxK	13.94	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	4.15	J/molxK	15.46	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	1.19	J/molxK	10.23	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	6.89	J/molxK	19.05	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	8.66	J/molxK	21.14	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	10.62	J/molxK	23.47	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)

cps	12.89	J/mol×K	26.04	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	15.45	J/mol×K	28.89	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	18.29	J/mol×K	32.08	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	21.31	J/mol×K	35.60	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	24.55	J/mol×K	39.51	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	28.17	J/mol×K	43.83	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	31.87	J/mol×K	48.63	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	35.90	J/mol×K	53.96	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)

cps	40.36	J/mol×K	59.89	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	45.03	J/mol×K	66.46	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	50.07	J/mol×K	73.76	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	55.02	J/mol×K	81.90	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	61.56	J/mol×K	90.84	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	67.63	J/mol×K	100.82	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	74.61	J/mol×K	110.95	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	81.12	J/mol×K	121.05	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	87.48	J/mol×K	131.11	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)

cps	93.47	J/molxK	141.20	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	99.46	J/molxK	151.33	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	105.84	J/molxK	161.42	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	111.71	J/molxK	171.52	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	117.85	J/molxK	181.62	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	123.97	J/molxK	191.69	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	129.39	J/molxK	201.79	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	135.86	J/molxK	211.88	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)

cps	141.54	J/mol×K	221.99	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	147.66	J/mol×K	232.03	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	153.65	J/mol×K	242.11	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	159.78	J/mol×K	252.28	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	165.45	J/mol×K	262.36	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	171.40	J/mol×K	272.39	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	177.62	J/mol×K	282.55	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	182.92	J/mol×K	292.62	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	174.86	J/mol×K	277.53	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)

cps	1.41	J/mol×K	10.77	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	1.97	J/mol×K	11.92	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	2.69	J/mol×K	13.23	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	3.61	J/mol×K	14.68	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	4.75	J/mol×K	16.31	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	6.13	J/mol×K	18.08	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	7.77	J/mol×K	20.08	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	9.53	J/mol×K	22.30	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)

cps	11.68	J/mol×K	24.74	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	14.03	J/mol×K	27.46	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	16.80	J/mol×K	30.43	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	19.73	J/mol×K	33.81	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	22.92	J/mol×K	37.52	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	26.31	J/mol×K	41.64	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	30.00	J/mol×K	46.19	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	34.52	J/mol×K	51.26	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	38.09	J/mol×K	56.88	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)



cps	42.59	J/molxK	63.13	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	47.59	J/molxK	70.07	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	52.92	J/molxK	77.78	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	58.01	J/molxK	86.34	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	64.72	J/molxK	95.82	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	71.22	J/molxK	105.87	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	77.25	J/molxK	116.03	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	185.30	J/molxK	297.64	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)

cps	90.66	J/mol×K	136.18	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	96.40	J/mol×K	146.26	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	102.71	J/mol×K	156.34	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	108.82	J/mol×K	166.44	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	114.66	J/mol×K	176.58	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	121.01	J/mol×K	186.66	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	126.57	J/mol×K	196.75	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	132.11	J/mol×K	206.80	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	138.45	J/mol×K	216.86	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)

cps	144.90	J/molxK	226.98	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	150.47	J/molxK	237.15	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	156.90	J/molxK	247.24	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	162.75	J/molxK	257.34	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	168.46	J/molxK	267.38	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	188.73	J/molxK	302.65	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	180.21	J/molxK	287.61	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
cps	84.20	J/molxK	126.07	Low-temperature heat capacity and standard thermodynamic functions of .beta.-D-(-)-arabinose (C5H10O5)
dvisc	0.0042271	Paxs	410.62	Joback Method
dvisc	0.0006037	Paxs	461.35	Joback Method
dvisc	0.0001268	Paxs	512.08	Joback Method
dvisc	0.0000353	Paxs	562.82	Joback Method

dvisc	0.0000121	Paxs	613.55	Joback Method
dvisc	0.0000049	Paxs	664.28	Joback Method
dvisc	0.0000023	Paxs	715.01	Joback Method

## Sources

<b>Crippen Method:</b>	<a href="https://www.chemeo.com/doc/models/crippen_log10ws">https://www.chemeo.com/doc/models/crippen_log10ws</a>
<b>Low-temperature heat capacity and standard thermodynamic functions of beta-D-(+)-arabinose (C5H10O5):</b>	<a href="https://www.doi.org/10.1016/j.jct.2015.08.031">https://www.doi.org/10.1016/j.jct.2015.08.031</a>
<b>Joback Method:</b>	<a href="https://en.wikipedia.org/wiki/Joback_method">https://en.wikipedia.org/wiki/Joback_method</a>
<b>McGowan Method:</b>	<a href="http://link.springer.com/article/10.1007/BF02311772">http://link.springer.com/article/10.1007/BF02311772</a>
<b>NIST Webbook:</b>	<a href="http://webbook.nist.gov/cgi/cbook.cgi?ID=C147819&amp;Units=SI">http://webbook.nist.gov/cgi/cbook.cgi?ID=C147819&amp;Units=SI</a>
<b>Crippen Method:</b>	<a href="http://pubs.acs.org/doi/abs/10.1021/ci9903071">http://pubs.acs.org/doi/abs/10.1021/ci9903071</a>

## Legend

<b>cpg:</b>	Ideal gas heat capacity
<b>cps:</b>	Solid phase heat capacity
<b>dvisc:</b>	Dynamic viscosity
<b>gf:</b>	Standard Gibbs free energy of formation
<b>hf:</b>	Enthalpy of formation at standard conditions
<b>hfus:</b>	Enthalpy of fusion at standard conditions
<b>hvap:</b>	Enthalpy of vaporization at standard conditions
<b>log10ws:</b>	Log10 of Water solubility in mol/l
<b>logp:</b>	Octanol/Water partition coefficient
<b>mcvol:</b>	McGowan's characteristic volume
<b>pc:</b>	Critical Pressure
<b>tb:</b>	Normal Boiling Point Temperature
<b>tc:</b>	Critical Temperature
<b>tf:</b>	Normal melting (fusion) point
<b>vc:</b>	Critical Volume

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