SC-Database
Software version = 5.81 Data version = 4.62
Experiment list contains 19 experiments for
 (no ligands specified)
 Metal : Cl
 (no references specified)
 (no experimental details specified)

****

e- HL Electron (442)

Electron;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Cl	oth	none	25°C	0.0	U		1972COa (401)		1
							K(1/2Cl2(g)+e=Cl)=22.21(1.31V)		
Method:Estimated data									
Cl	oth	non-aq	25°C	100%	U	I	1972COa (402)		2
							K(0.5Cl2+e=Cl)=24.27(1.436V)		
Method:Estimated data. MeOH. K=23.18(1.37V,EtOH), 22.43(1.327V,BuOH), 22.08(1.306V,PentOH), 21.70(1.284V,acetone), 15.10(MeCN), 21.70(HCOOH)									
Cl	oth	non-aq	400°C	100%	U	T	1971BJc (403)		3
							K(1/2Cl2(g)+e=Cl)=7.63(1.019V)		
Method:Estimated data. Medium: fused (Li,K)Cl. K=6.87(0.986V, 450 C), 5.63(0.920V,550 C)									
Cl	oth	none	25°C	0.00	U		1970JSa (404)		4
							K=41.6(1.23V)		
K=ClO4- + 2H+ + 2e=ClO3- + H2O. Method:combination of thermodynamic data									
Cl	EMF	none	25°C	0.00	U	T	1969CLb (405)		5
							K=22.960(1358.27mV)		
K=1/2Cl2(g) + e=Cl-. K=21.552(1339.10mV,40 C), 19.841(1311.54mV,60 C), 17.393(1218.72mV,80 C)									
Cl	EMF	none	25°C	0.00	U	T	1968CLa (406)		6
							K=22.964(1358.52mV)		
K=1/2Cl2(g) + e=Cl-. K=22.481(1352.24mV,30 C), 21.553(1339.19mV,40 C), 20.677(1325.74mV,50 C), 19.840(1311.44mV,60 C), 18.289(1281.53mV, 80 C)									
Cl	EMF	NaClO4	25°C	3.0M	U	I	1967KRb (407)		7
							K(0.5Cl2(g)+e=Cl)=22.671		
I=2.0: K=22.957, 1358 mV; I=1.0: K=23.158, 1369.9 mV									
Cl	oth	none	25°C	0.0	U		1952LAb (408)		8
							K=40.2(1190 mV)		
K: Cl(VII)O4+2H+2e=Cl(V)O3+H2O. From thermodynamic data. K(Cl(V)O2++H2O+2e= Cl(III)O2+2OH)=11.1(330 mV). Cl(III)O2+H2O+2e=Cl(I)O+H2O)=55.6(1640 mV)									

****
Cl- HL Chloride CAS 7647-01-0 (50)
Chloride;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Cl sp oth/un 25°C 1.00M U 1994WKa (4602) 9
K(Cl2+Cl)=-0.74
K(BrCl+Cl)=0.78
K(Br2+Cl)=0.11
Medium: HCl

Cl oth non-aq 0°C 100% U I 1973GMa (4603) 10
K(Cl2+Cl)=2.03
Medium: CH3CN, I M LiClO4(I=0.0095). K=1.72(I=0.0388); K=1.58(I=0.0498);
1.36(I=0.0755); 1.15(I=0.1268); 0.85(I=0.3645).Method:chem. anal. and p(Cl2)

Cl EMF non-aq 127°C 100% U 1971BTa (4604) 11
K(Cl2+Cl)=2.5
Medium: dimethylsulfone, 1 M LiClO4

Cl oth NaClO4 25°C 4.0M U T 1971SHc (4605) 12
K(Cl2+Cl)=-0.62
Medium: HClO4; K1=-0.47(-4 C), -0.49(0 C). Method:chemical analysis
---
Cl sp non-aq 30°C 100% U 1970DBa (4606) 13
K(Cl2+Cl)=4.11
Medium: sulfolane, 0 corr. Emf also used

Cl sol oth/un 90°C var U T 1968HIa (4607) 14
Kp0=-1.88
Kp1=-2.86
With Cl2. Medium:HCl var. Kp0=-1.31(30 C),-1.46(40 C),-1.57(50 C),1.75(70 C)
Kp1=-2.18(30 C),-2.29(40 C),-2.44(50 C),-2.66(70 C)

Cl sol oth/un 25°C var U 1931SIa (4608) 15
K(Cl2(g)=Cl2(aq))=-1.23
K(Cl2(g)+Cl=Cl3)=-2.0
K(Cl2+Cl)=-0.75
****
ClO2- HL Chlorite CAS 13898-47-0 (6143)
Chlorite;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Cl sp oth/un 25°C dil U 1968HRc (6008) 16
K(ClO2+L)=0.20
****
CrO4-- H2L Chromate CAS 7738-94-5 (2382)
Chromate;

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--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Cl         kin NaClO4 26°C 2.00M U T                    1971RKa  (6480)  17
                                          K'=1.51
38 C: K'=1.37.  K': Cl+2H+HCrO4=HCrO3Cl+H2O.  DH=-20.8 kJ mol-1
********************************************************************************
H2O                    L    Water            CAS 7732-18-5  (6115)
Water
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Cl         sol non-aq 25°C 100%  U        K1=0.95   B2=1.3    1967CKa  (7587)  18
Medium:MeCN. Ligand Cl-. K(L+ClO4)=-0.15; K(L+IO4)=0.0
********************************************************************************
SO2                    L    Sulfur dioxide     (6336)
Sulfur dioxide;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Cl         sp  non-aq 25°C 100%  U T H    K1=2.56        1971WNb (15353)  19
Medium: MeCN. DH(K1)=-9.7 kJ mol-1, DS=16.3 J K-1 mol-1
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EXPLANATORY NOTES

DATA Flags are :-

T Data at other TEMPERATURES

I Data with various BACKGROUNDS
H Data for THERMOCHEMICAL quantities

END