

PHYSICAL CONSTANTS OF INORGANIC COMPOUNDS (Continued)

No.	Name	Synonyms and Formulae	Mol. wt.	Crystalline form, properties and index of refraction	Density or spec. gravity	Melting point, °C	Boiling point, °C	Solubility, in grams per 100 cc		
								Cold water	Hot water	Other solvents
p28	Phosphonium phosphentum bromide	PH ₄ Br	114.91	col, cub	gas: 2.464 g/l	subl ca 30	38.8 ^m	d	d	
p29	chloride	PH ₄ Cl	70.46	col, cub		28 ^m 4 ^m	subl	d		
p30	iodide	PH ₄ I	161.91	col, tetr, deliq	2.86	18.5, subl 61.8	80	d		d, s, a, alk
p31	sulfate	(PH ₄) ₂ SO ₄	166.07					d		
p32	Phosphoramidate	Phosphorylamidate, PO(NH ₂) ₂	95.04	wh, amorph				i	i	s al; i a
Phosphoric acid										
p33	difluoro	H ₂ PO ₂ F ₂	102.99	col, fum liq	1.583 ^m	-96.5 ± 0.1	115.9 sl d			
p34	hypo	H ₄ P ₂ O ₄ ·2H ₂ O	198.01	col, rhomb deliq		70	d 100	d	d to H ₂ PO ₄ + HPO ₄	
p35	meta	HPO ₃	79.98	col, vitrous, deliq	2.2-2.5	subl		d	d to H ₂ PO ₄	s al; i liq CO ₂
p36	metafluoro	H ₂ PO ₃ F	99.99	oily, col liq	1.818	-80				
p37	ortho	H ₃ PO ₄	98.00	col, liq, or rhomb cr, deliq	1.834 ^m	42.35	-1/2 H ₂ O, 213	548	v s	s al
p38	ortho	2H ₂ PO ₄ ·H ₂ O	214.01	col, hex pr deliq		29.32		d	v s	
p39	pyro	H ₄ P ₂ O ₇	177.98	col, need or liq, hydr		61			709 ^m	d to H ₂ PO ₄ ; v s al, eth
p40	Phosphorus, black	P ₄	123.8952	blk, incombust	2.70					i CS ₂ , conc H ₂ SO ₄
p41	red	P ₄	123.8952	redsh-brn, cub, or amorph powd, (mix of col and vit?)	2.34	590 ^m 4 ^m	ign 200	v al s	i	s abs al; i CS ₂ , eth, NH ₃
p42	violet	P ₄	123.8952	vit, monocl	2.36	590				i org solv
p43	yellow	Phosphorus, white, P ₄	123.8952	yel (or wh) cub or wax like solid, 2.144	1.82 ^m	44.1	280	0.0003 ^m	al s	0.3 al; 880 ^m CS ₂ ; s bz, NH ₃ , alk, eth, chl, tol
p44	bromide, penta-	PBr ₅	430.52	yel, rhomb		d < 100	d 106	d		s CS ₂ , CCl ₄ , bz
p45	bromide, tri-	PBr ₃	270.70	col, fum liq, 1.697 ^m 6	2.852 ^m	-40	172.9	d		d al; s eth, chl, CS ₂ , CCl ₄
p46	bromide (di-) chloride, tri-	PBr ₂ Cl ₂	297.15	or cr		d 35		d		
p47	bromide (hepta-) chloride, di-	PBr ₇ Cl ₂	661.24	pr				d		s PCl ₃ , PCl ₅
p48	bromide (mono-) chloride, tetra-	PBr ₄ Cl ₂	252.69	yel cr				d		
p49	bromide (octa-) chloride, tri-	PBr ₈ Cl ₃	776.60	brn need		25		d		
p50	bromide (di-) fluoride, tri-	PBr ₂ F ₃	247.79	pa yel liq		-20	d 15	d		d glass
p51	bromide nitride	(PNBr ₂) ₃	614.40	col, rhomb		190	subl v 150	i		s eth; sl s chl, CS ₂
p52	chloride, di-	PCl ₂ (or P ₂ Cl ₄ ?)	101.88	col liq		-28	180	hydr		
p53	chloride, penta-	PCL ₅	208.24	yelsh-wh, tetr, fum	gas: 4.65 ^m g/l	d 166.8 (press)	subl 162	d		d a; s CS ₂ , CCl ₄
p54	chloride, tri-	PCl ₃	137.33	col, fum liq, 1.516 ^m	1.574 ^m	-112	75.5 ^m 6	d	d	s eth, bz, chl, CS ₂ , CCl ₄
p55	chloride (di-) fluoride, tri-	PCl ₂ F ₃	158.88	col liq	5.4 g/l	-8	10			
p56	chloride (tri-) iodide, di-	PCl ₃ I ₂	391.14	red, hex			d 259	d		s CS ₂
p57	chloride (di-) nitride	(PNCl ₂) ₃	347.66	rhomb	1.98	114	256.5	i	d	s al, eth, bz, chl, a ac, CS ₂
p58	chloride (di-) nitride	(PNCl ₂) ₄	463.55		2.18 ^m 4	123.5	328.5			
p59	chloride (di-) nitride	(PNCl ₂) ₅	579.43			41	224 ^m , polym > 250			
p60	chloride (di-) nitride	(PNCl ₂) ₆	695.32			90	262 ^m , polym > 250			
p61	cyanide	P(CN) ₃	109.03	wh need		subl 130		d		v s eth; sl s h bz
p62	fluoride, penta-	PF ₅	125.97	col gas	5.805 g/l	-83	-75	d		
p63	fluoride, tri-	PF ₃	87.97	col gas	3.907 g/l	-151.5	-101.5	d		s al; d alk
p64	hydride, tri-	Phosphine, PH ₃	34.00	col gas, pois		-133	-87.7	0.26 vol 20		
p65	iodide, di-	PI ₂	569.57	or, tricl		110		d		s CS ₂
p66	iodide, tri-	PI ₃	411.68	red, hex, deliq	4.18	61		d	d	v s CS ₂
p67	oxide, pent-	Phosphoric anhydride, P ₂ O ₅ (or P ₄ O ₁₀)	141.94	wh, monocl or powd, v deliq	2.39	580-585	subl 300	d	d to H ₂ PO ₄	s H ₂ SO ₄ ; i acet, NH ₃
p68	oxide, sesqui-	Phosphorus trioxide, P ₂ O ₃ (or P ₄ O ₆)	219.89	col, or wh powd, monocl cr, deliq	2.135 ^m	23.8	175.4	d	d to H ₂ PO ₄	s chl, bz, eth, CS ₂
p69	oxide, tetra-	P ₂ O ₄	125.95	col, rhomb, deliq	2.54 ^m	> 100	180 vac	v s to H ₂ PO ₄	d	
p70	oxide, tri-	P ₂ O ₃ (or P ₄ O ₆)	109.95	col, or wh powd, or monocl, deliq	2.135 ^m	23.8	173.8 (in N ₂)	d	d to H ₂ PO ₄	s CS ₂ , eth, chl, bz