



fapas[®]

**WATER AND
ENVIRONMENTAL
CHEMISTRY**

fera

Original thinking... applied

WATER AND ENVIRONMENTAL CHEMISTRY PROFICIENCY TESTS

Modern analytical techniques are allowing us to detect chemicals in water at ever decreasing concentrations, and this is changing our understanding of the pollutants that may be present in the environment, which can consequently be an issue for our drinking water. Regular monitoring of these diverse water types is required by governmental regulation to ensure the safety of the water we drink and the environment we live in.

Our extensive programme covers a wide range of water types including, drinking, waste, and surface waters, and is complemented by schemes for emergency chemical contamination, taste and odour chemical identification, and soil chemistry.

Quantity discounts (for materials purchased in a single order)

Quantity Purchased	Discount Applied
For product codes starting DWC	
11 - 25 tests	10%
26 or more	25%
For product codes starting WW	
21 - 34 tests	10%
35 - 44 tests	15%
45 or more tests	25%

Note: The information in this price list is designed to assist you in choosing proficiency tests to meet your needs. Whilst every care has been taken in producing this information, we do not guarantee its accuracy. The Fapas® website is the definitive source of information about our proficiency tests. Orders are subject to the Fapas® terms and conditions, which are available on our website. Please check the website before placing your order.

Prices do not include taxes, import duties, inspection fees or carriage charges which are extra. Items indicated with ❄️ are sent frozen/chilled and incur higher carriage charges.

For typical analyte ranges please see pages 69 - 78.

WATER & ENVIRONMENTAL CHEMISTRY PROFICIENCY TESTS - APPROXIMATE CONCENTRATION RANGES
DRINKING WATER
Acid Herbicides (group 9)

Product Code	Matrix	Analytes	Approx. Range	Units
FWAH1-DRW1	Drinking Water	MCPA	0.01 - 0.15	µg/l
		MCPB	0.01 - 0.15	µg/l
		2,4-D	0.01 - 0.15	µg/l
		dichlorprop	0.01 - 0.15	µg/l
		dicamba,	0.01 - 0.15	µg/l
		2,4-DB	0.01 - 0.15	µg/l
		bentazone	0.01 - 0.15	µg/l
		mecoprop	0.01 - 0.15	µg/l
		propyzamide	0.01 - 0.15	µg/l
		ioxynil	0.01 - 0.15	µg/l
		bromoxynil	0.01 - 0.15	µg/l
		triclopyr	0.01 - 0.15	µg/l
		clopyralid	0.01 - 0.15	µg/l
		fluroxypyr	0.01 - 0.15	µg/l
		2,3,6-TBA	0.01 - 0.15	µg/l
		2,4,5-T	0.01 - 0.15	µg/l
		dichlobenil	0.01 - 0.15	µg/l
		bromacil	0.01 - 0.15	µg/l
		metazachlor	0.01 - 0.15	µg/l
		propachlor	0.01 - 0.15	µg/l
benazolin	0.01 - 0.15	µg/l		
metaldehyde	0.01 - 0.15	µg/l		

BTEX (group 11)

Product Code	Matrix	Analytes	Approx. Range	Units
FWBT1-DRW1	Drinking Water	benzene	0.1 - 1.5	µg/l
		toluene	0.2 - 4.0	µg/l
		ethylbenzene	0.2 - 4.0	µg/l
		styrene	0.2 - 4.0	µg/l
		o-xylene	0.2 - 4.0	µg/l
		m-xylene	0.2 - 4.0	µg/l
		p-xylene	0.2 - 4.0	µg/l
		m+p xylene	0.2 - 8.0	µg/l
		total xylene	0.5 - 12.0	µg/l

Chlorine (group 12)

Product Code	Matrix	Analytes	Approx. Range	Units
FWCH1-DRW1	Standard concentrate	chlorine (total)	0.5 - 3.0	mg/l
		chlorine (free)	0.5 - 3.0	mg/l

Emergency contamination incident (no group)

Product Code	Matrix	Analytes	Approx. Range	Units
FWEM1-DRW1	Drinking Water	not set - blind sample	not set	not set

Fluorosurfactants (PFOS & PFOA, group 19)

Product Code	Matrix	Analytes	Approx. Range	Units
FWFL1-DRW1	Standard concentrate	perfluorooctane sulfonic acid PFOS	0.2 - 5.0	µg/l
		perfluorooctanoic acid PFOA	0.2 - 10.0	µg/l

Haloacetic Acids (group 17)

Product Code	Matrix	Analytes	Approx. Range	Units
FWHA1-DRW1	Drinking Water	monochloroacetic acid (MCA)	5.0 - 50.0	µg/l
		dichloroacetic acid (DCA)	5.0 - 50.0	µg/l
		trichloroacetic acid (TCA)	5.0 - 50.0	µg/l
		monobromoacetic acid (MBA)	5.0 - 50.0	µg/l
		dibromoacetic acid (DBA)	5.0 - 50.0	µg/l

Hexavalent Chromium group 18)

Product Code	Matrix	Analytes	Approx. Range	Units
FWHC1-DRW1	Standard concentrate	hexavalent chromium	5.0 - 50.0	µg/l

Inorganic Disinfection By-products (group 5)

Product Code	Matrix	Analytes	Approx. Range	Units
FWID1-DRW1	Standard Solution in ultra pure water	bromide	5.0 - 200	µg/l
		bromate	1.0 - 20.0	µg/l
		chlorite	1.0 - 100	µg/l
		chlorate	1.0 - 1000	µg/l

Major Inorganic Components (group 1)

Product Code	Matrix	Analytes	Approx. Range	Units
FWIC1-DRW1	Drinking Water	sodium	5.0 - 50.0	mg/l
		potassium	0.3 - 3.0	mg/l
		chloride	6.0 - 50.0	mg/l
		calcium	10.0 - 150	mg/l
		magnesium	1.0 - 15.0	mg/l
		alkalinity HCO ₃	30.0 - 300	mg/l
		total hardness Ca	30.0 - 130	mg/l
		total phosphorus P	100 - 3000	µg/l
		fluoride	150 - 1800	µg/l
sulphate	8.0 - 100	mg/l		

Non-Routine Metals (group 4)

Product Code	Matrix	Analytes	Approx. Range	Units
FWNM1-DRW1	Drinking Water	mercury	0.1 - 2.0	µg/l
		barium	100 - 1000	µg/l
		boron	200 - 1500	µg/l
		arsenic	1.0 - 15.0	µg/l
		selenium	1.0 - 15.0	µg/l
		antimony	0.5 - 7.5	µg/l
		silver	1.0 - 20.0	µg/l
		strontium	50.0 - 500	µg/l
		lithium	10.0 - 100	µg/l
		cobalt	3.0 - 30.0	µg/l
		vanadium	3.0 - 30.0	µg/l
		molybdenum	3.0 - 30.0	µg/l
		tin	3.0 - 100	µg/l
		beryllium	3.0 - 10.0	µg/l

OC Pesticides (group 10)

Product Code	Matrix	Analytes	Approx. Range	Units
FWOC1-DRW1	Drinking Water	endrin	0.01 - 0.15	µg/l
		dieldrin	0.006 - 0.05	µg/l
		aldrin	0.006 - 0.05	µg/l
		p,p' DDT	0.01 - 0.15	µg/l
		o,p'-DDT	0.01 - 0.15	µg/l
		p,p'-DDE	0.01 - 0.15	µg/l
		o,p'-DDE	0.01 - 0.15	µg/l
		p,p'-DDD	0.01 - 0.15	µg/l
		o,p'-DDD (TDE)	0.01 - 0.15	µg/l
		hexachlorocyclohexane (alpha)	0.01 - 0.15	µg/l
		hexachlorocyclohexane (beta)	0.01 - 0.15	µg/l
		hexachlorocyclohexane (delta)	0.01 - 0.15	µg/l
		lindane (gamma HCH)	0.01 - 0.15	µg/l
		trifluralin	0.01 - 0.15	µg/l
		alpha endosulphan	0.01 - 0.15	µg/l
		beta endosulphan	0.01 - 0.15	µg/l
		hexachlorobenzene	0.01 - 0.15	µg/l
		heptachlor	0.006 - 0.04	µg/l
		heptachlor epoxide (total)	0.006 - 0.04	µg/l
		pentachlorobenzene	0.01 - 0.15	µg/l
pendimethalin	0.01 - 0.15	µg/l		

OP Pesticides (group 8)

Product Code	Matrix	Analytes	Approx. Range	Units
FWOP1-DRW1	Drinking Water	alachlor	0.01 - 0.15	µg/l
		azinphos-ethyl	0.01 - 0.15	µg/l
		azinphos-methyl	0.01 - 0.15	µg/l
		dichlorvos	0.01 - 0.15	µg/l
		fenitrothion	0.01 - 0.15	µg/l
		malathion	0.01 - 0.15	µg/l
		mevinphos	0.01 - 0.15	µg/l
		chlorofenvinphos	0.01 - 0.15	µg/l
		chlorpyrifos	0.01 - 0.15	µg/l
		diazinon	0.01 - 0.15	µg/l
		fenthion	0.01 - 0.15	µg/l
		parathion-ethyl	0.01 - 0.15	µg/l
		parathion-methyl	0.01 - 0.15	µg/l
		cypermethrin	0.01 - 0.15	µg/l
		propetamphos	0.01 - 0.15	µg/l

Perchlorates (group 20)

Product Code	Matrix	Analytes	Approx. Range	Units
FWPE1-DRW1	Standard concentrate	perchlorate	4.0 - 20.0	µg/l

Polycyclic Aromatic Hydrocarbons (PAHs group 7)

Product Code	Matrix	Analytes	Approx. Range	Units
FWPC1-DRW1	Drinking Water	anthracene	0.005 - 0.05	µg/l
		fluoranthene	0.01 - 0.10	µg/l
		benzo (b) fluoranthene	0.003 - 0.05	µg/l
		benzo (k) fluoranthene	0.003 - 0.05	µg/l
		naphthalene	0.005 - 0.05	µg/l
		benzo (a) pyrene	0.002 - 0.02	µg/l
		benzo (ghi) perylene	0.01 - 0.07	µg/l
		indeno (1,2,3-cd) pyrene	0.01 - 0.07	µg/l

Routine Components (group 2)

Product Code	Matrix	Analytes	Approx. Range	Units
FWRC1-DRW1	Drinking Water	nitrite NO ₂	0.02 - 0.60	mg/l
		nitrate NO ₃	2.0 - 60.0	mg/l
		ammonium NH ₄	0.1 - 0.60	mg/l
		TOC	0.2 - 5.0	mg/l
		PI	0.2 - 5.0	mg/l
		colour (filtered)	0.2 - 20.0	HAZEN
		SR phosphate	10.0 - 1500	µg/l
		pH	6.0 - 10.0	pH units
		turbidity	0.05 - 4.0	NTU
		conductivity @ 20°C	100 - 600	µS/cm

Routine Metals (group 3)

Product Code	Matrix	Analytes	Approx. Range	Units
FWRM1-DRW1	Drinking Water	cadmium	0.5 - 7.0	µg/l
		lead	0.5 - 20.0	µg/l
		iron	20.0 - 400	µg/l
		manganese	10.0 - 75.0	µg/l
		aluminium	20.0 - 300	µg/l
		copper	50.0 - 2000	µg/l
		zinc	50.0 - 500	µg/l
		nickel	5.0 - 30.0	µg/l
		chromium	5.0 - 50.0	µg/l

Taste & Odour Chemical Identification (no group)

Product Code	Matrix	Analytes	Approx. Range	Units
FWTO1-DRW1	Drinking Water	not set - blind sample	not set	not set

Total Cyanide (group 16)

Product Code	Matrix	Analytes	Approx. Range	Units
FWTC1-DRW1	Standard Concentrate	total cyanide	0.01 - 0.10	mg/l

Triazines and Urea Herbicides (group 15)

Product Code	Matrix	Analytes	Approx. Range	Units
FWTU1-DRW1	Drinking Water	isoproturon	0.01 - 0.15	µg/l
		diuron	0.01 - 0.15	µg/l
		linuron	0.01 - 0.15	µg/l
		chlortoluron	0.01 - 0.15	µg/l
		monuron	0.01 - 0.15	µg/l
		methabenzthiazuron	0.01 - 0.15	µg/l
		diflufenican	0.01 - 0.15	µg/l
		metamitron	0.01 - 0.15	µg/l
		simazine	0.01 - 0.15	µg/l
		atrazine	0.01 - 0.15	µg/l
		propazine	0.01 - 0.15	µg/l
		cyanazine	0.01 - 0.15	µg/l
		trietazine	0.01 - 0.15	µg/l
		prometryn	0.01 - 0.15	µg/l
		terbutryn	0.01 - 0.15	µg/l
		ametryn	0.01 - 0.15	µg/l
		carbetamide	0.01 - 0.15	µg/l
pirimicarb	0.01 - 0.15	µg/l		

Trihalomethanes / Chlorinated Solvents (group 6)

Product Code	Matrix	Analytes	Approx. Range	Units
FWTR1-DRW1	Drinking Water	chloroform	2.0 - 100	µg/l
		dichloromethane	2.0 - 40.0	µg/l
		bromodichloromethane	2.0 - 50.0	µg/l
		dibromochloromethane	2.0 - 50.0	µg/l
		bromoform	2.0 - 50.0	µg/l
		trichloroethene	0.5 - 10.0	µg/l
		tetrachloroethene	0.5 - 10.0	µg/l
		carbon tetrachloride	0.5 - 4.0	µg/l
		1,2-dichloroethane	0.5 - 4.0	µg/l
		1,2,3-trichlorobenzene	0.1 - 2.0	µg/l
		1,2,4-trichlorobenzene	0.1 - 2.0	µg/l
		1,3,5-trichlorobenzene	0.1 - 2.0	µg/l
		hexachlorobutadiene	0.01 - 0.15	µg/l
		1,1,1-trichloroethane	0.1 - 2.0	µg/l

Uranium (group 21)

Product Code	Matrix	Analytes	Approx. Range	Units
FWUR1-DRW1	Standard solution	uranium	10.0 - 100	µg/l

SOIL**Trace Metals 5 (no group)**

Product Code	Matrix	Analytes	Approx. Range	Units
FWTM5-SOI1	Soil	cadmium	1.0 - 400	mg/kg
		lead	10.0 - 2000	mg/kg
		chromium	10.0 - 500	mg/kg
		arsenic	1.0 - 500	mg/kg
		barium	30.0 - 2500	mg/kg
		nickel	1.0 - 200	mg/kg
		copper	2.0 - 200	mg/kg
		zinc	10.0 - 200	mg/kg
		mercury	0.1 - 200	mg/kg

SURFACE WATER**Major Inorganic Components (group 1)**

Product Code	Matrix	Analytes	Approx. Range	Units
FWIC1-SUW1	Surface Water	sodium	5.0 - 50.0	mg/l
		potassium	0.3 - 3.0	mg/l
		chloride	6.0 - 50.0	mg/l
		calcium	10.0 - 150	mg/l
		magnesium	1.0 - 15.0	mg/l
		alkalinity as HCO ₃	30.0 - 300	mg/l
		total hardness as Ca	30.0 - 130	mg/l
		total phosphorus P	100 - 3000	µg/l
		fluoride	150 - 1800	µg/l
		sulphate	5.0 - 100	mg/l

Metals (group 3)

Product Code	Matrix	Analytes	Approx. Range	Units
FWME1-SUW1	Surface Water	iron	15.0 - 400	µg/l
		manganese	10.0 - 70.0	µg/l
		copper	20.0 - 700	µg/l
		aluminium	10.0 - 500	µg/l
		zinc	20.0 - 700	µg/l
		silver	2.0 - 15.0	µg/l
		barium	10.0 - 700	µg/l
		boron	25.0 - 1500	µg/l
		strontium	10.0 - 1000	µg/l
		lithium	10.0 - 100	µg/l

Routine Components (group 2)

Product Code	Matrix	Analytes	Approx. Range	Units
FWRC1-SUW1	Surface Water	nitrite NO ₂	0.02 - 0.60	mg/l
		nitrate NO ₃	2.0 - 60.0	mg/l
		ammonium NH ₄	0.1 - 0.6	mg/l
		TOC	0.2 - 5.0	mg/l
		PI	0.2 - 5.0	mg/l
		colour (filtered)	0.2 - 30.0	HAZEN
		SR phosphate	1.0 - 1500	µg/l
		pH	6.0 - 10.0	pH units
		turbidity	0.05 - 10.0	NTU
		conductivity @ 20°C	100 - 600	µS/cm

Toxic Metals (group 4)

Product Code	Matrix	Analytes	Approx. Range	Units
FWTX1-SUW1	Surface Water	cadmium	0.2 - 7.0	µg/l
		lead	1.0 - 25.0	µg/l
		nickel	3.0 - 30.0	µg/l
		selenium	1.0 - 15.0	µg/l
		arsenic	1.0 - 15.0	µg/l
		antimony	0.5 - 7.0	µg/l
		mercury	0.1 - 2.0	µg/l
		cobalt	2.0 - 30.0	µg/l
		vanadium	2.0 - 30.0	µg/l
		chromium	3.0 - 60.0	µg/l
		molybdenum	2.0 - 30.0	µg/l
		tin	1.0 - 100	µg/l
		beryllium	1.0 - 10.0	µg/l

WASTE WATER**Anions (group 9)**

Product Code	Matrix	Analytes	Approx. Range	Units
FWAN1-EWW1	Standard Concentrate	bromide	1.0 - 10.0	mg/l
		fluoride	0.3 - 4.0	mg/l

Dissolved Oxygen (group 14)

Product Code	Matrix	Analytes	Approx. Range	Units
FWDO1-EWW1	Standard Concentrate	dissolved oxygen & dissolved oxygen (Winkler)	1.0 - 100	mg/l

Hexavalent Chromium (group 7)

Product Code	Matrix	Analytes	Approx. Range	Units
FWHC1-EWW1	Standard Concentrate	hexavalent chromium [Cr(VI)]	45.0 - 880	µg/l

Minerals (group 8)

Product Code	Matrix	Analytes	Approx. Range	Units
FWMI1-EWW1	Standard Concentrate	alkalinity (as CaCO ₃)	10.0 - 120	mg/l
		calcium	3.5 - 110	mg/l
		total hardness (as CaCO ₃)	17.0 - 675	mg/l
		magnesium	2.0 - 40.0	mg/l
		potassium	4.0 - 40.0	mg/l
		sodium	6.0 - 100	mg/l

Nutrients (group 3)

Product Code	Matrix	Analytes	Approx. Range	Units
FWNU1-EWW1	Standard Concentrate	nitrate (as N)	0.5 - 50.0	mg/l
		nitrite (as N)	0.2 - 10.0	mg/l
		ammonia (as N)	0.2 - 20.0	mg/l
		chloride	10.0 - 500	mg/l
		orthophosphate (as P)	1.0 - 100	mg/l
		sulphate (as SO ₄)	10.0 - 500	mg/l
		total phosphorus (as P)	0.2 - 5.0	mg/l
		kjeldahl nitrogen (as N)	2.0 - 50.0	mg/l
		total nitrogen (as N)	2.0 - 50.0	mg/l

Oil & Grease (group 10)

Product Code	Matrix	Analytes	Approx. Range	Units
FWOG1-EWW1	Standard Concentrate	oil & grease suitable for EPA 1664, SM 5520B and other gravimetric methods (not suitable for IR methods)	10.0 - 100	mg/l

Oxygen Demand (group 1)

Product Code	Matrix	Analytes	Approx. Range	Units
FWDE1-EWW1	Standard Concentrate	BOD 5-day	6.0 - 250	mg/l
		COD	6.0 - 250	mg/l
		TOC	6.0 - 250	mg/l

pH & Electrical Conductivity (group 4)

Product Code	Matrix	Analytes	Approx. Range	Units
FWPH1-EWW1	Standard Solution	pH	1.0 - 13.0	pH units
		electrical conductivity @25°C	200 - 2000	µS/cm

Phthalates (Environmental, group 16)

Product Code	Matrix	Analytes	Approx. Range	Units
FWPT1-EWW1	Standard Concentrate	bis (2-ethylhexyl) phthalate	8.0 - 50.0	µg/l
		butyl benzyl phthalate	8.0 - 50.0	µg/l
		di-n-butyl phthalate	8.0 - 50.0	µg/l
		diethyl phthalate	8.0 - 50.0	µg/l
		dimethyl phthalate	8.0 - 50.0	µg/l
		di-n-octyl phthalate	8.0 - 50.0	µg/l

Residues (group 2)

Product Code	Matrix	Analytes	Approx. Range	Units
FWRE1-EWW1	Standard Solution	dissolved solids @ 180°C	23.0 - 675	mg/l
		suspended solids	23.0 - 675	mg/l
		total solids	23.0 - 675	mg/l

Settleable Solids (group 13)

Product Code	Matrix	Analytes	Approx. Range	Units
FWSS1-EWW1	Standard Concentrate	settleable solids (volumetric test using Imhoff Cone)	5.0 - 100	ml/l

Total Cyanide (group 11)

Product Code	Matrix	Analytes	Approx. Range	Units
FWTC1-EWW1	Standard Concentrate	total cyanide	0.1 - 1.0	mg/l

Total Sulphide (group 12)

Product Code	Matrix	Analytes	Approx. Range	Units
FWTS1-EWW1	Standard Concentrate	total sulphide	1.0 - 10.0	mg/l

Trace Metals 1 (group 5)

Product Code	Matrix	Analytes	Approx. Range	Units
FWTM1-EWW1	Standard Concentrate	aluminium	200 - 4000	µg/l
		arsenic	70.0 - 900	µg/l
		beryllium	8.0 - 900	µg/l
		cadmium	8.0 - 750	µg/l
		chromium (total)	17.0 - 1000	µg/l
		cobalt	28.0 - 1000	µg/l
		copper	40.0 - 900	µg/l
		iron	200 - 4000	µg/l
		lead	70.0 - 3000	µg/l
		manganese	70.0 - 4000	µg/l
		mercury	2.0 - 30.0	µg/l
		nickel	80.0 - 3000	µg/l
		selenium	90.0 - 2000	µg/l
		vanadium	55.0 - 2000	µg/l
zinc	100 - 2000	µg/l		

Trace Metals 2 (group 6)

Product Code	Matrix	Analytes	Approx. Range	Units
FWTM2-EWW1	Standard Concentrate	antimony	95.0 - 900	µg/l
		barium	100 - 2500	µg/l
		boron	800 - 2000	µg/l
		molybdenum	60.0 - 600	µg/l
		silver	26.0 - 600	µg/l
		strontium	30.0 - 300	µg/l
		thallium	60.0 - 900	µg/l

VOCs (Volatile Organic Compounds, group 15)

Product Code	Matrix	Analytes	Approx. Range	Units
FWVO1-EWW1	Standard Concentrate	benzene	8.0 - 120	µg/l
		1,2-dichlorobenzene	8.0 - 100	µg/l
		1,3-dichlorobenzene	9.0 - 125	µg/l
		1,4-dichlorobenzene	8.0 - 115	µg/l
		ethylbenzene	9.0 - 100	µg/l
		methyl tert-butyl ether (mtbe)	15.0 - 100	µg/l
		naphthalene	8.0 - 190	µg/l
		toluene	7.0 - 100	µg/l
		1,2,4-trimethylbenzene	8.0 - 100	µg/l
		1,3,5-trimethylbenzene	8.0 - 100	µg/l
		m+p-xylene	8.0 - 300	µg/l
		o-xylene	8.0 - 300	µg/l
		total xylene	20.0 - 300	µg/l