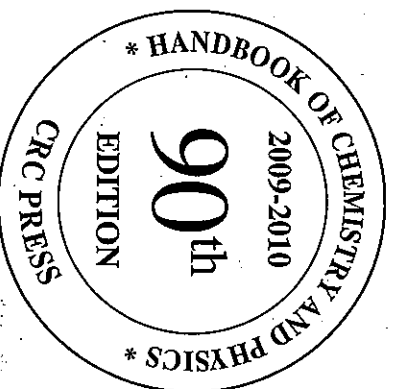


CRC Handbook of Chemistry and Physics

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National Institute of Standards and Technology

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Scientist Emeritus

National Institute of Standards and Technology



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No.	Name	Formula	CAS Reg No.	Mol. weight	Physical form	mp/°C	bp/°C	Density g cm ⁻³	Solubility g/100 g H ₂ O	Qualitative solubility
1249	Hydrogen chloride	HCl	7647-01-0	36.461	col gas	-114.17	-85	1.490 g/L	vs H ₂ O	vs H ₂ O
1250	Hydrogen chloride dihydrate	HCl · 2H ₂ O	13465-06-9	72.482	col liq	-17.7				s H ₂ O
1251	Hydrogen chloride-d	DCl	7699-06-7	37.467	col gas	-114.72	-84.4			vs H ₂ O, EtOH; sl eth
1252	Hydrogen cyanide	HCN	74-90-8	27.026	col liq or gas	-13.29	26	0.6976 ²⁸		
1253	Hydrogen fluoride	HF	7664-39-3	20.006	col gas	-83.36	20	0.818 g/L	vs H ₂ O, EtOH; sl eth	
1254a	Hydrogen iodide	HI	10094-85-2	127.912	col or vel gas	-50.76	-35.55	5.228 g/L	vs H ₂ O, s os	
1254b	Hydrogen iodide-d	DI	14104-45-1	128.916	col gas	-51.93	-36.2		s H ₂ O	
1255	Hydrogen peroxide	H ₂ O ₂	7722-84-1	34.015	col liq	-0.43	150.2	1.44	vs H ₂ O	
1256	Hydrogen peroxide	H ₂ Se	7783-07-5	80.98	col gas; flam	-65.73	-41.25	3.310 g/L	s H ₂ O	
1257	Hydrogen selenide	H ₂ S	7783-06-4	34.081	col gas; flam	-85.5	-59.55	1.393 g/L	s H ₂ O	
1258	Hydrogen sulfide	H ₂ S	13465-07-1	66.146	col liq		70.7	1.334		
1259	Hydrogen telluride	H ₂ Te	7783-09-7	129.62	col gas	-49	-2	5.298 g/L	s H ₂ O, EtOH, alk	
1260	Hydrogen telluride	H ₂ Te	7440-74-6	114.818	soft w/ metal	155.60	2072	7.31	s acid	
1261	Iodine	I ₂	1312-41-0	253.808	blk cub cry	942		5.7147		
1262	Iodine antimonide	INb	1303-11-3	189.740	gray cub cry	942		5.67	i acid	
1263	Iodine arsenide	INAs	26617-98-5	128.825	brn hex cry	1100		6.88		
1264	Iodine nitride	INP	22398-80-7	145.192	blk cub cry	1062		4.81	sl acid	
1265	Iodine phosphide	INP	14280-53-6	194.722	oran-red orth cry	285		4.95	reac H ₂ O	
1266	Iodine(III) bromide	IBr	13465-10-6	150.271	yel cub cry	225		4.19	reac H ₂ O	
1267	Iodine(III) chloride	ICl	13956-94-4	241.722	orth cry	364.4	712	5.32		
1268	Iodine(III) iodide	II ₂	21264-43-7	274.626	orth cry			4.22	reac H ₂ O	
1269	Iodine(III) bromide	IBr ₂	13465-11-7	185.724	col orth cry	235		3.64	reac H ₂ O	
1270	Iodine(III) chloride	ICl ₂	12030-14-7	146.883	red-brn orth cry	692		5.2		
1271	Iodine(III) sulfide	IS ₂	13465-09-3	354.530	hyg yel-w/	420		4.74	414 ²⁸	
1272	Iodine(III) bromide	IBr ₃	10025-82-8	221.177	yel monoc cry	583		4.0	156.1 ²²	s EtOH
1273	Iodine(III) chloride	ICl ₃	22519-64-8	293.239	wh cry	1172	>1200	4.39	s H ₂ O	
1274	Iodine(III) chloride trihydrate	ICl ₃ · 3H ₂ O	7783-52-0	171.813	wh hex cry; hyg				sl H ₂ O; s dil acid	
1275	Iodine(III) fluoride	IF ₃	14166-78-0	225.859	wh cry	100 dec		4.4	s H ₂ O	
1276	Iodine(III) fluoride trihydrate	IF ₃ · 3H ₂ O	20661-21-6	165.840	cub cry			4.9	1308 ²²	
1277	Iodine(III) hydroxide	In(OH) ₃	13510-35-5	495.531	yel-red monoc cry; hyg	207		4.99		
1278	Iodine(III) iodide	II ₂	13770-61-1	354.879	col cry	dec 100		7.18		
1279	Iodine(III) nitrate trihydrate	IN(NO ₃) ₃ · 3H ₂ O	1312-43-2	277.634	yel cub cry	1912				
1280	Iodine(III) oxide	In ₂ O ₃	13465-15-1	557.292	wh cry	-80	200 dec			
1281	Iodine(III) perchlorate octahydrate	IN(ClO ₄) ₃ · 8H ₂ O	14693-82-4	209.789	wh orth cry			4.9		
1282	Iodine(III) phosphide	INP ₃	1312-42-1	466.52	blk hex cry	680		5.8		
1283	Iodine(III) selenide	InSe ₂	13464-82-9	517.824	hyg w/ powder			3.44	117 ²⁸	
1284	Iodine(III) sulfate	In ₂ (SO ₄) ₃	12030-24-9	325.831	oran cub cry	1050		4.45		
1285	Iodine(III) sulfide	InS ₂	1312-45-4	612.44	blk cub cry	667		5.75		
1286	Iodine(III) telluride	InTe ₂	7553-56-2	253.809	blue-blk plates	113.7	184.4	4.933	0.03 ²⁸	s bz EtOH, eth, ctc, chl
1288	Iodic acid	HO ₃	7782-86-5	175.910	col orth cry	110 dec		4.63	308 ²⁸	i EtOH, eth
1289	Periodic acid dihydrate	HO ₄ · 2H ₂ O	10450-60-9	227.940	monocl hyg cry	122 dec				s H ₂ O, EtOH; s eth
1290	Iodine tetroxide	I ₂ O ₄	12399-00-5	317.807	yel cry	130	dec >85	4.2		sl H ₂ O
1291	Iodine pentoxide	I ₂ O ₅	12026-98-0	333.806	hyg wh cry	-300 dec		4.98	253.4 ²⁸	i EtOH, eth, CS ₂
1292	Iodine hexoxide	I ₂ O ₆	65355-99-9	349.805	yel solid	dec 150				reac H ₂ O
1293	Iodine monoxide	I ₂ O	73560-00-6	651.613	hyg yel powder	75 dec				
1294	Iodine bromide	IBr	7789-33-5	206.808	blk orth cry	40	116 dec	4.3		s H ₂ O, EtOH, eth
1295	Iodine chloride	ICl	7780-99-0	162.357	red cry or oily liq	27.38	94.4 dec	3.24		reac H ₂ O; s EtOH
1296	Iodine triiodide	ICl ₃	855-44-1	233.263	yel tricl cry; hyg	101 tp (15 atm)	64 sp dec	3.2		reac H ₂ O; s EtOH, bz
1297	Iodine fluoride	IF	13873-84-2	145.902	wh pow (-78°C)	-14 dec				
1298	Iodine trifluoride	IF ₃	22520-96-3	183.899	yel solid, stable at low temp	-28 dec				
1299	Iodine pentafluoride	IF ₅	7783-66-6	221.895	yel liq	9.43	100.5	3.19		reac H ₂ O
1300	Iodine heptafluoride	IF ₇	16921-96-3	259.893	col gas	6.5 tp	4.8 sp	10.62 g/L		s H ₂ O
1301	Iodosty trifluoride	IOF ₃	19068-78-7	199.898	hyg col needles	dec >110				reac H ₂ O
1302	Iodosty pentafluoride	IOF ₅	16055-61-4	237.895	col liq	4.5				
1303	Iodosty trifluoride	IOF ₃	25402-50-0	215.898	col cry	41	subl			
1304	Pentacyl fluoride	IO ₅ F	30708-86-2	193.910	col cry	dec >100				
1305	Iodine	I ₂	7429-88-5	192.217	slv-w/ metal; cub	2446	4428	22.562 ²⁸		s aqua regia
1306	Iodine carbonyl	I ₂ (CO) ₂	11065-24-0	1104.989	yel cry	210 dec				
1307	Iodine(III) bromide	IBr ₃	10049-24-8	431.929	red-brn monoc cry			6.82		i H ₂ O, acid, alk

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