

(HO)2HPO

Other names:	phosphonic acid phosphorous acid
Inchi:	InChI=1S/H3O3P/c1-4(2)3/h4H,(H2,1,2,3)
InchiKey:	ABLZXFCXXLZCGV-UHFFFAOYSA-N
Formula:	H3O3P
SMILES:	[O][P]([O])=O
Mol. weight [g/mol]:	78.97

Physical Properties

Property code	Value	Unit	Source
logp	0.505		Crippen Method
mcvol	42.480	ml/mol	McGowan Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cps	48.30	J/mol×K	243.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	48.54	J/mol×K	244.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	48.62	J/mol×K	245.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K

cps	48.87	J/mol×K	246.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	49.03	J/mol×K	247.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	49.36	J/mol×K	248.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	49.69	J/mol×K	249.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	49.77	J/mol×K	250.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	50.10	J/mol×K	251.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	50.35	J/mol×K	252.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K

cps	50.59	J/mol×K	253.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	50.59	J/mol×K	254.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	50.84	J/mol×K	255.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	51.00	J/mol×K	256.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	51.08	J/mol×K	257.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	51.17	J/mol×K	258.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	51.33	J/mol×K	259.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K

cps	51.49	J/mol×K	260.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	51.90	J/mol×K	261.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	52.15	J/mol×K	262.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	52.48	J/mol×K	263.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	52.72	J/mol×K	264.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	52.97	J/mol×K	265.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	53.22	J/mol×K	266.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K

cps	53.54	J/mol×K	267.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	53.87	J/mol×K	268.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	54.20	J/mol×K	269.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	54.28	J/mol×K	270.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	54.45	J/mol×K	271.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	54.69	J/mol×K	272.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	54.86	J/mol×K	273.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K

cps	55.35	J/mol×K	274.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	55.76	J/mol×K	275.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	57.81	J/mol×K	276.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	58.46	J/mol×K	277.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	57.32	J/mol×K	278.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	56.91	J/mol×K	279.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	57.15	J/mol×K	280.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K

cps	57.32	J/mol×K	281.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	57.56	J/mol×K	282.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	57.81	J/mol×K	283.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	57.64	J/mol×K	284.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	57.64	J/mol×K	285.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	57.89	J/mol×K	286.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	58.87	J/mol×K	287.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K

cps	60.18	J/mol×K	288.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	60.02	J/mol×K	289.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	60.02	J/mol×K	290.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	60.10	J/mol×K	291.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	60.59	J/mol×K	292.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	61.09	J/mol×K	293.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	61.00	J/mol×K	294.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K

cps	61.09	J/mol×K	295.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	61.50	J/mol×K	296.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	61.58	J/mol×K	297.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	62.07	J/mol×K	298.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	62.48	J/mol×K	299.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	62.81	J/mol×K	300.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	63.38	J/mol×K	301.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K

cps	63.63	J/mol×K	302.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	64.45	J/mol×K	303.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	64.94	J/mol×K	304.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	65.35	J/mol×K	305.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	65.76	J/mol×K	306.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	66.33	J/mol×K	307.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	66.74	J/mol×K	308.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K

cps	67.40	J/mol×K	309.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	67.65	J/mol×K	310.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	68.06	J/mol×K	311.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	68.71	J/mol×K	312.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	69.37	J/mol×K	313.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	70.11	J/mol×K	314.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	70.35	J/mol×K	315.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K

cps	71.09	J/mol×K	316.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	71.66	J/mol×K	317.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	72.48	J/mol×K	318.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	73.22	J/mol×K	319.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	73.88	J/mol×K	320.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	75.03	J/mol×K	321.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	75.93	J/mol×K	322.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K

cps	77.24	J/mol×K	323.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	78.55	J/mol×K	324.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	80.44	J/mol×K	325.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	81.91	J/mol×K	326.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	83.64	J/mol×K	327.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K
cps	85.11	J/mol×K	328.20	Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K

Sources

Crippen Method: <http://pubs.acs.org/doi/abs/10.1021/ci990307I>

Crippen Method: https://www.cheméo.com/doc/models/crippen_log10ws

Cheméo Relay (1.0):

Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K: <https://www.doi.org/10.1016/j.jct.2016.03.001>

Thermochemical investigation of the (phosphonic acid + N,N-dimethylformamide) system at T = (298.15 to 328.15) K: <https://www.doi.org/10.1016/j.tca.2012.08.020>

Densities, Viscosities, and
Conductivities of Phosphonic Acid
Chéméo Relay, (10-beta)
Solid phase heat capacity
and Water:
NIST Webbook:
McGowan Method:

<https://www.doi.org/10.1021/acs.jced.6b00430>

<http://webbook.nist.gov/cgi/cbook.cgi?ID=C13598362&Units=SI>

<http://link.springer.com/article/10.1007/BF02311772>

Legend

cps: Solid phase heat capacity
logp: Octanol/Water partition coefficient
mcvol: McGowan's characteristic volume

Latest version available from:

<https://www.chemeo.com/cid/10-280-9/HO-2HPO.pdf>

Generated by Chéméo on 2026-07-21 08:08:40.081683405 +0000 UTC m=+132415.923568787.

Chéméo (<https://www.chemeo.com>) is the biggest free database of chemical and physical data for the process industry.