

Application Data Sheets

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Parameter	Matrix	Range	Method	Analyzer	nbr	Date:	
	Drinking water	Mn(II)	0 - 1 mg/l	Colorimetry - VIS	2019 HD 2040	1862	
Acetic, Nitric & Phosphoric Acid	Blended acid in etching bath	H3PO4	70 - 75 % w/w	Titration - Acid/base	2040	1212	03-dec-03
		CH3COOH	7 - 11 % w/w	Titration - Acid/base			
		HNO3	1.5 - 2.5 % w/w	Titration - Acid/base			
Acid Free & Total, Nitrite & Zinc	Phosphatizing bath.	Acid, Free	0.01 - 0.1 mol/l	Titration - Acid/base	2040	1671	06-sep-05
		Acid, Total	0.01 - 0.1 mol/l	Titration - Acid/base			
		NO2-	20 - 200 mg/l	Titration - Redox			
		Zn2+	0.3 - 6 g/l	Titration - Complexometric			
Acidity, Carbonate & hydroxide	NaCl or KCl Brine.	HCl	15 - 140 mg/l	Titration - Acid/base	2040	1665	18-ian-05
		(CO3)2-	24 - 240 mg/l	Titration - Acid/base			
		OH-	5 - 60 mg/l	Titration - Acid/base			
Alkali, Carbonate, Hydroxide & Sulfide	White, green and black liquors	Alkali (active, eff	0.1 - 8 mol/l	Titration - Acid/base	2040	1300	18-feb-04
		(CO3)2-	0.1 - 3 mol/l	Titration - Acid/base			
		OH-	0.1 - 6 mol/l	Titration - Acid/base			
		S2-	0.1 - 2 mol/l	Titration - Acid/base			
Aluminium	Drinking water, Industrial waste water and Surface water.	Al3+	0 - 1 mg/l	Colorimetry - VIS	2004 Alert	1255	20-apr-06
Aluminium	Drinking water, Industrial waste water and Surface water.	Al3+	0 - 1 mg/l	Colorimetry - VIS	2019 HD 2040	1265	21-apr-06
Aluminium	Drinking water, Industrial waste water and Surface water.	Al3+	0 - 100 ug/l	Colorimetry - VIS	2040	1270	06-sep-05
Aluminium	Drinking water, Industrial waste water and Surface water.	Al3+	0 - 200 ug/l	Colorimetry - VIS	2019 HD 2040	1271	27-jun-05
Ammonia	Boiler feed, Cooling water, Drinking water and Surface water.	NH3	0 - 3 mg/l	Colorimetry - VIS	2004 Alert	1314	27-jun-05
Ammonia	Boiler feed, Cooling water, Drinking water and Surface water.	NH3	0 - 3 mg/l	Colorimetry - VIS	2019 HD 2040	1296	27-jun-05
Ammonia	Drinking water, Industrial waste water, Municipal waste water and Surface water.	NH3	0 - 100 mg/l	Standard addition ISE	2003 Alert	1308	27-jun-05
Ammonia	Boiler feed, Cooling water, Drinking water and Surface water.	NH3	0 - 1 mg/l	Colorimetry - VIS	2019 HD 2040	878	01-okt-08
Ammonia	Boiler feed, Cooling water, Drinking water and Surface water.	NH3	0 - 1 mg/l	Colorimetry - VIS	2004 Alert	1312	27-jun-05
Ammonia	Drinking water, Industrial waste water, Municipal waste water and Surface water.	NH3	0 - 100 mg/l	Standard addition ISE	2018 HD 2040	558	03-jul-07

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Parameter	Matrix		Range	Method	Analyzer	nbr	Date:
Boric acid	Cooling water and Industrial waste water.	H3BO3	10 - 300 mg/l	Titration - Acid/base	2016 2040	886	14-apr-04
Boric acid, Chloride & Nickel	Galvanic nickel bath.	H3BO3	0.5 - 50 g/l	Titration - Acid/base	2040	549	18-jan-05
		Cl-	0.14 - 14 g/l	Titration - Argentometric			
		Ni2+	1 - 100 g/l	Titration - Complexometric			
Bromine Index	Hydrocarbons	Bromine Index	100 mg bromine /	Bivoltametric titration	2040	1470	21-aug-06
Calcium	Boiler feed, Cooling water, Drinking water, Industrial waste water and Surface water.	Ca2+	0 - 150 mg/l	Standard addition ISE	2003 Alert	1307	27-jun-05
Calcium	Boiler feed, Cooling water, Drinking water, Industrial waste water and Surface water.	Ca2+	0 - 150 mg/l	Standard addition ISE	2018 HD 2040	914	23-aug-05
Calcium & Magnesium	Brine solution.	Calcium	0 - 100 ug/l	Colorimetry - VIS	2019 Special 2040	1319	27-jun-05
Chemical Oxygen Demand	Industrial waste water, Municipal waste water and Surface water.	COD	50 - 1000 mg/l	Titration - Redox	2040	966	15-jul-09
Chemical Oxygen Demand	Industrial waste water, Municipal waste water and Surface water.	COD	0 - 20000 mg/l	Colorimetry - VIS	2019 Special 2040	1767	16-jun-06
Chemical Oxygen Demand	Industrial waste water, Municipal waste water and Surface water.	COD	0 - 5000 mg/l	Colorimetry - VIS	2019 Special 2040	1766	16-jun-06
Chloride	Boiler feed, Cooling water, Drinking water, Industrial waste water and Surface water.	Cl-	0 - 60 mg/l	Standard addition ISE	2018 HD 2040	1169	23-aug-05
Chloride	Sodiumhydroxide (50%)	Cl-	10 - 500 mg/l	Titration - Argentometric	2040	1170	06-sep-05
Chloride	Boiler feed, Cooling water, Drinking water, Industrial waste water and Surface water.	Cl-	0 - 1500 mg/l	Standard addition ISE	2003 Alert	1309	27-jun-05
Chloride & Iron(II)	Etching bath.	Cl- Fe(II)	0.1 - 3.5 g/l 1 - 60 g/l	Titration - Argentometric Titration - Redox	2040	969	18-jan-05
Chlorine	Boiler feed, Cooling water, Drinking water, Industrial waste water, Municipal waste water and Surface water.	Cl2	20 - 600 mg/l	Titration - Iodometric	2016 2040	1199	29-sep-04
Chlorine, Free	Boiler feed, Cooling water, Drinking water, Industrial waste water, Municipal waste water and Surface water.	Cl2	0 - 3 mg/l	Colorimetry - VIS	2019 HD 2040	1686	21-apr-09
Chlorine, Free	Boiler feed, Cooling water, Drinking water, Industrial waste water, Municipal waste water and Surface water.	Cl2	0 - 3 mg/l	Colorimetry - VIS	2004 Alert	1687	21-apr-09

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Parameter	Matrix	Range	Method	Analyzer	nbr	Date:
Chlorine, Total	<i>Boiler feed, Cooling water, Drinking water, Industrial waste water, Municipal waste water and Surface water.</i>	Cl₂ 0 - 2.5 mg/l	Colorimetry - VIS	2004 Alert	1264	27-jun-05
Chlorine, Total	<i>Boiler feed, Cooling water, Drinking water, Industrial waste water, Municipal waste water and Surface water.</i>	Cl₂ 0 - 2.5 mg/l	Colorimetry - VIS	2019 HD 2040	1252	21-apr-09
Chromium(VI)	<i>Industrial waste water and Surface water.</i>	Cr₆₊ 0 - 1 mg/l	Colorimetry - VIS	2019 HD 2040	1260	21-apr-06
Chromium(VI)	<i>Industrial waste water and Surface water.</i>	Cr₆₊ 0 - 1 mg/l	Colorimetry - VIS	2004 Alert	1266	21-apr-06
Cobalt	<i>Zinc production + waste water</i>	Co 0 - 10 mg/l	Colorimetry - VIS	2040	416	14-dec-07
Copper(I) & Copper(II)	<i>Boiler feed, Cooling water, Drinking water and Industrial waste water.</i>	Cu⁺ & Cu²⁺ 0 - 5 mg/l	Colorimetry - VIS	2004 Alert	1500	27-jun-05
Copper(I) & Copper(II)	<i>Boiler feed, Cooling water, Drinking water and Industrial waste water.</i>	Cu⁺ & Cu²⁺ 0 - 5 mg/l	Colorimetry - VIS	2019 HD 2040	1657	27-jun-05
Copper, free EDTA, Formaldehyde & OH-	<i>Electroless copper bath.</i>	Cu²⁺ 0.3 - 6 g/l EDTA 2 - 25 g/l Formaldehyde 2 - 20 g/l OH- 1 - 17 g/l	Titration - Iodometric Titration - Complexometric Titration - Acid/base Titration - Acid/base	2040	1569	18-jan-05
Cyanide	<i>Industrial waste water and Surface water.</i>	CN- 0.2 - 6 mg/l CN	Standard addition ISE	2003 Alert	1336	20-jan-09
Cyanide	<i>Industrial waste water and Surface water.</i>	CN- 2 - 50 mg/l	Titration - Argentometric	2016 2040	1178	24-aug-06
Cyanide	<i>Industrial waste water and Surface water.</i>	CN- 0 - 3 mg/l CN	Standard addition ISE	2018 HD 2040	1174	23-aug-05
Cyanide, Free	<i>Drinking water, Industrial waste water, Municipal waste water and Surface water.</i>	CN- 0 - 200 ug/l	Colorimetry - VIS	2004 Alert	1504	27-jun-05
Cyanide, Free	<i>Drinking water, Industrial waste water, Municipal waste water and Surface water.</i>	CN- 0 - 200 ug/l	Colorimetry - VIS	2019 HD 2040	1724	27-jun-05
Cyanide, WAD	<i>Waste water</i>	CN- 1-250 mg/l	Titration - Argentometric	2040	1866	18-nov-10
Fluoride	<i>Drinking water, Industrial waste water and Surface water.</i>	F- 0 - 10 mg/l	Standard addition ISE	2018 HD 2040	751	23-aug-05
Fluoride	<i>Drinking water, Industrial waste water and Surface water.</i>	F- 0 - 10 mg/l	Standard addition ISE	2003 Alert	1297	27-jun-05
Glucose	<i>Sugar water</i>	Glucose 0.006 - 3 g/l	Colorimetry - VIS	2019 HD 2040	1318	27-jun-05
Glycerol	<i>Glycerin production, Hydrolysis of Fats</i>	Glycerol 0 - 4 % (w/w)	Titration - Redox	2040	972	06-sep-05



Specifications are based on synthetic prepared samples unless stated otherwise.

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Parameter	Matrix		Range	Method	Analyzer	nbr	Date:
Hardness, Calcium & Magnesium	Boiler feed water	Ca2+	0 - 100 µg/l	Colorimetry - VIS	2019 HD	1851	27-okt-10
Hardness, Calcium & Magnesium	Drinking water, Industrial waste water and Surface water.	Ca2+	8 - 200 mg/l	Titration - Complexometric	2016 2040	1275	03-apr-07
Hydrazine	Boiler feed, Cooling water and Power Utility	N2H4	0 - 500 ug/l	Colorimetry - VIS	2004 Alert	1501	27-jun-05
Hydrochloric acid	Etching bath, Pickling bath, Waste water	HCl	0.2 - 7 g/l	Titration - Acid/base	2016 2040	1050	03-feb-04
Hydrochloric acid, Iron(II) & Iron(III)	Etching bath.	Fe2+ Fe3+ HCl	10 - 200 g/l 1 - 20 g/l 15 - 250 g/l	Titration - Redox Titration - Complexometric Titration - Acid/base	2040	739	26-mei-04
Hydrofluoric acid	Semicon etching bath.	HF	0 - 15 g/l	Titration - Acid/base	2040	1674	16-feb-05
Hydrofluoric acid, Iron(III) & Nitric acid	Pickling bath.	HF Fe(III) HNO3	5 - 100 g/l 5 - 130 g/l 10 - 250 g/l	Standard addition ISE Titration - Complexometric Titration - Acid/base	2040	1670	03-feb-05
Hydrogenperoxide & Sulfuric acid	Pickling bath.	H2O2 H2SO4	0.1 - 2.5 mol/l 0.1 - 2.5 mol/l	Titration - Redox Titration - Acid/base	2040	400	16-feb-05
Hydroxide	Calcium "milk" (Ca(OH)2)	OH-	0.9 - 17 g/l	Titration - Acid/base	2016 2040	426	18-jan-05
Hydroxide & Hypochlorite	Process solution.	OH- OCI-	5 - 150 g/l 5 - 100 g/l	Titration - Acid/base Titration - Acid/base	2040	1667	03-feb-05
Hypophosphite & Nickel	Electroless Nickel Bath	Ni2+ H2PO-	0.5 - 10 g/l 5 - 50 g/l	Titration - Complexometric Titration - Redox	2040	421	03-feb-05
Iodide	Brine	I-	0.025 - 1.25 g/l	Titration - Redox	2016 2040	1779	17-aug-06
Iron(II)	Boiler feed, Cooling water, Drinking water, Industrial waste water and Surface water	Fe2+	0 - 1 mg/l	Colorimetry - VIS	2019 HD 2040	1795	12-dec-07
Iron(II)	Etching bath	Fe2+	0.02 - 1.0 g/l	Titration - Redox	2016 2040	1781	21-aug-06
Iron(II)	Boiler feed, Cooling water, Drinking water, Industrial waste water and Surface water	Fe2+	0 - 1 mg/l	Colorimetry - VIS	2004 Alert	1794	12-dec-07
Iron(II) & Iron(III)	Boiler feed, Cooling water, Drinking water, Industrial waste water and Surface water.	Fe2+ & Fe3+	0 - 5 mg/l	Colorimetry - VIS	2004 Alert	1705	27-jun-05

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Parameter	Matrix	Range	Method	Analyzer	nbr	Date:
Iron(II) & Iron(III)	Boiler feed, Cooling water, Drinking water, Industrial waste water and Surface water.	Fe2+ & Fe3+ 0 - 1 mg/l	Colorimetry - VIS	2019 HD 2040	1278	27-jun-05
Iron(II) & Iron(III)	Boiler feed, Cooling water, Drinking water, Industrial waste water and Surface water.	Fe2+ & Fe3+ 0 - 1 mg/l	Colorimetry - VIS	2004 Alert	1279	12-dec-07
Lactic acid (C3H6O3)	Dairy products	Lactic acid 0.2 - 9 g/l	Titration - Acid/base	2016 2040	953	03-feb-04
Manganese	Drinking water	Mn2+ 10-100 ug/l	Colorimetry - VIS	2019 Special 2040	1762	25-jan-06
Manganese	Drinking water, Industrial waste water, Municipal waste water and Surface water.	Mn2+ 0 - 4000 ug/l	Colorimetry - VIS	2004 Alert	1502	29-apr-08
Manganese	Drinking water	Mn2+ 0 - 100 ug/l	Colorimetry - VIS	2004 Alert	1800	25-feb-08
Nickel	Waste water	Ni2+ 0.5 - 12.5 g/l	Titration - Complexometric	2016 2040	1780	17-aug-06
Nickel	Boiler feed, Cooling water and Industrial waste water.	Ni2+ 0 - 3 mg/l	Colorimetry - VIS	2004 Alert	1503	27-jun-05
Nickel	Boiler feed, Cooling water and Industrial waste water.	Ni2+ 0 - 3 mg/l	Colorimetry - VIS	2019 Special 2040	1305	06-sep-05
Nitrate	Drinking water, Industrial waste water, Municipal waste water and Surface water.	N-NO3 0 - 200 ug/l	Colorimetry - VIS	2019 HD 2040	931	27-jun-05
Nitrate	Drinking water, Industrial waste water, Municipal waste water and Surface water.	NO3- 0 - 120 mg/l	Standard addition ISE	2018 HD 2040	1214	23-aug-05
Nitrate	Drinking water, Industrial waste water, Municipal waste water and Surface water.	N-NO3 0 - 200 ug/l	Colorimetry - VIS	2004 Alert	1313	27-jun-05
Nitrate	Drinking water, Industrial waste water, Municipal waste water and Surface water.	NO3- 0 - 1500 mg/l	Standard addition ISE	2003 Alert	1310	27-jun-05
Nitrite	Drinking water, Industrial waste water, Municipal waste water and Surface water.	N-NO2 0 - 150 ug/l	Colorimetry - VIS	2019 HD 2040	1251	27-jun-05
Nitrite	Drinking water, Industrial waste water, Municipal waste water and Surface water.	N-NO2 0 - 150 ug/l	Colorimetry - VIS	2004 Alert	1263	27-jun-05
Nitrogen, total	Industrial waste water, Municipal waste water and Surface water.	Total N 0 - 100 mg/l	Colorimetry - VIS	2040	1289	06-sep-05
Nitrogen, total	Industrial waste water, Municipal waste water and Surface water.	Total N 0 - 100 mg/l	Colorimetry - VIS	2040	1280	06-sep-05
P & M number	Drinking water, Industrial waste water, Municipal waste water, Process water and Surface water.	P-number 0 - 20 mmol/l M-number 0 - 40 mmol/l	Titration - Acid/base Titration - Acid/base	2016 2040	1384	19-jul-04

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Parameter	Matrix	Range	Method	Analyzer	nbr	Date:
Phenol	Industrial waste water.	Phenol 0 - 5 mg/l	Colorimetry - VIS	2004 Alert	1267	27-jun-05
Phenol	Industrial waste water.	Phenol 0 - 5 mg/l	Colorimetry - VIS	2019 HD 2040	1261	21-apr-06
Phosphate	Boiler feed, Cooling water, Industrial waste water, Municipal waste water, Power Utility and Surface water.	P-PO4 0 - 7 mg/l	Colorimetry - VIS	2019 HD 2040	1269	21-apr-06
Phosphate	Boiler feed, Cooling water, Industrial waste water, Municipal waste water, Power Utility and Surface water.	P-PO4 0 - 1 mg/l	Colorimetry - VIS	2004 Alert	1298	27-jun-05
Phosphate	Boiler feed, Cooling water, Industrial waste water, Municipal waste water, Power Utility and Surface water.	P-PO4 0 - 1 mg/l	Colorimetry - VIS	2019 HD 2040	1299	27-jun-05
Phosphate	Boiler feed, Cooling water, Industrial waste water, Municipal waste water, Power Utility and Surface water.	P-PO4 0 - 7 mg/l	Colorimetry - VIS	2004 Alert	1268	21-apr-06
Phosphate, Total inorganic	Industrial wastewater, Municipal wastewater and Surface water.	Total P 0 - 20 mg/l	Colorimetry - VIS	2040	1751	12-okt-06
Phosphate, Total inorganic	Industrial wastewater, Municipal wastewater and Surface water.	Total P 0 - 20 mg/l	Colorimetry - VIS	2040	1371	12-okt-06
Phosphate, Total organic and inorganic	Industrial waste water, Municipal waste water and Surface water	Total-P 0 - 20 mg/l	Colorimetry - VIS	2040	1783	12-okt-06
Phosphate, Total organic and inorganic	Industrial waste water, Municipal waste water and Surface water	Total-P 0 - 20 mg/l	Colorimetry - VIS	2040	1782	12-okt-06
Phosphoric acid	65% Phosphoric acid.	H3PO4 1 - 12.5 mol/l	Titration - Acid/base	2016 2040	1666	18-jan-05
Potassium	Drinking water, Industrial waste water, Municipal waste water and Surface water.	K+ 0 - 150 mg/l	Standard addition ISE	2003 Alert	1276	27-jun-05
Potassium	Drinking water, Industrial waste water, Municipal waste water and Surface water.	K+ 0 - 150 mg/l	Standard addition ISE	2018 HD 2040	1259	23-aug-05
Saturation Index	Drinkingwater, Industrial waste water, Municipal waste water and surface water	Saturation Index -5 - 5	Titration	2040	1799	05-sep-08
Silica	Boiler feed, Cooling water, High Purity water and Power Utility.	Si4+ 0 - 50 ug/l	Colorimetry - VIS	2004 Alert	1383	27-jun-05
Silica	Boiler feed, Cooling water, High Purity water and Power Utility.	Si4+ 0 - 1 mg/l	Colorimetry - VIS	2019 HD 2040	1294	27-jun-05

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Parameter	Matrix		Range	Method	Analyzer	nbr	Date:
Silica	Boiler feed, Cooling water, High Purity water and Power Utility.	Si4+	0 - 1 mg/l	Colorimetry - VIS	2004 Alert	1303	27-jun-05
Sodium	High Purity water and Power Utility	Na	1 - 30 ug/l	Standard addition ISE	2018 HD	1821	27-okt-10
Sodium	High Purity water and Power Utility	Na+	3 - 10 ug/l	Standard addition ISE	2003 Alert	1769	27-jul-09
Sodium	Boiler feed, Cooling water and Industrial waste water.	Na+	0 - 1500 mg/l	Standard addition ISE	2003 Alert	1311	27-jun-05
Sodium	Boiler feed, Cooling water and Industrial waste water.	Na+	0 - 150 mg/l	Standard addition ISE	2018 HD 2040	1157	23-aug-05
Sulfate	Drinking water, Industrial waste water, Municipal waste water and Surface water.	(SO4)2-	100 - 5000 mg/l	Titration - Colorimetry	2040	1301	22-jun-04
Sulfate	Drinking water, Industrial waste water, Municipal waste water and Surface water.	(SO4)2-	5 - 250 mg/l	Titration - Colorimetry	2040	1342	22-jun-04
Sulfate	Drinking water, Process water and Surface water.	(SO4)2-	0.3 - 30 mg/l	Titration - Colorimetry	2040	1382	19-jul-04
Sulfide	Industrial waste water, Municipal waste water and Surface water.	S2-	10 - 500 mg/l	Titration - Argentometric	2016 2040	791	14-apr-04
Sulfide	Waste water	S2-	0 - 2.5 mg/l	Colorimetry - VIS	2019 Special 2040	1231	19-apr-06
Sulfuric acid & Zinc	Zinc sulfate.	H2SO4 Zn2+	50 - 200 g/l 10 - 90 g/l	Titration - Acid/base Titration - Redox	2040	1518	18-jan-05
TBC (4-tertiary-Butylcatechol)	Styrene monomer or AMS (alpha-Methylstyrene)	TBC	0 - 37 mg/l	Colorimetry - VIS	2040	1293	05-mrt-09
Water	Iso-heptane, containing water and toluene (10%).	H2O	10 - 200 mg/l	Titration - Karl Fischer	2016 2040	86	20-apr-06
Zinc	Industrial waste water and Surface water.	Zn2+	10 - 600 mg/l	Titration - Complexometric	2016 2040	557	17-aug-06
Zinc(II)	Drinking water, Industrial waste water and Surface water.	Zn2+	0 - 2 mg/l	Colorimetry - VIS	2004 Alert	1505	23-feb-09
Zinc(II)	Drinking water, Industrial waste water and Surface water.	Zn2+	0 - 2 mg/l	Colorimetry - VIS	2019 Special 2040	1682	12-dec-07